

# DC/DC Converters

Isolated

Point-of-Load

Bus Converters

Processor Support

Memory Support

If you need a DC/DC converter  
look no further than...

# The World's No. 1

## About Murata Power Solutions

Murata Power Solutions was established by Murata Manufacturing Corporation in September 2007 with its acquisition of the Power Electronics Division of C&D Technologies, Inc. In addition to C&D's extensive offering of DC/DC and AC/DC products, the acquisition also brought with it a comprehensive offering of products and capabilities from market leading companies previously acquired by C&D, including:

### DATEL, Inc.

- Medium to high power DC/DCs
- Hybrid technologies
- Digital panel meters

### Newport Components Ltd.

- Miniature low power DC/DCs
- Magnetic products

### Power Systems Division of Celestica, Inc.

- AC/DC front end power supplies
- Processor power (VRMs)
- PoL DC/DCs

### Celab Ltd.

- Power conversion products for hi-rel applications

Murata Power Solutions is currently the World's No.1 supplier of DC/DC converters, and one of the top 5 largest suppliers of power electronics overall, with global sales, manufacturing and design teams operating from facilities in the United States, Canada, China, Japan, Singapore, England, France and Germany.

Strengthened by a global network of the leading electronics distributors, Murata Power Solutions can effectively support your local and global requirements.

- ✓ *The largest range of DC/DCs from a single manufacturer*
- ✓ *A wide variety of industry-standard configurations*
- ✓ *Modified-standard and custom design service available*
- ✓ *Global sales and technical support*

## DC/DC Converters

- Widest range available
- PoL converters
- Isolated single, dual & triple
- Processor & memory support



## AC/DC Power Supplies

- Ultra compact
- Up to 2.8kW in 1U height
- High efficiency
- 19" power shelves



## Magnetics

- Filtering inductors
- Common-mode chokes
- Current sense transformers
- Databus isolators



## Digital Panel Meters

- Ammeters
- Voltmeters
- Process Monitors
- LED & LCD displays



## Hybrid Technologies

- Data acquisition systems
- A/D & D/A converters
- Sample-hold amplifiers
- Custom design service



# Supplier

## How to use this databook

### Look for your output voltage

In each of the major categories throughout the book, the products *are listed according to output voltage*.

**Select** the product category from the contents list on this page or use the edge tabs throughout the book. **1**

**Find** your output voltage from the product data tables. **2**

**Choose** a suitable product series for your application using the information shown. **3**

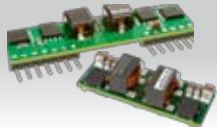
**Download** full data sheets at [www.murata-ps.com](http://www.murata-ps.com) using the drop-down list at the top of the screen. **4**

NOTE: If you do not know the output voltage requirement, a **Quick Selection Guide** at the front of most sections lists products according to their output power (Isolated DC/DCs) or output current (PoLs).

**Quick Selection Guides:**


PoLs	Page 6
Isolated single	Page 12
Isolated dual (bipolar)	Page 25

### PoL Converters



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### Bus Converters



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### Isolated Single



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### Isolated Dual/Bipolar



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### Isolated Dual/Asymmetric



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### Isolated Triple



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### Processor Power



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### Memory Support



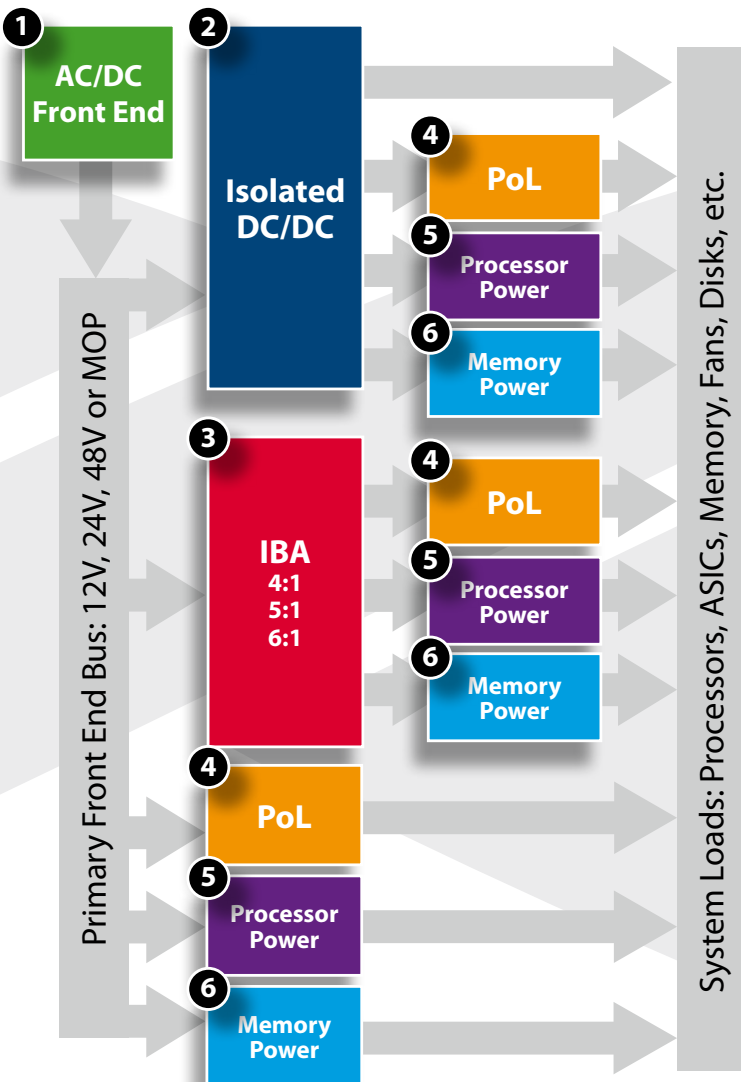
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### Warranty

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# A full range of power solutions . .



No matter which architecture, package style, or performance characteristic is required by your design, you can be sure that Murata Power Solutions has the technology and experience to deliver the power you need ... reliably and efficiently.

**The tables on this page show a small sample of our range. For more standard product options, consult the catalog. Have a unique requirement? Give us a call to discuss a modification or custom design.**

## 1 AC/DC Front End Power Supplies



- Ultra-compact 1U height
- Industry-leading efficiency
- 1200W-2800W output power
- 12VDC or 48VDC output with 3.3/5/12VDC standby
- 19" power shelves available
- Fully featured - I<sub>CP</sub>, PFC, active current share, hot-plug...

## 2 Isolated DC/DC Converters



Description	Type	Series	Output Voltages					
			3.3	5.0	9	12	15	24
Miniature Low Power (<2W) DIP and SIP packages	Single Output	LME	•	•	•	•	•	•
		NKE	•	•	•	•	•	•
		NME	•	•	•	•	•	•
		NMF	•	•	•	•	•	•
		NMJ	•	•	•	•	•	•
	Dual Output	NMR	•	•	•	•	•	•
		NMV	•	•	•	•	•	•
		NTE	•	•	•	•	•	•
		NKA	•	•	•	•	•	•
		NMA	•	•	•	•	•	•
Options include isolation up to 6kVDC	2W SIP	NMM	•	•	•	•	•	•
		NMH	•	•	•	•	•	•
	2W DIP/SIP	NML	•	•	•	•	•	•
		NMS	•	•	•	•	•	•

Package	Series	Input Ranges		Output Voltages			Power	
		2:1	4:1	Single	Dual	Triple		
Industrial Package	Go to <a href="http://murata-ps.com">murata-ps.com</a> for full product specifications	4.5-9V	•	•	•	•	•	3
		4.7-7.5V	•	•	•	•	•	3
		9-18V	•	•	•	•	•	3
		18-36V	•	•	•	•	•	3
		36-75V	•	•	•	•	•	3
		9-36V	•	•	•	•	•	6-22
		18-75V	•	•	•	•	•	15-30
		3.3V	•	•	•	•	•	15
		5V	•	•	•	•	•	25
		12V	•	•	•	•	•	30
Brick-Style	UCE, ULE	1.2-15V	•	•	•	•	•	30-66
		1.2-2.5V	•	•	•	•	•	100-120
		±3.3V	•	•	•	•	•	50-360
		±15V	•	•	•	•	•	50-75

## 3 Bus Converters

Series	Vout	Iout	Power	Package
EUS15	12V	15A	180W	Eighth Brick
EUS20	12V	20A	240W	
QBC	12V	22A	240W	Quarter Brick
QUS20	12V	20A	240W	SIP

- 4:1, 5:1 or 6:1 step-down
- 2250VDC guaranteed isolation
- 40.5-57V input range
- 94-96% efficiencies



## 4 Point-of-Load Converters

Iout	Series	User-Selectable Output Voltages												
6-16A	LSM2, LSN2	0.75-3.3V @ 6A, 10A, 16A												
6-20A	LSM2, LSN2, NEA, NFA	0.75-5.0V @ 6A, 10A, 16A, 20A												
		Fixed Output Voltages												
Iout	Series	0.75V	0.8V	1.0V	1.2V	1.25V	1.3V	1.5V	1.8V	2.0V	2.5V	3.3V	3.8V	5.0V
2A	NGA, UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
2.5A	UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
3A	UNR, UNS	•	•	•	•	•	•	•	•	•	•	•	•	•
5A	UNR, NCA	•	•	•	•	•	•	•	•	•	•	•	•	•
8A	UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
10A	LSM, LSN, NEF, NCF, UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
12A	UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
15A	UNR, NCA	•	•	•	•	•	•	•	•	•	•	•	•	•
16A	LSM, LSN	•	•	•	•	•	•	•	•	•	•	•	•	•
20A	UNR	•	•	•	•	•	•	•	•	•	•	•	•	•
25A	HEN	•	•	•	•	•	•	•	•	•	•	•	•	•
28A	LEN	•	•	•	•	•	•	•	•	•	•	•	•	•
45A	LQN	•	•	•	•	•	•	•	•	•	•	•	•	•
50A	LQN	•	•	•	•	•	•	•	•	•	•	•	•	•

## 5 Processor Power

Murata Power Solutions offers a range of processor power modules that support both Intel and AMD devices.

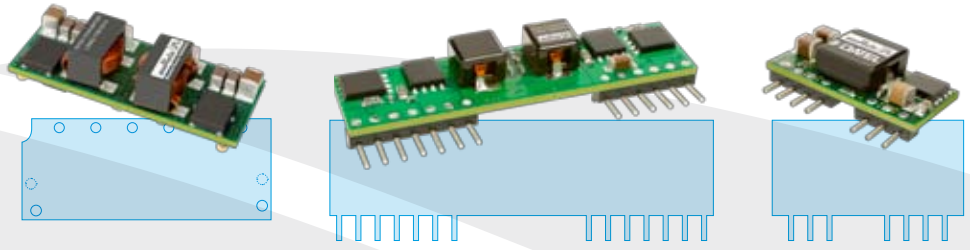
## 6 Memory Power

DDR1, DDR2, DDR3, and DDR termination PoLs are available with current ratings from 9A to 70A.

# .. in a variety of package styles

## DOSA Standard PoLs

Fully compatible with the Distributed-power Open Standards Alliance, our PoL DC/DC converters are ideal regulation and supply elements for distributed power and intermediate bus architectures.

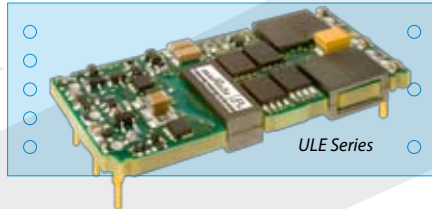


## Standard Bricks

Brick-style DC/DC converters form the basis of most distributed power architectures. Our products offer surface-mount or through-hole package styles with 12V, 24V and 48V inputs and with output voltages from 0.8 to 48V.

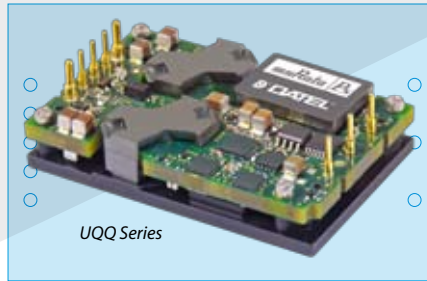
### 1/8 Brick

Series	Power	Vin Nom.	Vout
EUS	180-240W	48V	1.2/2.5/8/9.6/12V
LEN	22.4-125W	12V	0.8/1/1.2/1.5/1.8/2/2.5/3.3/5V
UCE	30-100W	48V	1.2/1.5/1.8/2.5/3.3/5/12V
ULE	30-66.8W	12/24/48V	1.5/1.8/2.5/3.3/5/12/24/48V



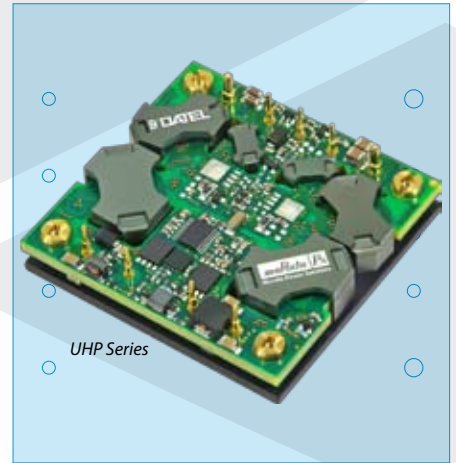
### 1/4 Brick

Series	Power	Vin Nom.	Vout 1
LQN	50-148.5W	12V	1/1.2/1.5/1.8/2/2.5/3.3/5V
QBC	240W	48V	12V
QHS	54-144W	48V	1.2/1.5/1.8/2.5/3.3/12V
QUS	240W	48V	8/9.6/12V
UCQ	36-115W	24/48V	1.2/1.5/1.8/2.5/3.3/5/12V
ULQ	22.5-120W	24/48V	1.2/1.5/1.8/2/2.5/3.3/5/12V
UQQ	82.5-105W	12/24/48V	3.3/5/12/15/24V
UVQ	88-120W	24/48V	1.5/2.5/3.3/5/12/15/18/24/48V



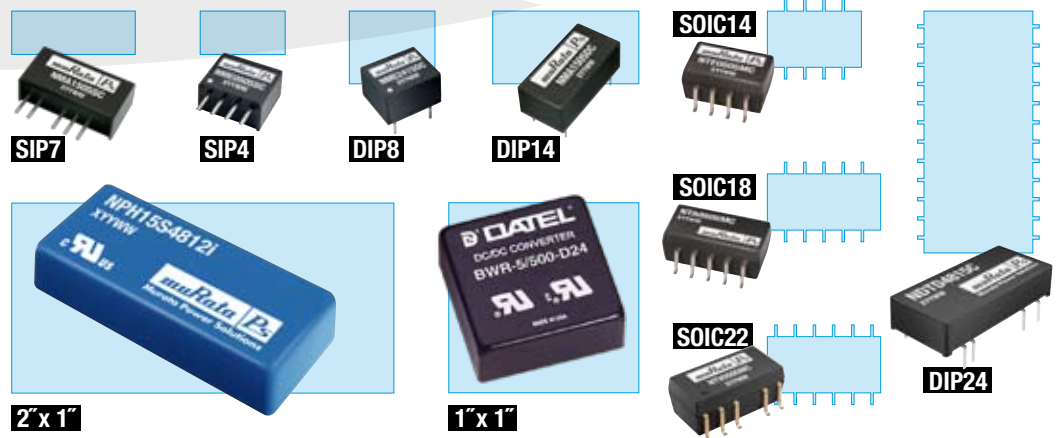
### 1/2 Brick

Series	Power	Vin Nom.	Vout 1	Vout 2	Vout 3
HPH	200-360W	48V	3.3/5/12V		
UCH	33-150W	24/48V	2.5/3.3/5/12/15V		
UHP	340W	48V	12/28V		
VKA	30-150W	24/48V	2/2.5/3.3/5/12/15/24V		
VKP	60-100W	24/48V	3.3/5/5.1V	12/15V	12/15V



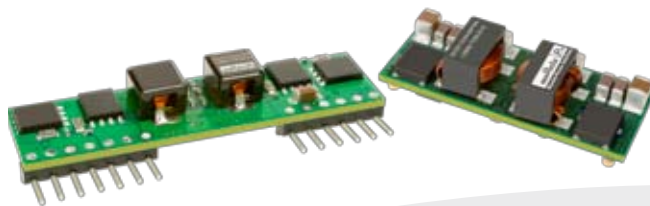
## Industrial Footprint

In addition to our brick converters we also offer a wide range of isolated DC/DC converters in industry-standard footprints and pinouts including DIP, SIP and surface-mount options.



# Point-of-Load

## Non-Isolated DC/DC Converters



Murata Power Solutions is committed to supporting the Intermediate Bus Architecture (IBA) and its many derivative approaches. Consequently, we offer more non-isolated, point-of-load (PoL) DC/DCs, in standard packages and pinouts, than any other company.

Our PoL output voltages range from 0.75

to 5V at current levels from 0.5 to 50A. Input voltages are centered around traditional 3.3, 5 and 12V levels, with some devices operating from 7.5 to 36V. Standard packages include SMT models (6-16A), SIPs (6-16 A), and new 1/8-bricks (28A) and 1/4-bricks (50A).

The newest SMT and SIP models offer user-selectable outputs (0.75-5V) while operating

from wide-range inputs (2.4-5.5V or 8.3-14V). For many applications, they can be genuine "one-size-fits-all" solutions.

And PoLs are not just for IBAs. Many designers find them a quick, cost-effective solution when isolation is not required and in-house designs are too expensive and time consuming.

## Quick Selection Guide Listed by output current

Output Current	Series	Input Voltage			Output Voltage										Package Type			
		3	5	12	0.8	1.0	1.2	1.5	1.8	2	2.5	3.3	5	User Selectable	SIP	DIP	SMD	BRK
2A	NGA	4.75-28V																
2-3A	UNR 3.6-10W	4.75-5.5																
2.5-3A	UNR 8-40W	4.75-5.5																
5A	UNR 25-50W	10.8-13.6																
	NCA	3.0-5.5												0.75-3.63				
6A	NEA	8.3-14.0												0.75-5.0				
	LSN2	2.4-5.5		8.3-13.2										0.75-5.0				
7A	LSM2	2.4-5.5		8.3-13.2										0.75-5.0				
	S101		4.5-5.5															
8A	UNR 8-40W	4.75-5.5																
	UNR 15-25W	3.0-3.6																
8 & 10A	UNR 18-33W		4.75-5.5	10.8-13.6														
	LSM	3.0-3.6	4.5-5.5	10.8-13.2										0.75-5.0				
10A	LSM2	2.4-5.5		8.3-13.2										0.75-5.0				
	LSN	3.0-3.6	4.5-5.5	10.8-13.2										0.75-5.0				
	LSN2	2.4-5.5		8.3-13.2										0.75-5.0				
	LSS	6-14												0.59-5.0				
	NCF	3.0-5.0																
	NEA			8.3-14.0										1.00-5.0				
	NEF			8.3-14.0														
	NFA			6.0-14.0										0.75-5.0				
	S111	3.0-3.6	4.5-5.5															
12A	UNR 30-40W	4.75-5.5																
15A	S151	3.0-3.6	4.5-5.5	10.8-13.2														
	NCA	3.0-5.5												0.75-3.3				
15-20A	UNR 30-66W		4.75-5.5															
16A	LSM	3.0-5.5		10.0-14.0										0.75-5.0				
	LSM2	2.4-5.5		8.3-13.2										0.75-5.0				
	LSN	3.0-5.5		10-14										0.75-5.0				
	LSN2	2.4-5.5		8.3-13.2										0.75-5.0				
	NEA			8.3-14.0										0.75-5.0				
	NFA			6.0-14.0										0.75-5.0				
20A	S016			10.8-12.6										1.20-5.0				
	NFA			6.0-14.0										0.75-5.0				
	S020			10.8-12.6										1.20-5.0				
22A	LSN2			8.3-14.0									0.80-5.0					
25A	HEN			10.2-13.8													1/8	
28A	LEN			10.2-13.8													1/8	
30A	LSM2			6-14										0.80-5.0				
	LSN2			6-14										0.80-5.0				
50A	LQN			10.2-13.8													1/4	

Output Characteristics			Input Voltage			Efficiency	Package Style						Package Dimensions						Further Information	
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.		Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
							1/8	1/4					1/2	H	W	D	H	W		

### User-selectable output voltages

Output Voltage	Output Power	Input Voltage	Min. Input	Max. Input	Efficiency	Package Style						Package Dimensions						Part Number	Datasheet			
						1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W			D		
0.75-3.3V	5A	16.5W	5V	3V	5.5V	92%				•					0.24	0.8	0.45	6.1	20.3	11.3	NCA005133xS0C	NCA005
															0.4	0.9	0.22	10.1	22.9	5.6	NCA005133xB0C	
	6A	19.8W	5V	2.4V	5.5V	96%				•					0.3	1.1	0.45	7.6	27.9	11.4	LSM2-T/6-W3-C	LSM2-SERIES
											•				0.5	1.0	0.28	12.7	25.4	7.0	LSN2-T/6-W3-C	LSN2A
	10A	33W	5V	2.4V	5.5V	96%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM2-T/10-W3-C	LSM2-SERIES
						95%					•	•			0.5	2.0	0.32	12.7	50.8	8.1	LSN2-T/10-W3-C	LSN2A
	15A	49.5W	5V	3V	5.5V	94%				•					0.34	1.3	0.53	8.6	33	13.5	NCA015133xS0C	NCA015
														•	0.5	2.0	0.33	12.7	50.8	8.3	NCA015133xB0C	
	16A	52.8W	5V	3.0V	5.5V	95%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM-T/16-W3-C	LSM16A-W3
				2.4V	5.5V	95%				•					0.34	1.3	0.53	8.64	33.0	13.5	LSM2-T/16-W3-C	LSM2-SERIES
										•	•			0.5	2.0	0.32	12.7	50.8	8.1	LSN2-T/16-W3-C	LSN2A	

Output Voltage	Output Power	Input Voltage	Min. Input	Max. Input	Efficiency	Package Style						Package Dimensions						Part Number	Datasheet							
						1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W			D						
0.75-5V	5A	25W	12V	8.3V	14V	92%				•					0.24	0.8	0.45	6.1	20.3	11.3	NEA005150xS0C	NEA005				
														•	0.4	0.9	0.22	10.1	22.9	5.6	NEA005150xB0C					
	6A	30W	12V	8.3V	13.2V	93%				•					0.3	1.1	0.45	7.6	27.9	11.4	LSM2-T/6-D12-C	LSM2-SERIES				
				14V	93%					•		•			0.5	1.0	0.28	12.7	25.4	7.0	LSN2-T/6-D12-C	LSN2A				
	10A	50W	12V	6V	14V	95%				•					0.35	1.3	0.53	8.8	33	13.5	NFA01015xS0C	NFA010				
											•		•		0.51	2.0	0.33	13.0	50.8	8.3	NFA01015xB0C					
								13.2V	96%				•						0.34	1.3	0.53	8.6	33.0	13.5	LSM2-T/10-D12-C	LSM2-SERIES
									95%					•	•				0.5	2.0	0.32	12.7	50.8	8.1	LSN2-T/10-D12-C	LSN2A
								14V	95%					•					0.34	1.3	0.53	8.6	33	13.5	NEA010150xS0C	NEA010
															•				0.5	2.0	0.33	12.7	50.8	8.3	NEA010150xB0C	
			10V	14V	93%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM-T/10-D12-C	LSM10A-D12					
	16A	80W	12V	6V	14V	94%				•					0.35	1.3	0.53	8.8	33	13.5	NFA016150xS0C	NFA016				
												•		•		0.51	2.0	0.33	13.0	50.8	8.3		NFA016150xB0C			
								13.2V	94%				•						0.34	1.3	0.53	8.6	33.0	13.5	LSM2-T/16-D12-C	LSM2-SERIES
														•	•				0.5	2.0	0.32	12.7	50.8	8.1	LSN2-T/16-D12-C	LSN2A
								14V	94%					•					0.37	1.3	0.53	9.3	33	13.5	NEA016150xS0C	NEA016
															•				0.5	2.0	0.33	12.7	50.8	8.3	NEA016150xB0C	
			10V	14V	96%				•					0.5	2.0	0.36	12.7	50.8	9.1	LSN-T/16-D12-C	LSN16A-D12					
				95%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM-T/16-D12-C	LSM16A-D12						
20A	100W	12V	6V	14V	94%				•					0.37	1.7	0.53	9.3	43.2	13.5	NFA020150xS0C	NFA020					
										•				0.51	2.4	0.33	13.0	61	8.3	NFA020150xB0C						

0.75-5.5V	10A	50W	12V	10V	14V	97%				•	•			0.55	2.0	0.36	13.97	50.8	9.14	LSN-T/10-D12-C	LSN-T10-D12J
0.8-5V	22A	112W	12V	8.3V	14V	95%				•	•			0.5	2.0	0.38	12.7	50.8	9.65	LSN-T/22-D12-C	LSN2-T22-D12
1-3.3V	16A	52W	5V	3.0V	5.5V	95%				•	•			0.5	2.0	0.36	12.7	50.8	9.14	LSN-T/16-W3-C	LSN16A-W3

### Fixed output voltages

Output Voltage	Output Power	Input Voltage	Min. Input	Max. Input	Efficiency	Package Style						Package Dimensions						Part Number	Datasheet			
						1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W			D		
0.75V	16A	12W	5V	3V	5.5V	82%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM-0.75/16-W3-C	LSM16A-W3
						86%					•	•			0.5	2.0	0.36	12.7	50.8	9.1	LSN-0.75/16-W3-C	LSN16A-W3
			12V	10V	14V	85%				•					0.34	1.3	0.53	8.6	33.0	13.5	LSM-0.75/16-D12-C	LSM16A-D12
						82.5%					•	•			0.5	2.0	0.36	12.7	50.8	9.1	LSN-0.75/16-D12-C	LSN16A-D12

0.8V	10A	8W	3.3V	3V	3.6V	84%				•				0.34	1.3	0.53	8.6	33.0	13.5	LSM-0.8/10-D3-C	LSM10A-D3
			5V	4.5V	5.5V	84%				•				0.34	1.3	0.53	8.6	33.0	13.5	LSM-0.8/10-D5-C	LSM10A-D5
	25A	20W	12V	10.2V	13.8V	85%	•			•	•			0.39	2.30	0.9	9.9	58.4	22.9	HEN-0.8/25-D12-C	HEN-D12
	28A	22.4W	12V	10.2V	13.8V	80%	•			•	•			0.46	2.30	0.9	11.7	58.4	22.9	LEN-0.8/28-D12-C	LEN-D12
	50A	40W	12V	10.2V	13.8V	85%		•		•	•			0.44	2.30	1.35	11.2	58.4	34.3	LQN-0.8/50-D12	LQN-D12



Output Characteristics			Input Voltage			Efficiency	Package Style							Package Dimensions						Further Information				
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.		Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>			
							1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D					
<b>1V</b>	<b>10A</b>	<b>10W</b>	3.3V	3V	3.6V	86%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1/10-D3-C	LSM10A-D3	
						86.5%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-1/10-D3-C	LSN10A-D3	
			5V	4.5V	5.5V	85.5%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1/10-D5-C	LSM10A-D5
						86%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-1/10-D5-C	LSN10A-D5	
			12V	10.8V	13.2V	85%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1/10-D12-C	LSM10A-D12
				10V	14V	86%											0.55	2.0	0.36	14.0	50.8	9.1	LSN-1/10-D12-C	LSN10A-D12
	16A	16W	5V	3V	5.5V	86%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1/16-W3-C	LSM16A-W3	
																	0.5	2.0	0.36	12.7	50.8	9.1	LSN-1/16-W3-C	LSN16A-W3
	25A	25W	12V	10.2V	13.8V	85%										0.39	2.30	0.9	9.9	58.4	22.9	HEN-1/25-D12-C	HEN-D12	
																	0.46	2.30	0.9	11.7	58.4	22.9	LEN-1/28-D12-C	LEN-D12
28A	28W	12V	10.2V	13.8V	82.5%										0.44	2.30	1.35	11.2	58.4	34.3	LQN-1/50-D12-C	LQN-D12		
50A	50W	12V	10.2V	13.8V	86%										0.44	2.30	1.35	11.2	58.4	34.3	LQN-1/50-D12-C	LQN-D12		

<b>1.1V</b>	<b>10A</b>	<b>11W</b>	12V	10.8V	13.2V	88%									0.55	2.0	0.36	14.0	50.8	9.1	LSN-1.1/10-D12-C	LSN10A-D12
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<b>1.2V</b>	<b>10A</b>	<b>12W</b>	3.3V	3V	3.6V	88%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.2/10-D3-C	LSM10A-D3	
						87.5%											0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.2/10-D3-C	LSN10A-D3
			5V	4.5V	5.5V	88%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.2/10-D5-C	LSM10A-D5
						88%											0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.2/10-D5-C	LSN10A-D5
			12V	10.8V	13.2V	87%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.2/10-D12-C	LSM10A-D12
						88%											0.55	2.0	0.36	14.0	50.8	9.1	LSN-1.2/10-D12-C	LSN10A-D12
	16A	19.2W	5V	3V	5.5V	88%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.2/16-W3-C	LSM16A-W3	
																	0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.2/16-W3-C	LSN16A-W3
	25A	30W	12V	10.2V	13.8V	85%										0.39	2.30	0.9	9.9	58.4	22.9	HEN-1.2/25-D12-C	HEN-D12	
																	0.46	2.30	0.9	11.7	58.4	22.9	LEN-1.2/28-D12-C	LEN-D12
	28A	33.6W	12V	10.2V	13.8V	86.5%										0.44	2.30	1.35	11.2	58.4	34.3	LQN-1.2/50-D12-C	LQN-D12	
	50A	60W	12V	10.2V	13.8V	89.5%										0.44	2.30	1.35	11.2	58.4	34.3	LQN-1.2/50-D12-C	LQN-D12	

<b>1.25</b>	<b>10A</b>	<b>12.5W</b>	3.3V	3V	3.6V	88%									0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.25/10-D3-C	LSN10A-D3
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<b>1.30</b>	<b>10A</b>	<b>13W</b>	12V	10.8V	13.2V	88%									0.55	2.0	0.36	14.0	50.8	9.1	LSN-1.3/10-D12-C	LSN10A-D12
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<b>1.5V</b>	<b>10A</b>	<b>15W</b>	3.3V	3V	3.6V	90%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.5/10-D3-C	LSM10A-D3	
						90%											0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.5/10-D3-C	LSN10A-D3
			5V	4.5V	5.5V	89.5											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.5/10-D5-C	LSM10A-D5
						90%											0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.5/10-D5-C	LSN10A-D5
			12V	10.8V	13.2V	88.5											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.5/10-D12-C	LSM10A-D12
						89%											0.55	2.0	0.36	14.0	50.8	9.1	LSN-1.5/10-D12-C	LSN10A-D12
	16A	24W	5V	3V	5.5V	90%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.5/16-W3-C	LSM16A-W3	
																	0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.5/16-W3-C	LSN16A-W3
	25A	37.5W	12V	10.2V	13.8V	87%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.5/16-D12-C	LSM16A-D12	
																	0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.5/16-D12-C	LSN16A-D12
	28A	42W	12V	10.2V	13.8V	88%										0.39	2.30	0.9	9.9	58.4	22.9	HEN-1.5/25-D12-C	HEN-D12	
	50A	75W	12V	10.2V	13.8V	91%										0.46	2.30	0.9	11.7	58.4	22.9	LEN-1.5/28-D12-C	LEN-D12	
																0.44	2.30	1.35	11.2	58.4	34.3	LQN-1.5/50-D12-C	LQN-D12	



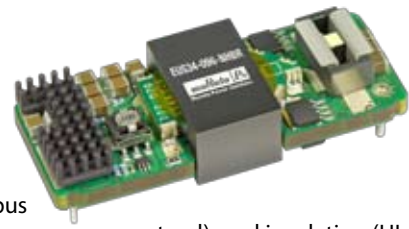
Output Characteristics			Input Voltage			Efficiency	Package Style							Package Dimensions			Further Information							
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.		Bricks							Inches			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>						
							1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D			H	W	D			
1.8V	2A	3.6W	5V	4.8V	5.5V	79%										0.45	1.00	1.00	11.4	25.4	25.4	UNR-1.8/2-D5-C	UNR3.6-10W	
			15V	4.8V	28V	89%											0.267	0.825	0.846	6.8	21.0	21.5	NGA10S15018DC	NGA
	10A	18W	3.3V	3V	3.6V	91.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.8/10-D3-C	LSM10A-D3	
						85.5%										0.39	2.00	1.00	12.5	50.8	25.4	UNR-1.8/10-D3-C	UNR15-25W	
			5V	4.5V	5.5V	91%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.8/10-D5-C	LSM10A-D5
						91.5%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.8/10-D5-C	LSN10A-D5	
	10A	18W	5V	3V	5.5V	91%										0.5	2.0	0.33	12.7	50.8	8.3	NCF010018080C	NCF010	
				4.8V	5.5V	86%											0.48	2.00	1.00	12.2	50.8	25.4	UNR-1.8/10-D5-C	UNR18-33W
	10A	18W	12V	10.8V	13.2V	90%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.8/10-D12-C	LSM10A-D12	
				10.8V	13.2V	90.5%											0.55	2.0	0.36	14.0	50.8	9.1	LSN-1.8/10-D12-C	LSN10A-D12
	10A	18W	12V	8.3V	14V	90%										0.34	1.3	0.53	8.6	33.0	13.5	NEF010018150C	NEA-NEF010-SIP	
																			.5	2.0	0.33	12.7	50.8	8.3
	16A	28.8W	5V	3V	5.5V	91.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.8/16-W3-C	LSM16A-W3	
						90%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.8/16-W3-C	LSN16A-W3	
			12V	10V	14V	90.5%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-1.8/16-D12-C	LSM16A-D12
															0.5	2.0	0.36	12.7	50.8	9.1	LSN-1.8/16-D12-C	LSN16A-D12		
20A	36W	5V	4.8V	5.5V	85%									0.49	2.00	2.00	12.5	50.8	50.8	UNR-1.8/20-D5	UNR30-66W			
25A	45W	12V	10.2V	13.8V	85%									0.39	2.30	0.9	9.9	58.4	22.9	HEN-1.8/25-D12-C	HEN-D12			
28A	50.4W	12V	10.2V	13.8V	90%									0.46	2.30	0.9	11.7	58.4	22.9	LEN-1.8/28-D12-C	LEN-D12			
45A	81W	12V	10.2V	13.8V	91%									0.44	2.30	1.35	11.2	58.4	34.3	LQN-1.8/50-D12-C	LQN-D12			

2V	10A	20W	3.3V	3V	3.6V	92.5%									0.34	1.3	0.53	8.6	33.0	13.5	LSM-2/10-D3-C	LSM10A-D3		
						92%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2/10-D3-C	LSN10A-D3	
			5V	4.5V	5.5V	92%											0.34	1.3	0.53	8.6	33.0	13.5	LSM-2/10-D5-C	LSM10A-D5
						92.5%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2/10-D5-C	LSN10A-D5	
			12V	10.8V	13.2V	91%											0.34	1.3	0.53	8.6	33.0	13.5	NCF010020080C	NCF010
						91%										0.55	2.0	0.36	14.0	50.8	9.1	LSM-2/10-D12-C	LSM10A-D12	
	12V	8.3V	14V	91%											0.34	1.3	0.53	8.6	33.0	13.5	NEF010020150C	NEA-NEF010-SIP		
				91%										0.5	2.0	0.33	12.7	50.8	8.3	NEF010020180C	NEA-NEF010-SIP			
	16A	32W	5V	3V	5.5V	92.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-2/16-W3-C	LSM16A-W3	
						91%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2/16-W3-C	LSN16A-W3	
			12V	10V	14V	91%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-2/16-D12-C	LSM16A-D12	
						91%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2/16-D12-C	LSN16A-D12	
25A	50W	12V	10.2V	13.8V	85%									0.39	2.30	0.9	9.9	58.4	22.9	HEN-2/25-D12-C	HEN-D12			
28A	56W	12V	10.2V	13.8V	90%									0.46	2.30	0.9	11.7	58.4	22.9	LEN-2/28-D12-C	LEN-D12			
45A	90W	12V	10.2V	13.8V	91%									0.44	2.30	1.35	11.2	58.4	34.3	LQN-2/50-D12-C	LQN-D12			

2.5V	2A	5W	5V	4.8V	5.5V	85%									0.45	1.00	1.00	11.4	25.4	25.4	UNR-2.5/2-D5-C	UNR 3.6-10W		
			15V	4.8V	28V	92%										0.267	0.825	0.846	6.8	21.0	21.5	NGA10S15025DC	NGA	
	10A	25W	3.3V	3V	3.6V	93.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-2.5/10-D3-C		LSM10A-D3
						94%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2.5/10-D3-C	LSN10A-D3	
			5V	4.5V	5.5V	89%											0.39	2.00	1.00	12.5	50.8	25.4	UNR-2.5/10-D3-C	UNR15-25W
						93.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-2.5/10-D5-C	LSM10A-D5	
	10A	25W	5V	4.5V	5.5V	94%										0.5	2.0	0.36	12.7	50.8	9.1	LSN-2.5/10-D5-C	LSN10A-D5	
				3V	5.5V	93%											0.5	2.0	0.33	12.7	50.8	8.3	NCF010025080C	NCF010
	10A	25W	12V	10.8V	13.2V	92.5%										0.34	1.3	0.53	8.6	33.0	13.5	LSM-2.5/10-D12-C	LSM10A-D12	
						92%										0.55	2.0	0.36	14.0	50.8	9.1	LSN-2.5/10-D12-C	LSN10A-D12	
			12V	8.3V	14V	92%											0.34	1.3	0.53	8.6	33.0	13.5	NEF010025150C	NEA-NEF010-SIP
						92%										0.5	2.0	0.33	12.7	50.8	8.3	NEF010025180C	NEA-NEF010-SIP	
	15A	38W	5V	4.8V	5.5V	89%									0.49	2.00	2.00	12.5	50.8	50.8	UNR-2.5/15-D5	UNR30-66W		
	16A	40W	5V	3V	5.5V	93.5%									0.34	1.3	0.53	8.6	33.0	13.5	LSM-2.5/16-W3-C	LSM16A-W3		
															0.5	2.0	0.36	12.7	50.8	9.1	LSN-2.5/16-W3-C	LSN16A-W3		

Output Characteristics			Input Voltage			Efficiency	Package Style						Package Dimensions						Further Information	
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.		Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
							1/8	1/4					1/2	H	W	D	H	W		
<b>2.5V</b>	<b>16A</b>	<b>40W</b>	12V	10V	14V	92.5%							0.34	1.3	0.53	8.6	33.0	13.5	LSM-2.5/16-D12-C	LSM16A-D12
													0.5	2.0	0.36	12.7	50.8	9.1	LSN-2.5/16-D12-C	LSN16A-D12
	<b>20A</b>	<b>50W</b>	5V	4.8V	5.5V	86%							0.49	2.00	2.00	12.5	50.8	50.8	UNR-2.5/20-D5-C	UNR30-66W
	<b>25A</b>	<b>62.5W</b>	12V	10.2V	13.8V	85%							0.39	2.30	0.9	9.9	58.4	22.9	HEN-2.5/25-D12-C	HEN-D12
	<b>28A</b>	<b>70W</b>	12V	10.2V	13.8V	91%							0.46	2.30	0.9	11.7	58.4	22.9	LEN-2.5/28-D12-C	LEN-D12
	<b>45A</b>	<b>112.5W</b>	12V	10.2V	13.8V	92.5%							0.44	2.30	1.35	11.2	58.4	34.3	LQN-2.5/45-D12-C	LQN-D12
<b>3.3V</b>	<b>.5A</b>	<b>1.7W</b>	12V	7.5V	36V	82%							0.75	0.4	0.4	19.1	10.2	10.4	7803SR	78XXSR SERIES
			12V	8V	32V	93%							0.85	0.80	0.23	21.6	20.3	5.7	78SR-3.3/2-C	78SR 2A SERIES
	<b>2A</b>	<b>6.6W</b>	15V	4.8V	28V	94%							0.267	0.825	0.846	6.8	21.0	21.5	NGA10S15033DC	NGA
													0.846	0.220	0.825	21.5	5.6	21.0	NGA10S15033SC	
	<b>2.5A</b>	<b>8W</b>	12V	10.8V	13.2V	82%							0.45	2.00	1.00	11.4	50.8	25.4	UNR-3.3/2500-D12	UNR8-40W
	<b>3A</b>	<b>10W</b>	5V	4.8V	5.5V	88%							0.45	1.00	1.00	11.4	25.4	25.4	UNR-3.3/3-D5-C	UNR3-6TO10W
													0.45	2.00	1.00	11.4	50.8	25.4	UNR-3.3/3000-D5	UNR8-40W
	<b>3A</b>	<b>10W</b>	5V	4.8V	5.5V	85%							0.31	1.97	0.81	7.8	50.0	20.5	UNS-3.3/3-D5	UNS10-15W
													0.31	1.97	0.81	7.8	50.0	20.5	UNS-3.3/3-D5	UNS10-15W
													0.45	1.00	1.00	11.4	25.4	25.4	UNR-3.3/3-D12-C	UNR3-6TO10W
													0.45	1.00	1.00	11.4	25.4	25.4	UNR-3.3/8-D5-C	UNR18-33W
	<b>8A</b>	<b>26W</b>	5V	4.8V	5.5V	92%							0.48	2.00	1.00	12.2	50.8	25.4	UNR-3.3/8-D5-C	UNR18-33W
													0.48	2.00	1.00	12.2	50.8	25.4	UNR-3.3/8-D12	UNR18-33W
													0.34	1.3	0.53	8.6	33.0	13.5	LSM-3.3/10-D5-C	LSM10A-D5
													0.5	2.0	0.36	12.7	50.8	9.1	LSN-3.3/10-D5-C	LSN10A-D5
													0.5	2.0	0.33	12.7	50.8	8.3	NCF0100330B0C	NCF010
													0.48	2.00	1.00	12.2	50.8	25.4	UNR-3.3/10-D5	UNR18-33W
													0.34	1.3	0.53	8.6	33.0	13.5	LSM-3.3/10-D12-C	LSM10A-D12
													0.55	2.0	0.36	14.0	50.8	9.1	LSN-3.3/10-D12-C	LSN10A-D12
													0.34	1.3	0.53	8.6	33.0	13.5	NEF010033150C	NEA-NEF010-SIP
													0.5	2.0	0.33	12.7	50.8	8.3	NEF0100331B0C	NEA-NEF010-SIP
													0.48	2.00	1.00	12.2	50.8	25.4	UNR-3.3/10-D12-C	UNR18-33W
	<b>12A</b>	<b>40W</b>	5V	4.8V	5.5V	90%							0.44	2.00	1.00	11.2	50.8	25.4	UNR-3.3/12-D5-C	UNR30-40W
<b>15A</b>	<b>50W</b>	5V	4.8V	5.5V	91%							0.49	2.00	2.00	12.5	50.8	50.8	UNR-3.3/15-D5-C	UNR30-66W	
												0.34	1.3	0.53	8.6	33.0	13.5	LSM-3.3/16-W3-C	LSM16A-W3	
												0.5	2.0	0.36	12.7	50.8	9.1	LSN-3.3/16-W3-C	LSN16A-W3	
												0.5	2.0	0.36	12.7	50.8	9.1	LSN-3.3/16-D12-C	LSN16A-D12	
												0.34	1.3	0.53	8.6	33.0	13.5	LSM-3.3/16-D12-C	LSM16A-D12	
<b>25A</b>	<b>82.5W</b>	12V	10.2V	13.8V	85%							0.39	2.30	0.9	9.9	58.4	22.9	HEN-3.3/25-D12-C	HEN-D12	
<b>28A</b>	<b>92.4W</b>	12V	10.2V	13.8V	93%							0.46	2.30	0.9	11.7	58.4	22.9	LEN-3.3/28-D12-C	LEN-D12	
	<b>45A</b>	<b>148.5W</b>	12V	10.2V	13.8V	92.5%						0.44	2.30	1.35	11.2	58.4	34.3	LQN-3.3/45-D12-C	LQN-D12	
<b>3.8V</b>	<b>10A</b>	<b>38W</b>	5V	4.5V	5.5V	95%							0.5	2.0	0.36	12.7	50.8	9.1	LSN-3.8/10-D5-C	LSN10A-D5
			12V	10.8V	13.2V	95%							0.55	2.0	0.36	14.0	50.8	9.1	LSN-3.8/10-D12-C	LSN10A-D12
<b>5V</b>	<b>.5A</b>	<b>2.5W</b>	12V	7.5V	36V	86%							0.75	0.4	0.4	19.1	10.2	10.4	7805SR	78XXSR SERIES
			12V	8V	32V	95%							0.85	0.80	0.23	21.6	20.3	5.7	78SR-5/2-C	78SR 2A SERIES
	<b>2A</b>	<b>10W</b>	15V	7V	28V	95%							0.267	0.825	0.846	6.8	21.0	21.5	NGA10S15050DC	NGA
													0.846	0.220	0.825	21.5	5.6	21.0	NGA10S15050SC	
	<b>3A</b>	<b>15W</b>	12V	6V	16.5V	92%							0.31	1.97	0.81	7.8	50.0	20.5	UNS-5/3-D12	UNS10-15W
	<b>5A</b>	<b>25W</b>	12V	10.8V	13.6V	91%							0.48	2.00	1.00	12.2	50.8	25.4	UNR-5/5-D12-C	UNR25-50W
													0.34	1.3	0.53	8.6	33.0	13.5	LSM-5/10-D12-C	LSM10A-D12
													0.55	2.0	0.36	14.0	50.8	9.1	LSN-5/10-D12-C	LSN10A-D12
													0.34	1.3	0.53	8.6	33.0	13.5	NEF010050150C	NEA-NEF010-SIP
													0.5	2.0	0.33	12.7	50.8	8.3	NEF0100501B0C	NEA-NEF010-SIP
													0.34	1.3	0.53	8.6	33.0	13.5	LSM-5/16-D12-C	LSM16A-D12
													0.5	2.0	0.36	12.7	50.8	9.1	LSN-5/16-D12-C	LSN16A-D12
													0.39	2.30	0.9	9.9	58.4	22.9	HEN-5/25-D12-C	HEN-D12
												0.46	2.30	0.9	11.7	58.4	22.9	LEN-5/25-D12-C	LEN-D12	
	<b>45A</b>	<b>225W</b>	12V	10.2V	13.8V	95%						0.44	2.30	1.35	11.2	58.4	34.3	LQN-5/45-D12-C	LQN-D12	
<b>12V</b>	<b>0.4A</b>	<b>4.8W</b>	24V	15V	36V	95%							0.75	0.4	0.4	19.1	10.2	10.4	7812SR	78XXSR SERIES

# Bus Converters



Realizing the full, high-efficiency, cost-saving potential of an Intermediate Bus Architecture (see below) starts with selecting the best bus converter.

Also known as “DC transformers,” bus converters are unregulated DC/DCs that convert an available backplane voltage (typically 48VDC for telecom/datacom

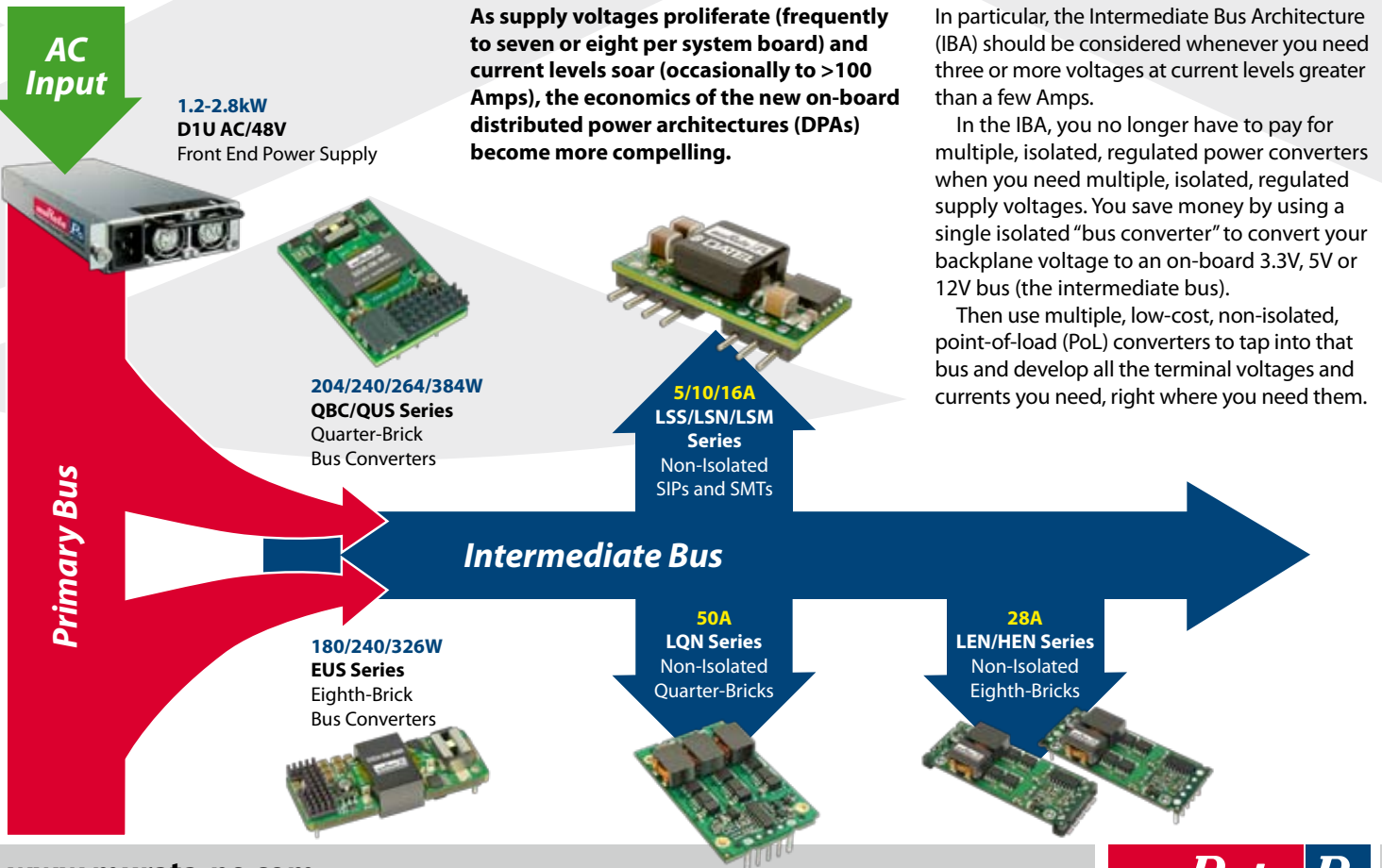
applications) into an effective on-board bus voltage (typically 8-12 Volts). By sacrificing wide input voltage ranges and full line/load regulation, bus converters can lower overall system costs and boost efficiency.

Bus converters available from Murata Power Solutions deliver the critical step-down (4:1, 5:1 or 6:1), isolation (2,250VDC

guaranteed), and insulation (UL/EN60950 BASIC) functions in standard 1/8- and 1/4-brick packages. They operate over the full ETS 300 132-2 input range of 40.5 to 57 Volts (typical usage may be over more narrow 48V ±10% ranges) and boast full-load efficiencies of 94-96%.

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information			
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>		
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D				
8V	30A	240W	48V	36V	55V	2.25kV	94.8%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS30-080	EUS30-080
	25A	240W	48V	36V	55V	2.25kV	94.2%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS25-096	EUS25-096
	34A	326W	48V	38V	55V	2.25kV	96%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS34-096	EUS36-096
9.6V	40A	384W	48V	38V	55V	2.25kV	96.6%	•									0.48	1.45	2.28	12.2	36.8	57.9	QUS40-096	QUS40-096
	15A	180W	48V	36V	55V	2.25kV	96%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS15-120	EUS15-120
	20A	240W	48V	36V	55V	2.25kV	95.6%	•									1.25	2.50	0.40	31.2	63.5	10.2	QUS20-120	QUS20-120
12V	22A	264W	48V	40.5	57V	2.25kV	96%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS20-120	EUS20-120
						2.25kV	95.5%	•									0.48	0.90	2.28	12.2	22.9	57.9	EUS20-120	EUS20-120
						2.25kV	96%	•									0.42	1.45	2.30	12.2	36.8	57.9	QBC-12/22-L48-C	QBC-SERIES

## Intermediate Bus Architecture



[www.murata-ps.com](http://www.murata-ps.com)

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Overview

PoL Converters

Bus Converters

Isolated Single

Isolated Dual/Bipolar

Isolated Dual/Asymmetric

Isolated Triple

Processor Power

Memory Support

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# Single Output

## Isolated DC/DC Converters

Power from 0.25 to 340 Watts; currents from 0.02 to 80 Amps; voltages from 1.2 to 48 Volts; inputs from 3 to 75 Volts . . . Murata Power Solutions offers the broadest line of single-output, isolated DC/DC converters in the entire power industry.

Our low-power encapsulated products (mini SIPs, DIPs and SMDs) are among the smallest available. Many use contemporary ceramic-substrates and copper-lead-frame technologies to achieve their small size.

At the other extreme, our high-power 1/8, 1/4 and 1/2 bricks are open-frame assemblies using multi-layer, heavy-copper pc boards and planar magnetics. Their high efficiencies enable full-power operation to high ambient temperatures, and optional baseplates deliver the best thermal performance in the industry.

If you can't find the DC/DC power solution you need in the tables below, contact us, and we'll develop one for you.



### Quick Selection Guide Listed by output power

	Output Voltages						Series
	3.3V	5V	6V	9V	12V	15V	
<b>&lt;1W</b>		•			•	•	HPR1XXC
		•			•	•	HPR4XXC
		•			•	•	LME
		•			•	•	NMF
<b>1-2W</b>		•					HB01UYC
		•					HB01UZXC
		•					HL01RYC
		•					HL01RZC
		•					HPR10XXC
		•					NKE
		•					NME
		•					NMJ
		•					NMR
		•					NMV
		•					NTE
		•					PWR11XXC
		•					PWR13XXC
	<b>2-3W</b>		•				
		•					LP02U
		•					NDL
		•					NML
		•					UST 3W
<b>3-4W</b>	•	•					NDTS
	•	•					NDY
	•	•					PWR12XXC
	•	•					UWR 3W
	•	•					WPC03R
<b>5-6W</b>					•		NMXSO
					•		NMXU
				•			UWR 5W

	Output Voltages											Series		
	1.2V	1.5V	1.8V	2V	2.5V	3.3V	5V	5.2V	9.6V	12V	15V		24V	96V
<b>6-10W</b>	•	•												UWR 15W
														UWR 6-10W
														UWR 9.6W
<b>10-15W</b>														NPH10
														UHE 12-30W
														UWR 14-20W
														UWR 15W
<b>15-18W</b>														WPC10R
														NPH15
														NPX20
														UEP 15-30W
<b>18-25W</b>														UWR 14-20W
														UWR 14-20W
														WPN20R
<b>25-35W</b>														NPH25
														UEP 15-30W
														ULE
														ULQ
<b>35-50W</b>														UMP 25-40W
														UWR 26-40W
														UCQ
														ULE
													ULQ	
														UMP 25-40W

	Output Voltages											Series			
	1.2V	1.5V	1.8V	2V	2.5V	3.3V	5V	8V	9.6V	12V	15V		18V	24V	48V
<b>50-75W</b>	•														QHS55-012
															UCQ
															ULE
															ULQ
<b>75-100W</b>															UVQ
															QHS55-015
															QHS55-018
															UCQ
<b>100-120W</b>															ULQ
															UQQ
															UVQ
															VKA100
<b>120-240W</b>															QHS35-033
															QHS40-025
															UVQ
<b>240-300W</b>															EUS15-120
															EUS20-120
															QHS12-120
<b>&gt;300W</b>															ULQ
															EUS25-096
															EUS30-080
															QBC
															UHP
															EUS34-096
															QUS40-096



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information								
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>							
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D									
1.2V	6A	7.2W	12V	10V	18V	1.5kV	78%										0.49	2	1	12.5	50.8	25.4	UWR-1.2/6000-D12A-C	UWR15WA-SERIES					
			24V	18V	36V	1.5kV	79%											0.49	2	1	12.5	50.8	25.4		UWR-1.2/6000-D24A-C				
	10A	12W	12V	9V	18V	1.5kV	82%										0.4	2	1.6	10.2	50.8	40.6	UHE-1.2/10000-D12-C	UHE12-30W					
			24V	18V	36V	1.5kV	83%											0.4	2	1.6	10.2	50.8	40.6		UHE-1.2/10000-D24-C				
	25A	30W	24V	18V	36V	2kV	88%										0.38	2.3	1.45	9.5	58.4	36.8	ULQ-1.2/25-D24P-C	ULQ-15A					
			48V	36V	75V	2.25kV	87.5%											0.38	2.3	1.45	9.5	58.4	36.8		ULQ-1.2/25-D48N-C				
30A	36W	48V	36V	75V	2.25kV	83%										0.4	2.3	1.45	10.2	58.4	36.8	UCQ-1.2/30-D48N-C	UCQ-SERIES						
55A	66W	48V	36V	75V	1.5kV	86.5%										0.47	1.45	2.28	11.8	36.8	57.9	QHS55-012-NHCRC	QHS55-012						
1.5V	6A	9W	12V	10V	18V	1.5kV	79.5%										0.49	2	1	12.5	50.8	25.4	UWR-1.5/6000-D12A-C	UWR15WA-SERIES					
			24V	18V	36V	1.5kV	80%											0.49	2	1	12.5	50.8	25.4		UWR-1.5/6000-D24A-C				
	10A	15W	12V	9V	18V	1.5kV	83%										0.4	2	1.6	10.2	50.8	40.6	UHE-1.5/10000-D12-C	UHE12-30W					
			24V	18V	36V	1.5kV	86%											0.4	2	1.6	10.2	50.8	40.6		UHE-1.5/10000-D24-C				
	20A	30W	48V	36V	75V	2.25kV	87%										0.37	2.3	0.9	9.4	58.4	22.9	UCE-1.5/20-D48N-C	UCE-SERIES					
			24V	18V	36V	2kV	88%											0.41	2.3	0.9	10.4	58.4	22.9	ULE-1.5/20-D24P-C	ULE20A				
	25A	37.5W	48V	36V	75V	2.25kV	84.5%										0.41	2.3	0.9	10.4	58.4	22.9	ULE-1.5/20-D48N-C	ULQ-15A					
			24V	18V	36V	2kV	87.5%											0.38	2.3	1.45	9.5	58.4	36.8		ULQ-1.5/25-D24P-C				
	25A	37.5W	48V	36V	75V	2.25kV	83%											0.4	2.3	1.45	10.2	58.4	36.8	UCQ-1.5/25-D48N-C	UCQ-SERIES				
			48V	36V	75V	2.25kV	87%											0.38	2.3	1.45	9.5	58.4	36.8	ULQ-1.5/25-D48N-C	ULQ-15A				
40A	60W	48V	36V	75V	2.25kV	86%											0.4	2.3	1.45	10.2	58.4	36.8	UCQ-1.5/40-D48N-C	UCQ-SERIES					
		24V	18V	36V	2kV	88%											0.42	2.3	1.45	10.7	58.4	36.8	UVQ-1.5/40-D24P-C	UVQ-SERIES					
50A	75W	48V	36V	75V	1.5kV	86%										0.47	1.45	2.28	11.8	36.8	57.9	QHS50-015-NHCRC	QHS50-015						
1.8V	6A	10.8W	12V	10V	18V	1.5kV	83%										0.49	2	1	12.5	50.8	25.4	UWR-1.8/6000-D12A-C	UWR15WA-SERIES					
							76%														0.36	1	2	9.3	25.7	51.2	NPX20S24018DC	NPX20	
							76%															0.33	1	2	8.5	25.7	51.2		NPX20S24018MC
			84.5%															0.33	1.17	1.92	8.5	29.6	48.6	NPX20S24018PMC	UWR15WA-SERIES				
			78%															0.49	2	1	12.5	50.8	25.4	UWR-1.8/6000-D24A-C					
			85%															0.36	1	2	9.25	25.7	51.2	NPX20S48018DC	NPX20				
	10A	18W	12V	9V	18V	1.5kV	85.5%											0.33	1	2	8.5	25.7	51.2	NPX20S48018MC	UWR15WA-SERIES				
			48V	36V	75V	1.5kV	85%											0.33	1.17	1.92	8.5	29.6	48.6	NPX20S48018PMC					
	20A	36W	24V	18V	36V	2kV	86%											0.49	2	1	12.5	50.8	25.4	UWR-1.8/6000-D48A-C	UWR15WA-SERIES				
			48V	36V	75V	2.25kV	86.5%											0.4	2	1.6	10.2	50.8	40.6	UHE-1.8/10000-D12-C					
25A	45W	24V	18V	36V	2kV	87.5%											0.4	2	1.6	10.2	50.8	40.6	UHE-1.8/10000-D24-C	UHE12-30W					
		48V	36V	75V	2.25kV	85%											0.4	2	1.6	10.2	50.8	40.6	UHE-1.8/10000-D48-C						
30A	54W	24V	18V	36V	2kV	87.5%											0.41	2.3	0.9	10.4	58.4	22.9	ULE-1.8/20-D24P-C	ULE20A					
		48V	36V	75V	2.25kV	86.5%											0.41	2.3	0.9	10.4	58.4	22.9	ULE-1.8/20-D48N-C						
50A	90W	24V	18V	36V	2kV	87.5%											0.38	2.3	1.45	9.5	58.4	36.8	ULQ-1.8/25-D24P-C	ULQ-15A					
		48V	36V	75V	2.25kV	87.5%											0.38	2.3	1.45	9.5	58.4	36.8	ULQ-1.8/25-D48N-C						
30A	54W	48V	36V	75V	2.25kV	88%											0.37	2.3	0.9	9.4	58.4	22.9	UCE-1.8/30-D48N-C	UCE-SERIES					
		48V	36V	75V	2.25kV	86%											0.4	2.3	1.45	10.2	58.4	36.8	UCQ-1.8/30-D48N-C	UCQ-SERIES					
50A	90W	48V	36V	75V	1.5kV	88%										0.47	1.45	2.28	11.8	36.8	57.9	QHS50-018-NHCRC	QHS50-018						
2V	25A	50W	24V	18V	36V	2kV	88%										0.38	2.3	1.45	9.5	58.4	36.8	ULQ-2/25-D24P-C	ULQ-15A					
			48V	36V	75V	2.25kV	88%											0.38	2.3	1.45	9.5	58.4	36.8		ULQ-2/25-D48N-C				
2.5V	6A	15W	12V	10V	18V	1.5kV	86%										0.49	2	1	12.5	50.8	25.4	UWR-2.5/6000-D12A-C	UWR15WA-SERIES					
							80%															0.36	1	2	9.3	25.7	51.2	NPX20S24025DC	NPX20
							80%															0.33	1	2	8.5	25.7	51.2	NPX20S24025MC	
			85%															0.33	1.165	1.915	8.5	29.6	48.6	NPX20S24025PMC	UWR15WA-SERIES				
			81%															0.49	2	1	12.5	50.8	25.4	UWR-2.5/6000-D24A-C					
			86%															0.36	1	2	9.3	25.7	51.2	NPX20S48025DC	NPX20				
	81%															0.33	1	2	8.5	25.7	51.2	NPX20S48025MC							
	86%															0.33	1.165	1.915	8.5	29.6	48.6	NPX20S48025PMC							
10A	25W	12V	9V	18V	1.5kV	87%											0.4	2	1.6	10.2	50.8	40.6	UHE-2.5/10000-D12-C	UHE12-30W					
		24V	18V	36V	1.5kV	88%											0.4	2	1.6	10.2	50.8	40.6	UHE-2.5/10000-D24-C						

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information		
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			1/8	Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
									1/4	1/2					H	W	D	H	W	D		
<b>2.5V</b>	<b>10A</b>	<b>25W</b>	48V	36V	75V	1.5kV	88%						0.4	2	1.6	10.2	50.8	40.6	UHE-2.5/10000-D48-C	UHE12-30W		
	<b>15A</b>	<b>37.5W</b>	48V	36V	75V	2.25kV	89.5%	•	•	•	•		0.38	2.3	1.45	9.5	58.4	36.8	ULQ-2.5/15-D48N-C	ULQ-15A		
	<b>20A</b>	<b>50W</b>	24V	18V	36V	2kV	88.5%	•		•	•			0.41	2.3	0.9	10.4	58.4	22.9	ULE-2.5/20-D24P-C	ULE20A	
			48V	36V	75V	2.25kV	88.5%	•		•	•			0.38	2.3	1.45	9.5	58.4	36.8	ULQ-2.5/20-D24P-C	ULQ-15A	
								88%	•		•	•			0.41	2.3	0.9	10.4	58.4	22.9	ULE-2.5/20-D48N-C	ULE20A
								88.5%	•		•	•			0.38	2.3	1.45	9.5	58.4	36.8	ULQ-2.5/20-D48N-C	ULQ-15A
	<b>30A</b>	<b>75W</b>	48V	36V	75V	2.25kV	87%	•		•	•			0.4	2.3	1.45	10.2	58.4	36.8	UCQ-2.5/30-D48N-C	UCQ-SERIES	
	<b>35A</b>	<b>87.5W</b>	24V	18V	36V	2kV	88%	•		•	•			0.42	2.3	1.45	10.7	58.4	36.8	UVQ-2.5/35-D24P-C	UVQ-SERIES	
			48V	36V	75V	2.25kV	84%	•		•	•			0.4	2.3	1.45	10.2	58.4	36.8	UCQ-2.5/40-D24P-C	UCQ-SERIES	
			24V	18V	36V	2.25kV	84%	•		•	•				0.47	1.45	2.28	11.8	36.8	57.9	QHS40-025-NHCRC	QHS40-025
			48V	36V	75V	2.25kV	91%	•		•	•				0.42	2.3	1.45	10.7	58.4	36.8	UVQ-2.5/40-D48N-C	UVQ-SERIES

<b>3.3V</b>	<b>0.3A</b>	<b>1W</b>	3.3V	2.97V	3.63V	3kV	75%						0.21	0.39	0.45	5.4	9.8	11.5	NKE0303DC	NKE						
						1kV	73%					0.29	0.24	0.45	7.5	6	11.5	NKE0303SC								
						5.2kV	66%				•	0.26	0.30	0.5	6.6	7.7	12.7	NTE0303MC	NTE							
			3kV	75%					0.49	0.39	0.77	12.5	9.8	19.5	NMJ0303SAC	NMJ										
			5V	4.5V	5.5V	3kV	75%								0.21	0.39	0.45	5.4	9.8		11.5	NKE0503DC	NKE			
			5.2kV			64%					0.29	0.24	0.45	7.5	6	11.5	NKE0503SC									
	1kV	74%						•	0.49	0.39	0.77	12.5	9.8	19.5	NMJ0503SAC	NMJ										
	<b>0.9A</b>	<b>3W</b>	5V	4.5V	9V	1kV	63%							0.28	0.58	1.27	7	14.7	32.3	NDTS0503C	NDTS					
			12V	9V	18V	1kV	71%								0.28	0.58	1.27	7	14.7	32.3		NDTS1203C				
			24V	18V	36V	1kV	71%									0.28	0.58	1.27	7	14.7		32.3	NDTS2403C			
						70%												0.28	0.58	1.27		7	14.7	32.3	NDY2403C	NDY
			48V	36V	72V	1kV	71%									0.28	0.58	1.27	7	14.7		32.3	NDTS4803C	NDTS		
			<b>2.94A</b>	<b>10W</b>	24V	18V	36V	1.5kV	79%								0.39	0.98	1.26	10		25	32	NPH10S2403EIC	NPH10S	
	48V	36V			75V	1.5kV	80%								0.39	0.98	1.26	10	25	32	NPH10S2403IC					
																0.39	0.98	1.26	10	25	32	NPH10S4803EIC				
																0.39	0.98	1.26	10	25	32	NPH10S4803IC				
	<b>4.25A</b>	<b>14W</b>	5V	4.7V	7.5V	1.5kV	77%								0.45	2	2	11.4	50.8	50.8	UWR-3.3/4250-D5-C	UWR14-20WA-SERIES				
			12V	10V	18V	1.5kV	86%								0.49	2	1	12.5	50.8	25.4	UWR-3.3/4250-D12A-C	UWR15WA-SERIES				
			24V	18V	36V	1.5kV	87%								0.49	2	1	12.5	50.8	25.4	UWR-3.3/4250-D24A-C					
			48V	36V	75V	1.5kV	87%								0.49	2	1	12.5	50.8	25.4	UWR-3.3/4250-D48A-C					
	<b>4.4A</b>	<b>15W</b>	24V	18V	36V	1.5kV	81%								0.39	1	2	10	25	50	NPH15S2403EIC	NPH15S				
			48V	36V	75V	1.5kV	83%								0.39	1	2	10	25	50	NPH15S2403IC					
																0.39	1	2	10	25	50		NPH15S4803EIC			
	<b>4.5A</b>	<b>14.85W</b>	12V	10V	18V	1.5kV	84.5%								0.49	2	1	12.5	50.8	25.4	UEP-3.3/4500-D12-C	UEP15-30W				
			24V	18V	36V	1.5kV	87.5%								0.49	2	1	12.5	50.8	25.4	UEP-3.3/4500-D24-C					
			48V	36V	75V	1.5kV	87.5%								0.49	2	1	12.5	50.8	25.4	UEP-3.3/4500-D48-C					
	<b>4.85A</b>	<b>16W</b>	24V	9V	36V	1.5kV	87.5%								0.36	1.1	0.96	9.1	27.9	24.4	UEI15-033-Q12P-C	UEI 15W				
			48V	18V	75V	1.5kV	80%								0.45	2	2	11.4	50.8	50.8	UWR-3.3/4850-D12-C	UWR14-20WA-SERIES				
	<b>5A</b>	<b>16.5W</b>	48V	18V	75V	1.5kV	88%							0.45	2	2	11.4	50.8	50.8	UWR-3.3/4850-D48-C						
	<b>6A</b>	<b>19.8W</b>	24V	18V	36V	1.5kV	83%								0.36	1	2	9.3	25.7	51.2	NPX20S24033DC	NPX20				
							84%												0.33	1	2		8.5	25.7	51.2	NPX20S24033MC
							83%												0.44	2	1.59		11.2	50.6	40.4	WPN20R24S03C
			48V	36V	75V	1.5kV	84%									0.36	1	2	9.3	25.7	51.2	NPX20S48033DC	NPX20			
							84%												0.33	1	2	8.5		25.7	51.2	NPX20S48033MC
							89%												0.49	2	1	12.5		50.8	25.4	UEP-3.3/6000-D48-C
	<b>7.3A</b>	<b>25W</b>	24V	18V	36V	1.5kV	81%								0.39	1.38	1.97	10	35	50	NPH25S2403EIC	NPH25S				
48V			36V	75V	1.5kV	83%								0.39	1.38	1.97	10	35	50	NPH25S2403IC						
															0.39	1.38	1.97	10	35	50	NPH25S4803EIC					

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information						
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>					
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D							
<b>3.3V</b>	<b>7.3A</b>	<b>25W</b>	48V	36V	75V	1.5kV	83%										0.39	1.38	1.97	10	35	50	NPH25S4803IC	NPH25S			
	<b>7.5A</b>	<b>24.75W</b>	24V	9V	36V	1.5kV	88%											0.4	2	1.6	10.2	50.8	40.6	UHE-3.3/7500-Q12-C	UHE12-30W		
			48V	18V	75V	1.5kV	89.5%												0.4	2	1.6	10.2	50.8	40.6		UHE-3.3/7500-Q48-C	
				36V	75V	1.5kV	91%													0.4	2	1.6	10.2	50.8		40.6	UHE-3.3/7500-D48-C
	<b>8A</b>	<b>26.4W</b>	12V	10V	18V	1.5kV	87.5%											0.45	2	2	11.4	50.8	50.8	UWR-3.3/8-D12A-C	UWR26-40W		
			24V	18V	36V	1.5kV	88.5%												0.45	2	2	11.4	50.8	50.8		UWR-3.3/9-D24A-C	
	<b>9A</b>	<b>29.7W</b>	48V	36V	75V	1.5kV	88.5%											0.45	2	2	11.4	50.8	50.8	UWR-3.3/9-D48A-C	UCH-SERIES		
			24V	18V	36V	2.25kV	89%												0.4	2.4	2.3	10.2	61	58.4		UCH-3.3/10-D24P-C	
	<b>10A</b>	<b>33W</b>	48V	36V	75V	2.25kV	89%											0.4	2.4	2.3	10.2	61	58.4	UCH-3.3/10-D48N-C	UEI-SERIES		
			24V	9V	36V	1.5kV	87.5%												0.375	1.95	1.55	9.5	49.5	39.4		UEI-3.3/15-Q12PR-C	
	<b>15A</b>	<b>49.5W</b>	48V	36V	75V	2.25kV	90%											0.37	2.3	0.9	9.4	58.4	22.9	UCE-3.3/15-D48N-C	UCE-SERIES		
			48V	36V	75V	2.25kV	89%												0.4	2.4	2.3	10.2	61	58.4	UCH-3.3/15-D48N-C	UCH-SERIES	
							90.5%														0.38	2.3	1.45	9.5	58.4	36.8	ULQ-3.3/15-D48N-C
	<b>18A</b>	<b>59.4W</b>	48V	18V	75V	2.25kV	89.5%											0.375	1.95	1.55	9.5	49.5	39.4	UEI-3.3/18-Q48NR-C	UEI-50/60		
			24V	18V	36V	2kV	89%												0.41	2.3	0.9	10.4	58.4	22.9	ULE-3.3/20-D24P-C	ULE20A	
							89.5%															0.38	2.3	1.45	9.5	58.4	36.8
	<b>20A</b>	<b>66W</b>	48V	36V	75V	2.25kV	90%											0.4	2.3	1.45	10.2	58.4	36.8	UCQ-3.3/20-D48N-C	UCQ-SERIES		
			48V	36V	75V	2.25kV	89%												0.41	2.3	0.9	10.4	58.4	22.9	ULE-3.3/20-D48N-C	ULE20A	
							90%														0.38	2.3	1.45	9.5	58.4	36.8	ULQ-3.3/20-D48N-C
	<b>25A</b>	<b>82.5W</b>	12V	9V	36V	2kV	88%											0.43	2.22	1.45	10.9	56.4	36.8	UQQ-3.3/25-Q12P-C	UQQ7-15A		
48V			18V	75V	2.25kV	88.5%												0.43	2.22	1.45	10.9	56.4	36.8	UQQ-3.3/25-Q48N-C			
<b>30A</b>	<b>99W</b>	24V	18V	36V	2kV	89%											0.42	2.3	1.45	10.7	58.4	36.8	UVQ-3.3/30-D24P-C	UVQ-SERIES			
		48V	36V	75V	2.25kV	91%												0.37	2.3	0.9	9.4	58.4	22.9	UCE-3.3/30-D48N-C	UCE-SERIES		
						89%														0.4	2.3	1.45	10.2	58.4	36.8	UCQ-3.3/30-D48N-C	UCQ-SERIES
<b>35A</b>	<b>115.5W</b>	24V	18V	36V	2.25kV	89%											0.4	2.4	2.3	10.2	61	58.4	UCH-3.3/35-D24P-C	UCH-SERIES			
						90%														0.4	2.3	1.45	10.2		58.4	36.8	UCQ-3.3/35-D24P-C
		48V	36V	75V	1.5kV	90.5%												0.47	1.45	2.28	11.8	36.8	57.9		QHS35-033-NHCRC	QHS35-033	
<b>50A</b>	<b>165W</b>	48V	36V	75V	2.25kV	90%											0.4	2.3	1.45	10.2	58.4	36.8	HPQ-3.3/50-D48N-C	HPQ-SERIES			
						92%														0.42	2.3	1.45	10.7	58.4	36.8	UVQ-3.3/35-D48N-C	UVQ-SERIES
<b>70A</b>	<b>231W</b>	48V	36V	75V	2.25kV	90%											0.4	2.4	2.3	10.2	61	58.4	HPH-3.3/70-D48N-C	HPH-SERIES			
<b>5V</b>	<b>0.05A</b>	<b>0.25W</b>	3.3V	2.97V	3.63V	1kV	70%										0.39	0.24	0.45	10	6	11.5	LME0305SC	LME			
			5V	4.5V	5.5V	1kV	70%												0.27	0.39	0.45	6.8	9.8		11.5	LME0505DC	
			12V	10.8V	13.2V	1kV	70%													0.39	0.24	0.45	10		6	11.5	LME1205DC
																						0.39	0.24		0.45	10	6
	<b>0.1A</b>	<b>0.5W</b>	5V	4.75V	5.25V	1kV	50%											0.27	0.39	0.77	6.8	9.8	19.5	NMF0505DC	NMF		
			12V	11.4V	12.6V	1kV	50%												0.39	0.24	0.77	10	6	19.5		NMF0505SC	
																						0.27	0.39	0.77		6.8	9.8
																			0.39	0.24	0.77	10	6	19.5		NMF1205SC	
	<b>0.1A</b>	<b>0.5W</b>	24V	22.8V	25.2V	1kV	50%											0.27	0.39	0.77	6.8	9.8	19.5	NMF2405DC			
																						0.39	0.24	0.77	10	6	19.5
	<b>0.15A</b>	<b>0.75W</b>	5V	4.5V	5.5V	0.75kV	69%											0.4	0.77	0.24	10.1	19.6	6.1	HPR100C	HPR1XXC		
							69%														0.38	0.79	0.53	9.5	19.9	13.3	HPR100WC
			12V	10.8V	13.2V	0.75kV	69%												0.4	0.77	0.24	10.1	19.6	6.1	HPR400C	HPR4XX	
							69%													0.4	0.77	0.24	10.1	19.6	6.1	HPR106C	HPR1XXC
			15V	13.5V	16.5V	0.75kV	69%												0.4	0.77	0.24	10.1	19.6	6.1	HPR112C		
							65%													0.4	0.77	0.24	10.1	19.6	6.1	HPR118C	
	<b>0.2A</b>	<b>1W</b>	3.3V	2.97V	3.63V	3kV	76%											0.212	0.39	0.45	5.4	9.8	11.5	NKE0305DC	NKE		
							78%													0.26	0.30	0.5	6.6	7.7		12.7	NTE0305MC
			5V	4.5V	5.5V	3.5kV	68%												0.38	1.29	0.53	9.5	32.6	13.3		HB01U05S05YC	HB01UYC

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information											
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>										
								T/8	T/4	T/2	SM	TH	DIP	SIP	H	W	D	H	W	D												
<b>5V</b>	<b>0.2A</b>	<b>1W</b>	4.5V	5.5V	3.5kV	68%												0.38	1.29	0.53	9.5	32.6	13.3	HB01U05S05ZC	HB01UZC							
																						0.38	1.29	0.53	9.5	32.6	13.3	HL01R05S05YC	HL01RYC			
						4.75V	5.25V	0.5kV	58%														0.38	1.29	0.53	9.5	32.6	13.3	HL01R05S05ZC	HL01RZC		
						5V	4.5V	5.5V	1kV	68%														0.4	0.77	0.24	10.1	19.6	6.1	HPR1000C	HPR10XXC	
										69%															0.21	0.39	0.45	5.4	9.8	11.5	NKE0505DC	NKE
																										0.29	0.24	0.45	7.5	6	11.5	
			78%																				0.21	0.39	0.45	5.4	9.8	11.5	NKE0505DEC			
																									0.29	0.24	0.45	7.5	6	11.5	NKE0505SEC	
																									0.27	0.39	0.45	6.8	9.8	11.5	NME0505DC	NME
																					0.39	0.24	0.45	10	6	11.5	NME0505SC					
																						0.49	0.39	0.77	12.5	9.8	19.5	NMJ0505SAC	NMJ			
																						0.39	0.24	0.77	10	6	19.5	NMR100C	NMR			
																					0.27	0.39	0.77	6.8	9.8	19.5	NMV0505DAC	NMV				
																					0.39	0.24	0.77	10	6	19.5	NMV0505SAC					
																					0.26	0.30	0.5	6.6	7.7	12.7	NTE0505MC	NTE				
																					0.26	0.30	0.5	6.6	7.7	12.7	NTE0505MEC					
																					0.21	0.39	0.45	5.4	9.8	11.5	NKE1205DC	NKE				
																					0.29	0.24	0.45	7.5	6	11.5	NKE1205SC					
																					0.27	0.39	0.45	6.8	9.8	11.5	NME1205DC	NME				
																					0.39	0.24	0.45	10	6	11.5	NME1205SC					
																					0.49	0.39	0.77	12.5	9.8	19.5	NMJ1205SAC	NMJ				
																					0.39	0.24	0.77	10	6	19.5	NMR106C	NMR				
																					0.27	0.39	0.77	6.8	9.8	19.5	NMV1205DAC	NMV				
																					0.39	0.24	0.77	10	6	19.5	NMV1205SAC					
																				0.26	0.30	0.5	6.6	7.7	12.7	NTE1205MC	NTE					
																				0.39	0.24	0.77	10	6	19.5	NMR112C	NMR					
																				0.39	0.24	0.77	10	6	19.5	NMV1505SAC	NMV					
																				0.38	1.29	0.53	9.5	32.6	13.3	HL01R24S05YC	HL01RYC					
																				0.4	0.77	0.24	10.1	19.6	6.1	HPR1018C	HPR10XXC					
																				0.27	0.39	0.45	6.8	9.8	11.5	NME2405DC	NME2					
																				0.39	0.24	0.45	10	6	11.5	NME2405SC						
																				0.39	0.24	0.77	10	6	19.5	NMR118C	NMR					
																				0.27	0.39	0.77	6.8	9.8	19.5	NMV2405DAC	NMV2					
																				0.39	0.24	0.77	10	6	19.5	NMV2405SAC						
																				0.30	0.39	0.45	7.7	9.8	11.5	NME4805DC	NME2					
																				0.39	0.3	0.45	10	7.5	11.5	NME4805SC						
																				0.30	0.39	0.77	7.7	9.8	19.5	NMV4805DAC	NMV2					
																				0.39	0.3	0.77	10	7.5	19.5	NMV4805SAC						
																				0.4	1.27	0.81	10.2	32.3	20.5	PWR1300AC	PWR13XXC					
																				0.4	1.27	0.81	10.2	32.3	20.5	PWR1306AC						
																				0.38	1.29	0.53	9.5	32.6	13.3	HL02R05S05YC	HL02R					
																				0.38	1.29	0.53	9.5	32.6	13.3	HL02R05S05ZC						
																				0.44	0.36	0.86	11.1	9.2	21.8	NDL0505SC	NDL					
																				0.4	0.30	0.77	10	7.5	19.5	NMG0505SC	NMG					
																				0.4	0.30	0.77	10	7.5	19.5	NMK0505SAC						
																				0.39	0.30	0.55	10	7.5	14	NML0505SC	NML					
																				0.44	0.36	0.86	11.1	9.2	21.8	NDL1205SC	NDL					
																				0.4	0.30	0.77	10	7.5	19.5	NMG1205SC	NMG					
																			0.4	0.30	0.77	10	7.5	19.5	NMK1205SAC							
																			0.39	0.30	0.55	10	7.5	14	NML1205SC	NML						
																			0.38	1.29	0.53	9.5	32.6	13.3	HL02R15S05YC	HL02R						
																			0.38	1.29	0.53	9.5	32.6	13.3	HL02R24S05YC							
																			0.44	0.36	0.86	11.1	9.2	21.8	NDL2405SC	NDL						
																			0.44	0.36	0.86	11.1	9.2	21.8	NDL4805SC							
																			0.45	1.25	0.8	11.4	31.8	20.3	UST-5/500-D5-C	UST-3W						
																			0.45	1.25	0.8	11.4	31.8	20.3	UWR-5/500-D5-C	UWR-3W						



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information	
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available to datasheets for available to options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D		

<b>5V</b>	<b>0.5A</b>	<b>2.5W</b>	12V	9V	18V	1kV	74%									0.45	1.25	0.8	11.4	31.8	20.3	UST-5/500-D12-C	UST-3W		
						1kV	70%													0.45	1.25	0.8	11.4	31.8	20.3
			48V	18V	72V	1kV	75%											0.45	1.25	0.8	11.4	31.8	20.3	UST-5/500-D48-C	UST-3W
						1kV	75%												0.45	1.25	0.8	11.4	31.8	20.3	UWR-5/500-D48-C
	<b>0.6A</b>	<b>3W</b>	5V	4.5V	9V	1kV	71%										0.28	0.58	1.27	7	14.7	32.3	NDTS0505C	NDTS	
							66%												0.28	0.58	1.27	7	14.7	32.3	NDY0505C
				5.5V	0.5kV	75%												0.4	1.27	0.81	10.2	32.3	20.5	PWR1200C	PWR12XXC
						73%												0.28	0.58	1.27	7	14.7	32.3	NDTS1205C	NDTS
			12V	9V	18V	1kV	71%										0.28	0.58	1.27	7	14.7	32.3	NDY1205C	NDY	
							75%												0.4	1.27	0.81	10.2	32.3	20.5	PWR1206C
			24V	18V	36V	1kV	78%										0.28	0.58	1.27	7	14.7	32.3	NDTS2405C	NDTS	
							70%											0.28	0.58	1.27	7	14.7	32.3	NDY2405C	NDY
			48V	36V	72V	1kV	75%										0.28	0.58	1.27	7	14.7	32.3	NDTS4805C	NDTS	
							73%											0.28	0.58	1.27	7	14.7	32.3	NDY4805C	NDY
							34V	72V	1.5kV	76%										0.4	1.27	0.81	10.2	32.3	20.5
			<b>0.8A</b>	<b>4W</b>	5V	4.5V	5.5V	8kV	80%								0.4	2	1	10.2	50.8	25.4	HB04U05S05QC	HB04UC	
	12V	10.8V			13.2V	8kV	87%									0.4	2	1	10.2	50.8	25.4	HB04U12S05QC			
	<b>1A</b>	<b>5W</b>	5V	4.5V	5.5V	1kV	65%								0.39	0.93	1.59	10	23.5	40.5	NMXS0505SOC	NMXSO			
							75%											0.39	0.93	0.99	10	23.5	25.0	NMXS0505UC	NMXU
			12V	10.8V	13.2V	1kV	65%									0.39	0.93	1.59	10	23.5	40.5	NMXS1205SOC	NMXSO		
							75%											0.39	0.93	0.99	10	23.5	25.0	NMXS1205UC	NMXU
	<b>1.6A</b>	<b>8W</b>	5V	4.7V	7.25V	1.5kV	76%								0.45	2	1	11.4	50.8	25.4	UWR-5/1600-D5-C	UWR 6-10W A-SERIES			
							81%											0.45	2	1	11.4		50.8	25.4	UWR-5/1800-D48-C
	<b>1.96A</b>	<b>10W</b>	24V	18V	36V	1.5kV	83%								0.39	0.98	1.26	10	25	32	NPH10S2405EIC	NPH10S			
							83%										0.39	0.98	1.26	10	25		32	NPH10S4805EIC	
							83%											0.39	0.98	1.26	10		25	32	NPH10S4805EIC
	<b>2A</b>	<b>10W</b>	12V	9V	18V	1.5kV	81%								0.45	2	1	11.4	50.8	25.4	UWR-5/2000-D12A-C	UWR 6-10W A-SERIES			
							85%										0.45	2	1	11.4	50.8		25.4	UWR-5/2000-D24E-C	
			24V	18V	36V	1.5kV	77%									0.42	2	1	10.54	50.8	25.4	WPC10R24S05NC	WPC10R		
							84%										0.45	2	1	11.4	50.8	25.4	UWR-5/2000-D48E-C	UWR 6-10W A-SERIES	
	<b>3A</b>	<b>15W</b>	5V	4.7V	7.5V	1.5kV	79%								0.45	2	2	11.4	50.8	50.8	UWR-5/3000-D5-C	UWR 14-20W A-SERIES			
							85%										0.49	2	1	12.5	50.8	25.4	UWR-5/3000-D12A-C	UWR 15W A-SERIES	
			24V	9V	36V	1.5kV	87%									0.36	1.1	0.96	9.1	27.9	24.4	UEI15-050-Q12P-C	UEI 15W		
							84%										0.39	0.98	1.97	10	25	50	NPH15S2405EIC	NPH15S	
			24V	18V	36V	1.5kV	84%									0.39	0.98	1.97	10	25	50	NPH15S2405EIC	NPH15S		
	88%														0.49	2	1	12.5	50.8	25.4	UWR-5/3000-D24A-C				
	<b>3A</b>	<b>15W</b>	48V	18V	75V	2.25kV	86%								0.36	1.1	0.96	9.1	27.9	24.4	UEI15-050-Q48N-C	UEI15W			
							85%										0.39	0.98	1.97	10	25	50	NPH15S4805EIC	NPH15S	
							88%										0.39	0.98	1.97	10	25	50	NPH15S4805EIC		
	<b>3.50A</b>	<b>17.5W</b>	12V	10V	18V	1.5kV	86%								0.49	2	1	12.5	50.8	25.4	UEP-5/3500-D12-C	UEP 15-30W			
							88%										0.49	2	1	12.5	50.8		25.4	UEP-5/3500-D24-C	
							88%										0.49	2	1	12.5	50.8		25.4	UEP-5/3500-D48-C	
	<b>4A</b>	<b>20W</b>	12V	9V	36V	1.5kV	82%								0.45	2	2	11.4	50.8	50.8	UWR-5/4000-D12-C	UWR 14-20W A-SERIES			
							84%										0.44	1.99	1.59	11.2	50.6	40.4	WPN20R12S05C	WPN20RC	
24V			18V	36V	1.5kV	84%									0.44	1.99	1.59	11.2	50.6	40.4	WPN20R24S05C				
						84%										0.45	2	2	11.4	50.8	50.8	UWR-5/4000-D48-C	UWR 14-20W A-SERIES		
<b>5A</b>	<b>25W</b>	24V	18V	36V	1.5kV	84%								0.39	1.38	1.97	10	35	50	NPH25S2405EIC	NPH25S				
						87.5%										0.39	1.38	1.97	10	35		50	NPH25S2405IC		
			9V	36V	1.5kV	87.5%								0.4	2	1.6	10.2	50.8	40.6	UHE-5/5000-Q12-C	UHE12-30W				
			10V	36V	1.5kV	79%								0.55	3.04	2.04	14	77.2	51.8	UMP-5/5-Q12-C	UMP25-40W				

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information				
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <small>Note: Root part numbers may be shown. Please refer to datasheets for available options.</small>	Datasheet <small>Available at www.murata-ps.com</small>				
								1/8	1/4					1/2	H	W	D	H	W			D			
<b>5V</b>	<b>5A</b>	<b>25W</b>	48V	36V	75V	1.5kV	85%						0.39	1.38	1.97	10	35	50	NPH25S4805EIC	NPH25S					
				18V	75V	1.5kV	90%								0.39	1.38	1.97	10	35		50	NPH25S4805IC			
	<b>6A</b>	<b>30W</b>	24V	9V	36V	1.5kV	91.5%							0.4	2	1.6	10.2	50.8	40.6	UHE-5/5000-Q48-C	UHE12-30W				
				36V	75V	1.5kV	89%								0.49	2	1	12.5	50.8	25.4		UHE-5/6000-Q12-C			
				48V	18V	75V	1.5kV	91.5%									0.4	2	1.6	10.2	50.8	40.6	UEP-5/6000-D48-C	UHE12-30W	
						75V	1.5kV	80%									0.4	2	1.6	10.2	50.8	40.6	UHE-5/6000-Q48-C		
						75V	1.5kV	80%										0.55	3.04	2.04	14	77.2	51.8	UMP-5/6-Q48-C	UMP25-40W
								80%											0.45	2	2	11.4	50.8	50.8	
	<b>7A</b>	<b>35W</b>	24V	12V	10V	18V	1.5kV	89.5%						0.45	2	2	11.4	50.8	50.8	UWR-5/7-D12A-C	UWR26-40W				
				18V	36V	1.5kV	83%								0.55	3.04	2.04	14	77.2	51.8		UMP-5/7-D24-C			
	<b>8A</b>	<b>40W</b>	24V	18V	36V	1.5kV	90%							0.45	2	2	11.4	50.8	50.8	UWR-5/8-D24A-C	UWR26-40W				
							84%											0.55	3.04	2.04		14	77.2	51.8	UMP-5/8-D48-C
							90%											0.45	2	2		11.4	50.8	50.8	UWR-5/8-D48A-C
	<b>10A</b>	<b>50W</b>	12V	9V	18V	2kV	89%							0.41	2.3	0.9	10.4	58.4	22.9	ULE-5/10-D12P-C	ULE20A				
							90%											0.375	1.95	1.55		9.5	49.5	39.4	UEI-5/10-Q12PR-C
							89%											0.4	2.4	2.3		10.2	61	58.4	UCH-5/10-D48N-C
	<b>12A</b>	<b>60W</b>	24V	18V	36V	2kV	90%							0.41	2.3	0.9	10.4	58.4	22.9	ULE-5/12-D24P-C	ULE20A				
							91%											0.375	1.95	1.55		9.5	49.5	39.4	UEI-5/12-Q48NR-C
							90%											0.41	2.3	0.9		10.4	58.4	22.9	ULE-5/12-D48N-C
	<b>15A</b>	<b>75W</b>	24V	18V	36V	2kV	91%							0.38	2.3	1.45	9.5	58.4	36.8	ULQ-5/15-D24P-C	ULQ-15A				
							91%											0.38	2.3	1.45		9.5	58.4	36.8	ULQ-5/15-D48N-C
	<b>17A</b>	<b>85W</b>	12V	9V	36V	2kV	90.5%							0.43	2.22	1.45	10.9	56.4	36.8	UQQ-5/17-Q12P-C	UQQ7-15A				
							90.5%											0.53	2.4	2.28		13.5	61	57.9	VKA100LS05-1C
	<b>20A</b>	<b>100W</b>	24V	18V	36V	1.5kV	86%							0.53	2.4	2.28	13.46	61	57.9	VKA100LS05C	VKA100				
91.5%																	0.4	2.3	1.45	10.2		58.4	36.8	UCQ-5/20-D24P-C	
90.5%																	0.4	2.4	2.3	10.2		61	58.4	UCH-5/20-D24P-C	
93%																	0.4	2.3	1.45	10.2		58.4	36.8	UCQ-5/20-D48N-C	
91%																	0.43	2.22	1.45	10.9		56.4	36.8	UQQ-5/20-Q48N-C	
89%																	0.42	2.3	1.45	10.7		58.4	36.8	UVQ-5/20-D48N-C	
87%																	0.53	2.4	2.28	13.5		61	57.9	VKA100MS05-1C	
<b>30A</b>	<b>150W</b>	48V	36V	75V	2.25kV	91%							0.4	2.4	2.3	10.2	61	58.4	UCH-5/30-D48N-C	UCH-SERIES					
<b>40A</b>	<b>200W</b>	48V	36V	75V	2.25kV	91%							0.4	2.4	2.3	10.2	61	58.4	HPH-5/40-D48N-C	HPH-SERIES					
<b>5.2V</b>	<b>1.5A</b>	<b>8W</b>	5V	4.7V	7.25V	1.5kV	76%						0.45	2	1	11.4	50.8	25.4	UWR-5.2/1500-D5A-C	UWR 6-10W A-SERIES					
	<b>3A</b>	<b>16W</b>	5V	4.7V	7.5V	1.5kV	80%						0.45	2	2	11.4	50.8	50.8	UWR-5.2/3000-D5A-C	UWR 14-20W A-SERIES					
<b>6V</b>	<b>0.167A</b>	<b>1W</b>	5V	4.5V	5.5V	1kV	72%						0.26	0.30	0.5	6.6	7.7	12.7	NTE0506MC	NTE					
<b>8V</b>	<b>30A</b>	<b>240W</b>	48V	36V	55V	2.25kV	95.6%						0.48	0.9	2.28	12.20	22.9	57.9	EUS30-080-NHBRC	EUS30-080					
<b>9V</b>	<b>0.028A</b>	<b>0.25W</b>	5V	4.5V	5.5V	1kV	75%						0.27	0.39	0.45	6.8	9.8	11.5	LME0509DC	LME					
							75%											0.39	0.24		0.45	10	6	11.5	LME0509SC
	<b>0.1A</b>	<b>0.9W</b>	12V	10.8V	13.2V	1kV	75%							0.27	0.39	0.45	6.8	9.8	11.5	LME1209DC	NMF				
							62%											0.39	0.24	0.45		10	6	11.5	LME1209SC
							62%											0.27	0.39	0.77		6.8	9.8	19.5	NMF0509DC
							62%											0.39	0.24	0.77		10	6	19.5	NMF0509SC
							62%											0.39	0.24	0.77		10	6	19.5	NMF1209SC
							62%											0.27	0.39	0.77		6.8	9.8	19.5	NMF1209DC
							62%											0.27	0.39	0.77		6.8	9.8	19.5	NMF2409DC
							62%											0.39	0.24	0.77		10	6	19.5	NMF2409SC
							62%											0.30	0.39	0.77		7.7	9.8	19.5	NMF4809DC
							62%											0.39	0.30	0.77		10	7.5	19.5	NMF4809SC
<b>0.111A</b>	<b>1W</b>	3.3V	2.97V	3.63V	3kV	75%							0.21	0.39	0.45	5.4	9.8	11.5	NKE0309DC	NKE					
						77%											0.29	0.24	0.45		7.5	6	11.5	NKE0309SC	
						77%											0.26	0.30	0.5		6.6	7.7	12.7	NTE0309MC	
						75%											0.21	0.39	0.45		5.4	9.8	11.5	NKE0509DC	



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information							
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>						
								1/8	1/4					1/2	H	W	D	H	W			D					
<b>12V</b>	<b>0.083A</b>	<b>1W</b>	5V	4.5V	5.5V	1kV	69%						0.4	0.77	0.24	10.1	19.6	6.1	HPR1001C	HPR10XXC							
							78%						0.27	0.39	0.45	6.8	9.8	11.5	NME0512DC	NME							
			5V	4.5V	5.5V	1kV	78%								0.39	0.24	0.45	10	6	11.5	NME0512SC	NME					
							77%							0.21	0.39	0.45	5.4	9.8	11.5	NKE0512DC	NKE						
						3kV	77%										0.29	0.24	0.45	7.5	6	11.5	NKE0512SC	NKE			
							77%											0.27	0.39	0.77	6.8	9.8	19.5	NMV0512DAC	NMV		
						5.2kV	71%											0.39	0.24	0.77	10	6	19.5	NMV0512SAC	NMV		
							77%											0.49	0.39	0.77	12.5	9.8	19.5	NMJ0512SAC	NMJ		
			4.75V	5.25V	1kV	62%									0.39	0.24	0.77	10	6	19.5	NMR101C	NMR					
						62%											0.26	0.30	0.5	6.6	7.7	12.7	NTE0512MC	NTE			
			<b>0.125A</b>	<b>1.5W</b>	<b>3W</b>	5V	4.5V	5.5V	1kV	62%							0.27	0.39	0.77	6.8	9.8	19.5	NMF0512DC	NMF			
										62%											0.39	0.24	0.77	10	6	19.5	NMF0512SC
						12V	10.8V	13.2V	1kV	76%									0.27	0.39	0.45	6.8	9.8	11.5	NME1212DC	NME	
										76%											0.39	0.24	0.45	10	6	11.5	NME1212SC
									3kV	79%											0.21	0.39	0.45	5.4	9.8	11.5	NKE1212DC
	77%																		0.29	0.24	0.45	7.5	6	11.5	NKE1212SC	NKE	
	5.2kV	73%																	0.27	0.39	0.77	6.8	9.8	19.5	NMV1212DAC	NMV	
		76%																	0.39	0.24	0.77	10	6	19.5	NMV1212SAC	NMV	
	15V	13.5V				16.5V	3kV	75%									0.39	0.24	0.77	10	6	19.5	NMJ1212SAC	NMJ			
								76%											0.49	0.39	0.77	12.5	9.8	19.5	NMR107C	NMR	
	24V	21.6V				26.4V	1kV	80%									0.26	0.30	0.5	6.6	7.7	12.7	NTE1212MC	NTE			
								74%																NME2412DC	NME2		
							3kV	80%											0.39	0.24	0.77	10	6	19.5	NMR119C	NMR	
								78%											0.39	0.24	0.77	10	6	19.5	NME2412SC	NME2	
							22.8V	25.2V	1kV	62%										0.27	0.39	0.77	6.8	9.8	19.5	NMF2412DC	NMF
			62%															0.39	0.24	0.77	10	6	19.5	NMF2412SC	NMF		
	48V	21.6V	26.4V	3kV	80%									0.27	0.39	0.77	6.8	9.8	19.5	NMV2412DAC	NMV2						
					80%											0.39	0.24	0.77	10	6	19.5	NMV2412SAC	NMV2				
				43.2V	52.8V	1kV	80%									0.30	0.39	0.45	7.7	9.8	11.5	NME4812DC	NME2				
							62%											0.39	0.3	0.45	10	7.5	11.5	NME4812SC	NME2		
				45.6V	50.4V	1kV	62%									0.30	0.39	0.77	7.7	9.8	19.5	NMF4812DC	NMF				
							62%											0.39	0.30	0.77	10	7.5	19.5	NMF4812SC	NMF		
	43.2V	52.8V	3kV	70%										0.39	0.30	0.77	10	7.5	19.5	NMV4812SAC	NMV2						
				70%											0.30	0.39	0.77	7.7	9.8	19.5	NMV4812DAC	NMV2					
				5V	4.5V	5.5V	8kV	75%								0.4	1.27	0.81	10.2	32.3	20.5	PWR1301AC	PWR13XXC				
								75%											0.4	1.27	0.81	10.2	32.3	20.5	PWR1307AC	PWR13XXC	
				<b>0.167A</b>	<b>2W</b>	<b>3W</b>	5V	4.5V	5.5V	1kV	71%							0.44	0.36	0.86	11.1	9.2	21.8	NDL0512SC	NDL		
											85%											0.4	0.30	0.77	10	7.5	19.5
	5V	4.5V	5.5V				3kV	83%								0.4	0.30	0.77	10	7.5	19.5	NMK0512SAC	NMK				
								84%											0.39	0.30	0.55	10	7.5	14	NML0512SC	NML	
							4.75V	5.25V	0.5kV	69%								0.38	1.29	0.53	9.5	32.6	13.3	HL02R05512YC	HL02R		
										69%											0.38	1.29	0.53	9.5	32.6	13.3	HL02R05512ZC
	12V	9V	18V				1kV	80%								0.44	0.36	0.86	11.1	9.2	21.8	NDL1212SC	NDL				
								85%											0.4	0.30	0.77	10	7.5	19.5	NMG1212SC	NMG	
							10.8V	13.2V	3kV	85%								0.4	0.30	0.77	10	7.5	19.5	NMK1212SAC	NMK		
85%																				0.39	0.30	0.55	10	7.5	14	NML1212SC	NML
24V	18V	36V	1kV				83%								0.44	0.36	0.86	11.1	9.2	21.8	NDL2412SC	NDL					
							67%											0.38	1.29	0.53	9.5	32.6	13.3	HL02R24512YC	HL02R		
			22.8V				25.2V	0.5kV	67%								0.38	1.29	0.53	9.5	32.6	13.3	HL02R24512ZC	HL02R			
									81%											0.44	0.36	0.86	11.1	9.2	21.8	NDL4812SC	NDL
48V	36V	72V	1kV				76%								0.28	0.58	1.27	7	14.7	32.3	NDTS0512C	NDTS					
				71%											0.28	0.58	1.27	7	14.7	32.3	NDY0512C	NDY					
			75%											0.45	1.25	0.8	11.4	31.8	20.3	UST-12/250-D5-C	UST-3W						



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information						
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>					
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D							
<b>12V</b>	<b>0.25A</b>	<b>3W</b>	5V	4.5V	9V	1kV	72%									0.45	1.25	0.8	11.4	31.8	20.3	UWR-12/250-D5-C	UWR 3W				
					5.5V	0.5kV	75%											0.4	1.27	0.81	10.2	32.3	20.5	PWR1201C	PWR12XXC		
			12V	9V	18V	1kV	75%											0.28	0.58	1.27	7	14.7	32.3	NDTS1212C	NDTS		
							78%												0.28	0.58	1.27	7	14.7	32.3	NDY1212C	NDY	
							74%													0.45	1.25	0.8	11.4	31.8	20.3	UST-12/250-D12-C	UST-3W
							80%													0.28	0.58	1.27	7	14.7	32.3	NDTS2412C	NDTS
		24V	18V	36V	1kV	80%											0.28	0.58	1.27	7	14.7	32.3	NDY2412C	NDY			
						81%													0.28	0.58	1.27	7	14.7	32.3	NDTS4812C	NDTS	
		48V	36V	72V	1kV	80%											0.28	0.58	1.27	7	14.7	32.3	NDY4812C	NDY			
						81%													0.28	0.58	1.27	7	14.7	32.3	NDY4812C	NDY	
			18V	72V	1kV	77%											0.45	1.25	0.8	11.4	31.8	20.3	UST-12/250-D48-C	UST-3W			
					1kV	76%												0.45	1.25	0.8	11.4	31.8	20.3	UWR-12/250-D48-C	UWR 3W		
	<b>0.33A</b>	<b>4W</b>	12V	10.8V	13.2V	8kV	87%									0.4	2	1	10.2	50.8	25.4	HB04U12S12QC	HB04UC				
			15V	13.5V	16.5V	3kV	87%										0.4	2	3	10.2	50.8	25.4		HB04U15S12QC			
	<b>0.42A</b>	<b>5W</b>	5V	4.5V	5.5V	1kV	75%									0.39	0.93	0.99	10	23.5	25.0	NMXS0512UC	NMXU				
			12V	10.8V	13.2V	1kV	75%										0.39	0.93	0.99	10	23.5	25.0		NMXS1212UC			
			24V	18V	36V	1kV	82%										0.45	1	1	11.4	25.4	25.4	UWR-12/420-D24-C	UWR 5W			
			48V	36V	72V	1kV	82%										0.45	1	1	11.4	25.4	25.4	UWR-12/420-D48-C				
	<b>0.47A</b>	<b>5.6W</b>	5V	4.5V	5.5V	1kV	65%									0.39	0.93	1.59	10	23.5	40.5	NMXS0512SOC	NMXSO				
			12V	10.8V	13.2V	1kV	65%										0.39	0.93	1.59	10	23.5	40.5		NMXS1212SOC			
	<b>0.75A</b>	<b>9W</b>	5V	4.7V	7.25V	1.5kV	82%									0.45	2	1	11.4	50.8	25.4	UWR-12/665-D5A-C	UWR 6-10W A-SERIES				
			48V	18V	75V	1.5kV	82.5%										0.45	2	1	11.4	50.8	25.4		UWR-12/750-D48A-C			
	<b>0.83A</b>	<b>10W</b>	12V	9V	18V	1.5kV	84%									0.45	2	1	11.4	50.8	25.4	UWR-12/830-D12A-C	NPH10S				
			24V	18V	36V	1.5kV	86%										0.39	0.98	1.26	10	25	32		NPH10S2412EIC			
							86%												0.39	0.98	1.26	10		25	32	NPH10S2412IC	
			48V	36V	75V	1.5kV	86%											0.39	0.98	1.26	10	25		32	NPH10S4812EIC		
	86%																	0.39	0.98	1.26	10	25	32	NPH10S4812IC			
	<b>1.25A</b>	<b>15W</b>	5V	4.7V	7.5V	1.5kV	82%									0.45	2	2	11.4	50.8	50.8	UWR-12/1250-D5A-C	UWR 14-20W A-SERIES				
			12V	10V	18V	1.5kV	85%										0.49	2	1	12.5	50.8	25.4	UWR-12/1250-D12A-C	UWR 15W A-SERIES			
			24V	18V	36V	1.5kV	86%											0.39	0.98	1.97	10	25	50	NPH15S2412EIC	NPH15S		
							86%													0.39	0.98	1.97	10	25		50	NPH15S2412IC
			48V	36V	75V	1.5kV	87%											0.49	2	1	12.5	50.8	25.4	UWR-12/1250-D24A-C	UWR 15W A-SERIES		
							87%													0.49	2	1	12.5	50.8		25.4	UWR-12/1250-D48A-C
	48V	36V	75V	1.5kV	88%											0.39	0.98	1.97	10	25	50	NPH15S4812EIC	NPH15S				
					88%													0.39	0.98	1.97	10	25		50	NPH15S4812IC		
	<b>1.40A</b>	<b>16.8W</b>	12V	10V	18V	1.5kV	85%									0.49	2	1	12.5	50.8	25.4	UEP-12/1400-D12-C	UEP15-30W				
			24V	18V	36V	1.5kV	87%										0.49	2	1	12.5	50.8	25.4		UEP-12/1400-D24-C			
			48V	36V	75V	1.5kV	87%										0.49	2	1	12.5	50.8	25.4		UEP-12/1400-D48-C			
	<b>1.66A</b>	<b>20W</b>	12V	9V	18V	1.5kV	86%									0.44	1.99	1.59	11.2	50.6	40.4	WPN20R12S12C	WPN20R				
			24V	9V	36V	1.5kV	82.5%										0.45	2	2	11.4	50.8	50.8	UWR-12/1650-D12A-C	UWR 14-20W A-SERIES			
							87%												0.44	1.99	1.59	11.2	50.6	40.4	WPN20R24S12C	WPN20RC	
			48V	18V	75V	1.5kV	85%											0.45	2	2	11.4	50.8	50.8	UWR-12/1650-D48A-C	UWR 14-20W A-SERIES		
	88%																	0.44	1.99	1.59	11.2	50.6	40.4	WPN20R48S12C	WPN20R		
	<b>2.10A</b>	<b>25W</b>	24V	18V	36V	1.5kV	86%										0.39	1.38	1.97	10	35	50	NPH25S2412EIC	NPH25S			
							82%													0.55	3.04	2.04	14		77.2	51.8	UMP-12/2.1-Q12-C
			48V	36V	75V	1.5kV	88%											0.39	1.38	1.97	10	35	50	NPH25S4812EIC	NPH25S		
							88%													0.39	1.38	1.97	10	35		50	NPH25S4812IC
	<b>2.5A</b>	<b>30W</b>	12V	9V	18V	1.5kV	89%										0.4	2	1.6	10.2	50.8	40.6	UHE-12/2500-D12-C	UHE 12-30W			
87.5%																			0.4	2	1.6	10.2	50.8		40.6	UHE-12/2500-Q12-C	
24V			18V	36V	1.5kV	90%											0.4	2	1.6	10.2	50.8	40.6	UHE-12/2500-D24-C	UHE 12-30W			
						90.5%													0.4	2	1.6	10.2	50.8		40.6	UHE-12/2500-Q48-C	
48V			18V	75V	1.5kV	92%											0.4	2	1.6	10.2	50.8	40.6	UHE-12/2500-D48-C	UHE 12-30W			
<b>3A</b>	<b>36W</b>	24V	18V	36V	1.5kV	84%										0.55	3.04	2.04	14	77.2	51.8	UMP-12/2.5-Q48-C	UMP 25-40W				
						84%													0.55	3.04	2.04	14		77.2	51.8	UMP-12/3-D24-C	
						85%														0.55	3.04	2.04		14	77.2	51.8	UMP-12/3.3-D48-C
						91%														0.41	2.3	0.9		10.4	58.4	22.9	ULE-12/4.2-D24P-C

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information		
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>		
								T/8	T/4					T/2	H	W	D	H	W			D	
<b>12V</b>	<b>4.2A</b>	<b>50.4W</b>	48V	36V	75V	2.25kV	92%	•				•				0.37	2.3	0.9	9.4	58.4	22.9	UCE-12/4.2-D48N-C	UCE-SERIES
								•	•			•				0.4	2.3	1.45	10.2	58.4	36.8	UCQ-12/4.2-D48N-C	UCQ-SERIES
								•				•	•			0.41	2.3	0.9	10.4	58.4	22.9	ULE-12/4.2-D48N-C	ULE 20A
	<b>8A</b>	<b>96W</b>	12V	9V	36V	2kV	89%	•				•				0.43	2.22	1.45	10.9	56.4	36.8	UQQ-12/8-Q12P-C	UQQ7-15A
								•	•			•	•			0.38	2.3	1.45	9.5	58.4	36.8	ULQ-12/8-D24P-C	ULQ-15A
								•				•				0.42	2.3	1.45	10.7	58.4	36.8	UVQ-12/8-D24P-C	UVQ-SERIES
	<b>8.3A</b>	<b>99.6W</b>	24V	18V	75V	2.25kV	88.5%	•				•				0.43	2.22	1.45	10.9	56.4	36.8	UQQ-12/8-Q48N-C	UQQ7-15A
								•	•			•	•			0.53	2.4	2.28	13.5	61	57.9	VKA100LS12C	VKA100
								•				•				0.37	2.3	0.9	9.4	58.4	22.9	UCE-12/8.3-D48N-C	UCE-SERIES
	<b>10A</b>	<b>120W</b>	48V	36V	75V	2.25kV	90%	•				•				0.4	2.3	1.45	10.2	58.4	36.8	UCQ-12/8.3-D48N-C	UCQ-SERIES
								•	•			•	•			0.53	2.4	2.28	13.5	61	57.9	VKA100MS12C	VKA100
								•				•				0.38	2.3	1.45	9.5	58.4	36.8	ULQ-12/10-D48N-C	ULQ-15A
	<b>12A</b>	<b>144W</b>	48V	36V	75V	1.5kV	93%	•				•				0.42	2.3	1.45	10.7	58.4	36.8	UVQ-12/10-D48N-C	UVQ-SERIES
								•	•			•	•			0.47	1.45	2.28	11.8	36.8	57.9	QHS12-120-NHCRC	QHS12-120
	<b>12.5A</b>	<b>150W</b>	48V	36V	75V	2.25kV	92.5%		•			•				0.4	2.4	2.3	10.2	61	58.4	UCH-12/12.5-D48N-C	UCH-SERIES
	<b>15A</b>	<b>180W</b>	48V	36V	55V	2.25kV	96%		•			•				0.48	0.9	2.28	12.2	22.9	57.9	EUS15-120-NHBRC	EUS15-120
	<b>20A</b>	<b>240W</b>	48V	36V	55V	2.25kV	95.5%		•			•				0.48	0.9	2.28	12.2	22.9	57.9	EUS20-120-NHBRC	EUS20-120
	<b>21A</b>	<b>252W</b>	48V	36V	75V	2.25kV	91%			•		•				0.49	2.4	2.3	12.5	60.0	58.4	UHP-12/21-D48N-C	UHP12-21
<b>22A</b>	<b>264W</b>	48V	40.5V	57V	2.25kV	96%			•		•				0.42	2.3	1.45	10.7	58.4	36.8	QBC-12/22-L48-C	QBC-SERIES	
<b>30A</b>	<b>360W</b>	48V	36V	75V	2.25kV	93%			•		•				0.4	2.4	2.3	10.2	61	58.4	HPH-12/30-D48N-C	HPH-SERIES	

<b>15V</b>	<b>0.10</b>	<b>0.15</b>	5V	4.5	5.5	0.5kV	75%					•				0.4	0.81	1.27	10.2	20.5	32.3	PWR1102C	PWR11XXC										
								<b>0.016A</b>	<b>0.25W</b>	5V	4.5V	5.5V	1kV	75%					•	•			0.27	0.39	0.45	6.8	9.8	11.5	LME0515DC	LME			
																			•	•			0.39	0.24	0.45	10	6	11.48	LME0515SC				
													•	•			0.27	0.39	0.45	6.8	9.8	11.5	LME1215DC										
														•				0.39	0.24	0.45	10	6	11.48	LME1215SC									
	<b>0.05</b>	<b>0.75W</b>	5V	4.5V	5.5V	0.75kV	71%						•	•			0.4	0.77	0.24	10.1	19.6	6.09	HPR102C	HPR1XXC									
																			•	•			0.4	0.77	0.24	10.1	19.6	6.09	HPR402C	HPR4XX			
																				•	•			0.4	0.77	0.24	10.1	19.6	6.09		HPR414C		
														•	•			0.4	0.77	0.24	10.1	19.6	6.09	HPR120C	HPR1XXC								
	<b>0.067A</b>	<b>1W</b>	3.3V	2.97V	3.63V	1kV	77%						•				0.26	0.30	0.5	6.6	7.7	12.7	NTE0315MC	NTE									
																			•	•			0.21	0.39	0.45	5.4	9.8	11.5	NKE0515DC	NKE			
																				•	•			0.29	0.236	0.45	7.5	6	11.48		NKE0515SC		
																					•	•			0.28	0.39	0.45	6.8	9.8	11.5	NME0515DC	NME	
																					•	•			0.39	0.24	0.45	10	6	11.48	NME0515SC		
																						•	•			0.49	0.39	0.77	12.5	9.8	19.5	NMJ0515SAC	NMJ
																						•	•			0.39	0.24	0.77	10	6	19.5	NMR102C	NMR
																						•	•			0.26	0.39	0.77	6.8	9.8	19.5	NMV0515DAC	NMV
																						•	•			0.39	0.24	0.77	10	6	19.5	NMV0515SAC	
																						•				0.26	0.30	0.5	6.6	7.7	12.7	NTE0515MC	NTE
																						•	•			0.27	0.39	0.77	6.8	9.8	19.5	NMF0515DC	NMF
																						•	•			0.39	0.24	0.77	10	6	19.5	NMF0515SC	
	<b>0.067A</b>	<b>1W</b>	12V	10.8V	13.2V	1kV	75%						•	•			0.27	0.39	0.45	6.8	9.8	11.5	NME1215DC	NME									
																			•	•			0.39		0.24	0.45	10	6	11.5	NME1215SC			
																				•	•				0.39	0.24	0.77	10	6	19.5	NMR108C	NMR	
																					•				0.26	0.30	0.5	6.6	7.7	12.7	NTE1215MC	NTE	
																					•	•			0.21	0.39	0.45	5.4	9.8	11.5	NKE1215DC	NKE	
																					•	•			0.29	0.24	0.45	7.46	6	11.48	NKE1215SC		
																						•	•			0.27	0.39	0.77	6.8	9.8	19.5	NMV1215DAC	NMV
																						•	•			0.39	0.24	0.77	10	6	19.5	NMV1215SAC	
																						•	•			0.49	0.39	0.77	12.5	9.8	19.5	NMJ1215SAC	NMJ
<b>0.067A</b>	<b>1W</b>	15V	13.5V	16.5V	1kV	75%						•	•			0.27	0.39	0.77	6.8	9.8	19.5	NMF1215DC	NMF										
																			•	•				0.39	0.24	0.77	10	6	19.5	NMF1215SC			
																					•	•			0.39	0.24	0.45	10	6	11.48	NME1515SC	NME	
															•	•			0.39	0.24	0.77	10	6	19.5	NMR114C	NMR							
															•	•			0.39	0.24	0.77	10	6	19.5	NMV1515SAC	NMV							



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information					
Rated Output Voltage	Rated Output Current	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>				
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D						
<b>15V</b>	<b>1A</b>	<b>15W</b>	24V	18V	36V	1.5kV	87%											0.49	2	1	12.5	50.8	25.4	UWR-15/1000-D24A-C	UWR 15W A-SERIES	
			48V	36V	75V	1.5kV	89%												0.39	0.98	1.97	10	25	50	NPH15S4815EIC	NPH15S
							87%														0.39	0.98	1.97	10	25	
	<b>1.2A</b>	<b>18W</b>	12V	10V	18V	1.5kV	85%											0.49	2	1	12.5	50.8	25.4	UEP-15/1200-D12-C	UEP 15-30W	
			24V	18V	36V	1.5kV	87%												0.49	2	1	12.5	50.8	25.4		UEP-15/1200-D24-C
			48V	36V	75V	1.5kV	87%												0.49	2	1	12.5	50.8	25.4		UEP-15/1200-D48-C
	<b>1.3A</b>	<b>20W</b>	24V	9V	36V	1.5kV	85%											0.45	2	2	11.4	50.8	50.8	UWR-15/1300-D12A-C	UWR 14-20W A-SERIES	
			48V	18V	75V	1.5kV	86%											0.45	2	2	11.4	50.8	50.8	UWR-15/1300-D48A-C		
	<b>1.7A</b>	<b>25W</b>	24V	18V	36V	1.5kV	87%											0.39	1.38	1.97	10	35	50	NPH25S2415EIC	NPH25S	
				10V	36V	1.5kV	82%												0.55	3.04	2.04	14	77.2	51.8		UMP-15/1.7-Q12-C
			48V	36V	75V	1.5kV	89%												0.39	1.38	1.97	10	35	50	NPH25S4815EIC	NPH25S
																			0.39	1.38	1.97	10	35	50	NPH25S4815C	
	<b>2A</b>	<b>30W</b>	12V	9V	18V	1.5kV	89%											0.4	2	1.6	10.2	50.8	40.6	UHE-15/2000-D12-C	UHE 12-30W	
				36V	1.5kV	92%												0.4	2	1.6	10.2	50.8	40.6	UHE-15/2000-Q12-C		
			24V	18V	36V	1.5kV	90%												0.4	2	1.6	10.2	50.8	40.6		UHE-15/2000-D24-C
				18V	75V	1.5kV	90.5%												0.4	2	1.6	10.2	50.8	40.6		UHE-15/2000-Q48-C
			48V	36V	75V	1.5kV	92%												0.4	2	1.6	10.2	50.8	40.6		UHE-15/2000-D48-C
				18V	75V	1.5kV	83%												0.55	3.04	2.04	14	77.2	51.8		UMP-15/2-Q48-C
<b>2.50A</b>	<b>37.5W</b>	24V	18V	36V	1.5kV	84%										0.55	3.04	2.04	14	77.2	51.8	UMP-15/2.5-D24-C	UMP 25-40W			
<b>2.65A</b>	<b>40W</b>	48V	36V	75V	1.5kV	85%										0.55	3.04	2.04	14	77.2	51.8	UMP-15/2.65-D48-C	UMP 25-40W			
<b>6.7A</b>	<b>100.5W</b>	24V	18V	36V	1.5kV	89%											0.53	2.4	2.28	13.5	61	57.9	VKA100LS15C	VKA100		
		48V	36V	75V	2.25kV	92%											0.4	2.4	2.3	10.2	61	58.4	UCH-15/6.7-D48N-C	UCH-SERIES		
<b>7A</b>	<b>105W</b>	12V	9V	36V	2kV	90.5%											0.43	2.22	1.45	10.9	56.4	36.8	UQQ-15/7-Q12P-C	UQQ7-15A		
		24V	18V	36V	2kV	93%											0.42	2.3	1.45	10.7	58.4	36.8	UVQ-15/7-D24P-C	UVQ-SERIES		
		48V	36V	75V	2.25kV	94%											0.42	2.3	1.45	10.7	58.4	36.8	UVQ-15/7-D48N-C			
<b>18V</b>	<b>5.6A</b>	<b>100.8W</b>	24V	18V	36V	2kV	90%										0.42	2.3	1.45	10.7	58.4	36.8	UVQ-18/5.6-D24P-C	UVQ-SERIES		
	<b>6A</b>	<b>108W</b>	48V	36V	75V	2.25kV	93%										0.42	2.3	1.45	10.7	58.4	36.8	UVQ-18/6-D48N-C			
<b>24V</b>	<b>0.042A</b>	<b>1W</b>	5V	4.5V	5.5V	1kV	80%										0.27	0.39	0.45	6.8	9.8	11.5	NME0524DC	NME		
																	0.39	0.24	0.45	10	6	11.5	NME0524SC			
	<b>3A</b>	<b>72W</b>	48V	36V	75V	2.25kV	94%										0.41	2.3	0.9	10.4	58.4	22.9	ULE-24/3-D48N-C	ULE20A		
	<b>3.1A</b>	<b>74.4W</b>	24V	18V	36V	1.5kV	90%										0.53	2.4	2.28	13.5	61	57.9	VKA75LS24-1C	VKA75		
	<b>4A</b>	<b>96W</b>	12V	9V	36V	2kV	89%										0.43	2.22	1.45	10.9	56.4	36.8	UQQ-24/4-Q12P-C	UQQ 7-15A		
	<b>4.2A</b>	<b>100.8W</b>	24V	18V	36V	1.5kV	90%											0.53	2.4	2.28	13.5	61	57.9	VKA100LS24C	VKA100	
24V			18V	36V	2kV	94%											0.42	2.3	1.45	10.7	58.4	36.8	UVQ-24/4.5-D24P-C	UVQ-SERIES		
			48V	36V	75V	2.25kV	94%									0.42	2.3	1.45	10.7	58.42	36.8	UVQ-24/4.5-D48N-C				
<b>28.2V</b>	<b>12A</b>	<b>338.4W</b>	48V	36V	75V	2.25kV	92%										0.49	2.4	2.3	12.5	61.0	58.4	UHP-28.2/12-D48N	UHP28-2-12A		
<b>48V</b>	<b>1.25A</b>	<b>60W</b>	48V	36V	75V	2.25kV	92.5%										0.41	2/3	0.9	10.4	58.4	22.9	ULE-48/1.25-D48N-C	ULE20A		
	<b>2.50A</b>	<b>120W</b>	48V	36V	75V	2.25kV	91.5%										0.42	2.3	1.45	10.7	58.4	36.8	UVQ-48/2.5-D48N-C	UVQ-SERIES		
<b>96V</b>	<b>0.10</b>	<b>9.600</b>	48V	36V	75V	1.5kV	88%										0.4	2	1	10.2	50.8	25.4	UWR-96/100-D48A-C	UWR-96-100		



# Dual Output

## (Bipolar) Isolated DC/DC Converters



For analog/linear and other applications requiring bipolar/symmetric rail voltages, Murata Power Solutions' isolated duals generate  $\pm 3.3V$ ,  $\pm 5V$ ,  $\pm 12V$  or  $\pm 15V$  outputs from a single input voltage. Our broad offering of standard, off-the-shelf products can help accelerate your time-to-market.

We offer bipolar duals with output power ranges from 0.75 to 20 Watts, input voltage ranges from 3 to 75 Volts, and package styles from sub-miniature SIPs, DIPs and SMDs to traditional 2" x 2" (51 x 51mm) through-hole devices. Isolation voltages run as high as 8,000VDC. When relevant, all products offer

UL/EN safety certifications, CE marks, and EMI/EMC testing.

If your available voltage is anywhere between 3.3 and 75 Volts and your need is  $\pm 3.3V$ ,  $\pm 5V$ ,  $\pm 12V$  or  $\pm 15V$  at moderate power levels... in a small area... at an affordable cost, we've got your solution.

### Quick Selection Guide Listed by output power

Power	Vout						Series
	$\pm 3.3V$	$\pm 5V$	$\pm 9V$	$\pm 12V$	$\pm 15V$	$\pm 24V$	
0.75W	•			•	•		HPR1XXC
					•		HPR1XXVC
	•			•	•		HPR4XXC
1W				•	•		HL01RYC
	•				•		HL01RZC
				•	•		HPR10XXC
	•	•	•	•	•		NKA
	•	•	•	•	•		NMA
	•	•	•	•	•		NMJ
	•	•	•	•	•		NMV
	•	•	•	•	•		NTA
1.5W	•			•	•		PWR13XXC
					•		PWR1726A

Power	Vout						Series
	$\pm 3.3V$	$\pm 5V$	$\pm 9V$	$\pm 12V$	$\pm 15V$	$\pm 24V$	
2W				•	•		HL02R
	•	•	•	•	•		NMH
	•	•	•	•	•		NMS
	•	•	•	•	•		NTH
3W				•	•		BST 3W
	•			•	•		BWR 3W
				•	•		NDH
	•	•		•	•		NDTD
				•	•		PWR12XXC
					•		PWR70
					•		WPC03R
4W	•			•	•		HB04UC
5W	•			•	•		BWR 5W
	•			•	•		NMXSO
	•			•	•		NMXU
					•		PWR1546A

Power	Vout						Series
	$\pm 3.3V$	$\pm 5V$	$\pm 9V$	$\pm 12V$	$\pm 15V$	$\pm 24V$	
7W	•						BWR 7-10W
7.5W	•			•	•		NDX
8W	•			•	•		BWR 7-10W
10W					•		WPC10R
15W	•						BWR 15-17W
	•			•	•		BWR 15-20W
17W				•	•		BWR 15-17W
				•	•		BWR 15-20W
20W				•	•		WPN20RC
39W	•			•	•		BMP 25-40W

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information		
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			1/8	1/4	1/2	SM	TH	DIP	SIP	Inches			mm			Part Number	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
															H	W	D	H	W	D		

<b><math>\pm 3.3V</math></b>	$\pm 0.152A$	1W	3.3V	2.97V	3.63V	3kV	74%				•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0303DC	NKA				
						1kV	75%					•	•	0.26	0.3	0.6	6.6	7.7	15.2		NTA0303MC	NTA		
			5V	4.5V	5.5V	3kV	77%					•	•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0503DC	NKA		
						1kV	77%					•	•	0.26	0.3	0.6	6.6	7.7	15.2	NTA0503MC	NTA			
						5V	4.5V	9V	1kV	67%				•	•	•	0.27	0.58	1.27	7.0	14.7	32.3	NDTD0503C	NDTD
						12V	9V	18V	1kV	73%				•	•	•	0.27	0.58	1.27	7.0	14.7	32.3	NDTD1203C	
	24V	18V	36V	1kV	73%				•	•	•	0.27	0.58	1.27	7.0	14.7	32.3	NDTD2403C						
	48V	36V	75V	1kV	72%				•	•	•	0.27	0.58	1.27	7.0	14.7	32.3	NDTD4803C						

<b><math>\pm 5V</math></b>	$\pm 0.075A$	0.75W	5V	4.5V	5.5V	0.75kV	68%				•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR103C	HPR1XXC	
						1kV	68%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR403C	HPR4XX
			12V	10.8V	13.2V	0.75kV	71%				•	•	•	0.4	0.77	0.24	10.2	19.6	6.1	HPR109C	HPR1XXC
	$\pm 0.1A$	1W	3.3V	2.97V	3.63V	3kV	79%				•	•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0305DC	NKA
												•	•	•	0.30	0.23	0.65	7.6	6.0	16.6	
						1kV	78%					•		•	•	•	0.26	0.30	0.60	6.6	7.7

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information			
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>		
								1/8	1/4					1/2	H	W	D	H	W			D	
<b>±0.1A</b>	<b>1W</b>	5V	4.5V	5.5V	3kV	70%							0.21	0.39	0.77	5.4	9.8	19.5	NKA0505DC	NKA			
						80%							0.21	0.39	0.77	5.4	9.8	19.5	NKA0505DEC				
						70%							0.30	0.23	0.65	7.6	6.0	16.6	NKA0505SC				
						80%							0.30	0.23	0.65	7.6	6.0	16.6	NKA0505SEC				
					1kV	69%							0.27	0.39	0.77	6.8	9.8	19.5	NMA0505DC	NMA			
					5.2kV	60%							0.39	0.24	0.77	10.0	6.0	19.5	NMA0505SC				
		12V	10.8V	13.2V	3kV	74%								0.21	0.39	0.77	5.4	9.8	19.5	NKA1205DC	NKA		
						69%							0.30	0.23	0.65	7.6	6.0	16.6	NKA1205SC				
						1kV	69%						0.27	0.39	0.77	6.8	9.8	19.5	NMA1205DC	NMA			
						5.2kV	60%						0.39	0.24	0.77	10.0	6.0	19.5	NMA1205SC				
					3kV	71%							0.27	0.39	0.77	6.8	9.8	19.5	NMV1205DC	NMV			
					1kV	69%							0.39	0.24	0.77	10.0	6.0	19.5	NMV1205SC				
	15V	13.5V	16.5V	1kV	71%								0.27	0.39	0.77	6.8	9.8	19.5	NMA1505DC	NMA			
					69%							0.39	0.24	0.77	10.0	6.0	19.5	NMA1505SC					
				3kV	69%							0.39	0.24	0.77	10.0	6.0	19.5	NMV1505SC	NMV				
				24V	21.6V	26.4V	1kV	70%								0.27	0.39	0.77		6.8	9.8	19.5	NMA2405DC
								70%							0.39	0.24	0.77	10.0	6.0	19.5	NMA2405SC		
							3kV	70%							0.27	0.39	0.77	6.8	9.8	19.5	NMV2405DC	NMV2	
												0.39	0.24	0.77	10.0	6.0	19.5	NMV2405SC					
		22.8V	25.2V	0.5kV	45%								0.38	1.29	0.53	9.5	32.6	13.3	HL01R24D05Z	HL01RC			
													0.38	1.29	0.53	9.5	32.6	13.3	HL01R24D05ZC	HL01RZC			
	48V	43.2V	52.8V	1kV	70%								0.30	0.39	0.77	7.7	9.8	19.5	NMA4805DC	NMA2			
					70%							0.39	0.30	0.77	10.0	7.5	19.5	NMA4805SC					
				3kV	70%							0.30	0.39	0.77	7.7	9.8	19.5	NMV4805DC	NMV2				
											0.39	0.30	0.77	10.0	7.5	19.5	NMV4805SC						
±0.15A				1.5W	5V	4.5V	5.5V	8kV	75%						0.4	1.27	0.81	10.2	32.3	20.5	PWR1303AC	PWR13XXC	
					12V	10V	13.2V	8kV	75%							0.4	1.27	0.81	10.2	32.3	20.5		PWR1309AC
		10.8	13.2		0.5kV	75%								0.4	1.27	0.81	10.2	32.3	20.5	PWR1109C			
±0.2A	2W	5V	4.5V	5.5V	1kV	80%							0.30	0.39	0.77	7.7	9.8	19.5	NMH0505DC	NMH			
						74%							0.40	0.30	0.77	10.0	7.5	19.5	NMH0505SC				
						80%							0.37	0.58	1.28	9.4	14.7	32.6	NMS0505C				
		12V	10.8V	13.2V	1kV	80%								0.21	0.50	0.70	6.0	12.7	17.8	NTH0505MC	NTH		
						80%							0.30	0.39	0.77	7.7	9.8	19.5	NMH1205DC				
						78%							0.40	0.30	0.77	10.0	7.5	19.5	NMH1205SC				
	24V	21.6V	26.4V	1kV	81%								0.37	0.58	1.28	9.4	14.7	32.6	NMS1205C	NMS			
					80%							0.21	0.50	0.70	6.0	12.7	17.8	NTH1205MC					
					80%							0.30	0.39	0.77	7.7	9.8	19.5	NMH2405DC					
	48V	43V	52.8V	1kV	82%								0.40	0.30	0.77	10.0	7.5	19.5	NMH2405SC	NMH			
					82%							0.303	0.39	0.77	7.7	9.8	19.5	NMH4805DC					
					82%							0.4	0.3	0.77	10.0	7.5	19.5	NMH4805SC					
±0.2A	2W	48V	43.2V	52.8V	1kV	78%							0.45	1.25	0.8	11.4	31.8	20.3	BST-5/250-D12-C	BST-3W			
						77%							0.45	1.25	0.8	11.4	31.8	20.3	BWR-5/250-D12-C				
						76%							0.45	1.25	0.8	11.4	31.8	20.3	BST-5/250-D48-C				
						77%							0.45	1.25	0.8	11.4	31.8	20.3	BWR-5/250-D48-C				
±0.25A	2.5W	12V	9V	18V	1kV	75%							0.27	0.58	1.27	7	14.7	32.3	NDTD1205C	NDTD			
						78%							0.4	0.3	0.77	10.0	7.5	19.5	NMH4805SC				
						77%							0.45	1.25	0.8	11.4	31.8	20.3	BST-5/250-D12-C				
±0.3A	3W	12V	9V	18V	1kV	75%							0.27	0.58	1.27	7	14.7	32.3	NDTD1205C	NDTD			
						78%							0.4	0.3	0.77	10.0	7.5	19.5	NMH4805SC				
						76%							0.27	0.58	1.27	7	14.7	32.3	NDTD2405C				
±0.4A	4W	12V	10.8V	13.2V	8kV	88%							0.40	2	1	10.2	50.8	25.4	HB04U12D05QC	HB04UC			
						65%							0.39	0.93	1.59	10	23.5	40.5	NMXD0505SOC				
						75%							0.39	0.93	0.99	10	23.5	25	NMXD0505UC				
±0.5A	5W	5V	4.5V	5.5V	1kV	65%							0.39	0.93	1.59	10	23.5	40.5	NMXD0505SOC	NMXSO			
						75%							0.39	0.93	0.99	10	23.5	25	NMXD0505UC				
						75%							0.39	0.93	0.99	10	23.5	25	NMXD0505UC				

**±5V**

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information	
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D		
<b>±5V</b>	<b>±0.5A</b>	<b>5W</b>	12V	10.8V	13.2V	1kV	65%					•	•	0.39	0.93	1.59	10	23.5	40.5	NMXD1205SOC	NMXSO	
						1kV	75%					•	•		0.39	0.93	0.99	10	23.5	25	NMXD1205UC	NMXU
			24V	18V	36V	1kV	78%					•			0.45	1	1	11.4	25.4	25.4	BWR-5/500-D24-C	BWR-5W
			48V	36V	72V	1kV	78%					•			0.45	1	1	11.4	25.4	25.4	BWR-5/500-D48-C	BWR-5W
	<b>±0.7A</b>	<b>7W</b>	5V	4.7V	7.25V	1.5kV	79%					•		0.38	2	1	9.5	50.8	25.4	BWR-5/700-D5A-C	BWR7-10W A-Series	
			48V	18V	75V	1.5kV	81%					•			0.38	2	1	9.5	50.8	25.4		BWR-5/700-D48A-C
	<b>±0.75A</b>	<b>7.5W</b>	5V	4.5V	9V	1kV	67%					•	•	0.39	0.98	1.26	10	25	32	NDXD0505C	NDX	
						1kV	73%					•	•	0.39	0.98	1.26	10	25	32	NDXD0505EC		
			12V	9V	18V	1kV	73%					•	•	0.39	0.98	1.26	10	25	32	NDXD1205C		
			24V	18V	36V	1kV	75%					•	•	0.39	0.98	1.26	10	25	32	NDXD2405C		
			48V	36V	75V	1kV	77%					•	•	0.39	0.98	1.26	10	25	32	NDXD2405EC		
	<b>±0.9A</b>	<b>9W</b>	12V	9V	18V	1.5kV	82%					•		0.38	2	1	9.5	50.8	25.4	BWR-5/900-D12A-C	BWR7-10W A-Series	
			5V	4.7V	7.5V	1.5kV	80%					•			0.45	2	2	11.4	50.8	50.8	BWR-5/1500-D5A-C	BWR15-20W A-Series
			12V	10V	18V	1.5kV	81%					•			0.47	2	1	11.8	50.8	25.4	BWR-5/1500-D12A-C	BWR15-17W A-Series
			24V	18V	36V	1.5kV	83%					•			0.47	2	1	11.8	50.8	25.4	BWR-5/1500-D24A-C	
	<b>±1.5A</b>	<b>15W</b>	48V	36V	75V	1.5kV	83%					•		0.47	2	1	11.8	50.8	25.4	BWR-5/1500-D48A-C	BWR15-20W A-Series	
			12V	9V	36V	1.5kV	83%					•			0.45	2	2	11.4	50.8	50.8	BWR-5/1700-D12A-C	BWR15-20W A-Series
	<b>±1.70AA</b>	<b>17W</b>	48V	18V	75V	1.5kV	83%					•		0.45	2	2	11.4	50.8	50.8	BWR-5/1700-D48A-C		
			12V	10V	36V	1.5kV	85%					•			0.55	3.04	2.04	14	77.2	51.8	BMP-5/4-Q12-C	BMP25-40W
	<b>±4A</b>	<b>40W</b>	24V	18V	36V	1.5kV	86%					•		0.55	3.04	2.04	14	77.2	51.8	BMP-5/4-D24-C		
48V			36V	75V	1.5kV	85%					•			0.55	3.04	2.04	14	77.2	51.8	BMP-5/4-D48-C		
18V			75V	1.5kV	85%						•			0.55	3.04	2.04	14	77.2	51.8	BMP-5/4-Q48-C		

<b>±9V</b>	<b>±0.055A</b>	<b>1W</b>	3.3V	2.97V	3.63V	3kV	75%						•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0309DC	NKA	
														•	•	0.3	0.23	0.65	7.6	6	16.6		NKA0309SC
						3kV	76%						•		0.26	0.3	0.6	6.6	7.7	15.2	NTA0309MC	NTA	
														•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0509DC	NKA
						1kV	75%						•	•	0.3	0.23	0.65	7.6	6	16.6	NKA0509SC		
								5.2kV	65%						•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA0509DC
						5V	4.5V			5.5V	3kV	76%					•	•	0.39	0.24	0.77	10	6
								1kV	75%									•		0.49	0.39	0.77	12.5
						3kV	77%								•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMV0509DC
								1kV	75%						•		0.39	0.24	0.77	10	6	19.5	NMV0509SC
						3kV	77%								•		0.26	0.3	0.6	6.6	7.7	15.2	NTA0509MC
								3kV	77%						•		0.26	0.3	0.6	6.6	7.7	15.2	NTV0509MC
				12V	10.8V	13.2V	3kV			79%					•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA1209DC
								1kV	74%							•	•	0.30	0.23	0.65	7.6	6	16.6
				5.2kV	65%								•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA1209DC	NMA	
						1kV	74%						•	•	0.39	0.24	0.77	10.0	6	19.5	NMA1209SC		
				3kV	74%								•	•	0.49	0.39	0.77	12.5	9.8	19.5	NMJ1209SC	NMJ	
						3kV	74%						•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMV1209DC	NMV	
				12V	10.8V			13.2V	1kV	74%					•		0.39	0.24	0.77	10	6	19.5	NMV1209SC
						3kV	79%									•		0.26	0.3	0.6	6.6	7.7	15.2
				24V	21.6V			26.4V	1kV	77%					•	•	0.26	0.3	0.6	6.6	7.7	15.2	NTV1209MC
						3kV	80%									•	•	0.27	0.39	0.77	6.8	9.8	19.5
				1kV	80%								•	•	0.27	0.39	0.77	10	6	19.5	NMA2409SC		
						48V	43.2V	52.8V	3kV	80%					•	•	0.39	0.24	0.77	10	6	19.5	NMV2409DC
			1kV	80%											•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMA4809DC
					3kV	80%						•	•	0.39	0.3	0.77	10	7.5	19.5	NMA4809SC	NMA2		
			1kV	81%								•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMV4809DC			
					6kV	76%						•	•	0.39	0.3	0.77	10	7.5	19.5	NMV4809SC	NMV2		
			1kV	81%								•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMH0509DC			
					6kV	76%						•	•	0.4	0.3	0.77	10	7.5	19.5	NMH0509SC	NMH		
			1kV	81%								•	•	0.37	0.58	1.28	9.4	14.7	32.6	NMS0509C		NMS	
														0.21	0.5	0.7	6.0	12.7	17.8	NTH0509MC	NTH		

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information			
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks	Bricks			SM	TH	DIP	SIP	Inches			mm			Part Number <small>Note: Root part numbers may be shown. Please refer to datasheets for available options.</small>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>	
						1/8	1/4		1/2	H	W					D	H	W	D					
±9V	±0.111A	2W	12V	10.8V	13.2V	1kV	83%						•	•	0.30	0.39	0.77	7.7	9.8	19.5	NMH1209DC	NMH		
						1kV	83%						•	•	0.4	0.3	0.77	10	7.5	19.5	NMH1209SC	NMH		
			12V	10.8V	13.2V	6kV	81%					•	•	0.37	0.58	1.28	9.4	14.7	32.6	NMS1209C	NMS			
						1kV	83%				•		0.21	0.5	0.7	6.0	12.7	17.8	NTH1209MC	NTH				
			24V	21.6V	26.4V	1kV	85%						•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMH2409DC	NMH		
													•		0.4	0.3	0.77	10	7.5	19.5	NMH2409SC			
			48V	43.2V	52.8V	1kV	82%						•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMH4809DC			
										•		0.4	0.3	0.77	10	7.5	19.5	NMH4809SC						
±12V	±0.03A	0.75W	5V	4.5V	5.5V	0.75kV	68%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR104C	HPR1XXC			
						1kV	66%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR404C	HPR4XXC			
			12V	10.8V	13.2V	0.75kV	74%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR110C	HPR1XXC			
						1kV	74%				•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR410C	HPR4XXC				
			15V	13.5V	16.5V	0.75kV	76%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR116C	HPR1XXC			
						1kV	67%				•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR122C					
			24V	21.6V	26.4V	0.75kV	67%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR422C	HPR4XXC			
						1kV	67%				•	•	0.4	0.77	0.24	10.1	19.6	6.1						
			±0.042A	1W	3.3V	2.97V	3.63V	3kV	78%					•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0312DC	NKA	
								1kV	77%				•		0.26	0.3	0.6	6.6	7.7	15.2	NTA0312MC	NTA		
	5V	4.5V			5.5V	1kV	70%					•	•	0.4	0.77	0.24	10.1	19.6	6.1	HPR1004C	HPR10XXC			
							78%					•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA0512DC	NKA			
							77%					•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA0512DC		NMA		
												•	•	0.39	0.24	0.77	10	6	19.5	NMA0512SC				
	5V	4.5V			5.5V	5.2kV	65%					•	•	0.49	0.39	0.77	12.5	9.8	19.5	NMJ0512SC	NMJ			
						3kV	78%				•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMV0512DC	NMV				
						1kV	77%				•	•	0.26	0.3	0.6	6.6	7.7	15.2	NTA0512MC		NTA			
						3kV	79%				•		0.26	0.3	0.6	6.6	7.7	15.2	NTV0512MC	NTV				
						12V	10.8V	13.2V	3kV	81%					•	•	0.21	0.39	0.77	5.4	9.8	19.5	NKA1212DC	NKA
									1kV	75%				•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA1212DC	NMA	
	5.2kV	65%							•	•	0.49	0.39	0.77	12.5	9.8	19.5	NMJ1212SC	NMJ						
	3kV	75%							•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMV1212DC	NMV						
	1kV	75%							•	•	0.39	0.24	0.77	10	6	19.5	NMV1212SC							
	3kV	80%							•		0.26	0.3	0.6	6.6	7.7	15.2	NTA1212MC	NTA						
	15V	13.5V	16.5V	1kV	78%					•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA1512DC	NMA					
				3kV	75%				•	•	0.39	0.24	0.77	10	6	19.5	NMA1512SC							
				24V	22.8V	25.2V	0.5kV	53%					•	•	0.38	1.29	0.53	9.5	32.6	13.3	HL01R24D12YC	HL01RYC		
							1kV	72%				•	•	0.40	0.77	0.24	10.1	19.6	6.1	HPR1022C	HPR10XXC			
	±0.042A	1W	24V	21.6V	26.4V	1kV	80%					•	•	0.27	0.39	0.77	6.8	9.8	19.5	NMA2412DC	NMA2			
						3kV	80%				•	•	0.39	0.24	0.77	10	6	19.5	NMA2412SC					
			48V	43.2V	52.8V	1kV	80%					•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMA4812DC	NMA2			
						3kV	80%				•	•	0.39	0.3	0.77	10	7.5	19.5	NMA4812SC					
						48V	43.2V	52.8V	1kV	80%					•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMV4812DC	NMV2
									3kV	80%				•	•	0.39	0.3	0.77	10	7.5	19.5	NMV4812SC		
	±0.063A	1.5W	5V	4.5V	5.5V	8kV	75%					•	•	0.4	1.27	0.81	10.2	32.3	20.5	PWR1304AC	PWR13XXC			
						8kV	75%				•	•	0.4	1.27	0.81	10.2	32.3	20.5	PWR1310AC					
	±0.083A	2W	5V	4.5V	5.5V	4.75V	5.25V	0.5kV	62%					•	•	0.38	1.29	0.53	9.5	32.6	13.3	HL02R05D12YC	HL02R	
						1kV	82%					•	•	0.3	0.39	0.77	7.7	9.8	19.5	NMH0512DC	NMH			
			12V	11.4V	12.6V	0.5kV	62%						•	•	0.37	0.58	1.28	9.4	14.7	32.6		NMS0512C	NMS	
													•		0.21	0.5	0.7	6.0	12.7	17.8	NTH0512MC	NTH		
													•	•	0.38	1.29	0.53	9.5	32.6	13.3	HL02R12D12YC	HL02R		



Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style								Package Dimensions						Further Information							
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks								Inches			mm			Part Number <small>Note: Root part numbers may be shown. Please refer to datasheets for available options.</small>	Datasheet <small>Available at www.murata-ps.com</small>						
								T/8	T/4	T/2	SM	TH	DIP	SIP	H	W	D	H	W	D									
±12V	±0.083A	2W	12V	10.8V	13.2V	1kV	84%										0.30	0.39	0.77	7.7	9.8	19.5	NMH1212DC	NMH					
						6kV	82%													0.4	0.3	0.77	10	7.5	19.5	NMH1212SC	NMH		
						1kV	84%														0.37	0.58	1.28	9.4	14.7	32.6	NMS1212C	NMS	
						1kV	86%														0.21	0.5	0.7	6.0	12.7	17.8	NTH1212MC	NTH	
	24V	21.6V	26.4V	1kV	86%												0.3	0.39	0.77	7.7	9.8	19.5	NMH2412DC	NMH					
																				0.4	0.3	0.77	10		7.5	19.5	NMH2412SC		
	48V	43.2V	52.8V	1kV	85%												0.3	0.39	0.77	7.7	9.8	19.5	NMH4812DC		NMH				
																				0.4	0.3	0.77	10			7.5	19.5	NMH4812SC	
	±0.11A	3W	5V	4.5V	9V	1kV	73%										0.45	1.25	0.8	11.4	31.8	20.3	BST-12/105-D5-C	BST-3W					
							72%														0.45	1.25	0.8	11.4	31.8	20.3	BWR-12/105-D5-C	BWR 3W	
	±0.13A	3W	5V	4.5V	9V	1kV	76%										0.27	0.58	1.27	7	14.7	32.3	NDTD0512C	NDTD					
							12V	9V	18V	1kV	76%										0.45	1.25	0.8	11.4	31.8	20.3	BST-12/125-D12-C	BST-3W	
	±0.13A	3W	12V	9V	18V	1kV	75%										0.45	1.25	0.8	11.4	31.8	20.3	BWR-12/125-D12-C	BWR 3W					
							78%													0.27	0.58	1.27	7		14.7	32.3	NDTD1212C	NDTD	
							81%														0.49	0.36	1.02		12.5	9.3	26	NDH2412SC	NDH
							82%														0.27	0.58	1.27		7	14.7	32.3	NDTD2412C	NDTD
			48V	18V	72V	1kV	77%											0.45	1.25	0.8	11.4	31.8	20.3	BST-12/125-D48-C	BST-3W				
							80%														0.45	1.25	0.8	11.4	31.8	20.3	BWR-12/125-D48-C	BWR 3W	
				36V	72V	1kV	78%											0.49	0.36	1.02	12.5	9.3	26	NDH4812SC	NDH				
							75V	1kV	80%												0.27	0.58	1.27	7	14.7	32.3	NDTD4812C	NDTD	
	±0.167A	4W	15V	13.5V	16.5V	8kV	88%									0.4	2	1	10	50.8	25.4	HB04U15D12QC	HB04UC						
	±0.21A	5W	5V	4.5V	5.5V	1kV	75%										0.4	1	1	10	23.5	25	NMXD0512UC	NMXU					
							75%														0.4	1	1		10	23.5	25	NMXD1212UC	
							82%															0.4	1	1	11.4	25.4	25.4	BWR-12/210-D24-C	BWR-5W
							82%															0.4	1	1	11.4	25.4	25.4	BWR-12/210-D48-C	
	±0.235A	5.6W	5V	4.5V	5.5V	1kV	65%										0.4	0.93	1.59	10.2	23.5	40.5	NMXD0512SOC	NMXSO					
							65%														0.4	0.93	1.59		10.2	23.5	40.5	NMXD1212SOC	
	±0.312A	7.5W	5V	4.5V	9V	1kV	69%										0.4	1	1.26	10	25	32	NDXD0512C	NDX					
							69%														0.4	1	1.26		10	25	32	NDXD0512EC	
			12V	9V	18V	1kV	78%											0.4	1	1.26	10	25	32		NDXD1212C				
							78%														0.4	1	1.26		10	25	32	NDXD1212EC	
			24V	18V	36V	1kV	81%											0.4	1	1.26	10	25	32		NDXD2412C				
							81%														0.4	1	1.26		10	25	32	NDXD2412EC	
	48V	36V	75V	1kV	82%											0.4	1	1.26	10	25	32	NDXD4812C							
					82%												0.4	1	1.26	10	25	32	NDXD4812EC						
	±0.34A	8W	5V	4.7V	7.25V	1.5kV	78%										0.4	2	1	9.5	50.8	25.4	BWR-12/335-D5A-C	BWR 7-10W A-Series					
	±0.42A	10W	12V	9V	18V	1.5kV	84%										0.4	2	1	9.5	50.8	25.4	BWR-12/415-D12A-C						
							84%														0.4	2	1	9.5	50.8	25.4	BWR-12/415-D48A-C		
	±0.63A	15W	5V	4.7V	7.5V	1.5kV	81%										0.45	2	2	11.4	50.8	50.8	BWR-12/625-D5A-C	BWR 15-20W A-Series					
							83.5%														0.47	2	1		11.8	50.8	25.4	BWR-12/725-D12A-C	
	±0.73A	17W	24V	18V	36V	1.5kV	85%										0.47	2	1	11.8	50.8	25.4	BWR-12/725-D24A-C	BWR 15-17W A-Series					
							86%														0.47	2	1		11.8	50.8	25.4	BWR-12/725-D48A-C	
							86%															0.44	2		1.59	11.2	50.6	40.4	WPN20R12D12C
	±0.83A	20W	12V	9V	36V	1.5kV	83%										0.45	2	2	11.4	50.8	50.8	BWR-12/830-D12A-C	BWR 15-20W A-Series					
							87%														0.44	2	1.59		11.2	50.6	40.4	WPN20R24D12C	
			48V	18V	75V	1.5kV	83%											0.45	2	2	11.4	50.8	50.8		BWR-12/830-D48A-C				
							87%														0.44	2	1.59		11.2	50.6	40.4	WPN20R48D12C	
	±1.65	40.00	24V	18V	36V	1.5kV	87%										0.55	3	2	14	77.2	51.8	BMP-12/1.65-D24-C	BMP 25-40W					
							85%														0.55	3	2		14	77.2	51.8	BMP-12/1.65-Q12-C	
			48V	36V	75V	1.5kV	87%											0.55	3	2	14	77.2	51.8		BMP-12/1.65-D48-C				
							86%														0.55	3	2		14	77.2	51.8	BMP-12/1.65-Q48-C	

±15V	±0.025A	0.75W	5V	4.5V	5.5V	0.75kV	75%									0.4	0.77	0.24	10.2	19.6	6.1	HPR105C	HPR1XXC							
						1kV	75%												0.38	0.79	0.53	9.5	19.9	13.3	HPR105WC	HPR1XXWC				
						0.75kV	77%													0.4	0.77	0.24	10.2	19.6	6.1	HPR111C	HPR1XXC			
						1kV	77%													0.4	0.77	0.24	10.2	19.6	6.1	HPR411C	HPR4XXC			
			12V	10.8V	13.2V	0.75kV	77%												0.4	0.77	0.24	10.2	19.6	6.1	HPR117C	HPR1XXC				
																						0.4	0.77	0.24	10.2	19.6	6.1	HPR117C	HPR1XXC	
																							0.4	0.77	0.24	10.2	19.6	6.1	HPR117C	HPR1XXC
																							0.38	0.79	0.53	9.5	19.9	13.3	HPR117VC	HPR1XXVC

Overview  
Pol. Converters  
Bus Converters  
Isolated Single  
Isolated Dual/Bipolar  
Isolated Dual/Asymmetric  
Isolated Triple  
Processor Power  
Memory Support

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information										
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>									
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D											
±0.025A	0.75W	15V	13.5V	16.5V	1kV	79%																			HPR417C	HPR4XXC					
		24V	21.6V	26.4V	0.75kV	69%																				HPR123C	HPR1XXC				
			3.3V	2.97V	3.63V	1kV	69%																			HPR423C	HPR4XXC				
						3kV	79%																						NKA0315DC	NKA	
		1kV	77%																							NKA0315SC					
		4.75V	5.25V	0.5kV	53%																					NTA0315MC	NTA				
		5V	4.5V	5.5V	1kV	70%																						HL01R05D15ZC	HL01RZC		
					1kV	70%																							HPR1005C	HPR10XXC	
					3kV	79%																							NKA0515DC	NKA	
					1kV	78%																							NKA0515SC		
5.2kV	65%																											NMA0515DC	NMA		
1kV	78%																											NMA0515SC			
3kV	79%																								NMA0515DC	NMJ					
3kV	79%																								NMJ0515SC						
±0.033A	1W	12V	10.8V	13.2V	3kV	82%																				NKA1215DC	NKA				
					1kV	76%																							NKA1215SC		
					5.2kV	65%																								NMA1215DC	NMA
					3kV	76%																								NMA1215SC	
		15V	13.5V	16.5V	1kV	80%																						NMA1215DC	NMA		
					3kV	76%																								NMA1215SC	
					5.2kV	65%																								NMA1215DC	NMJ
					3kV	76%																								NMJ1215SC	
					1kV	76%																								NMV1215DC	NMV
					3kV	82%																								NMV1215SC	
±0.05A	1.5W	15V	13.5V	16.5V	1kV	80%																				NMA1515DC	NMA				
					3kV	77%																								NMA1515SC	
		24V	22.8V	25.2V	0.5kV	53%																						NMV1515DC	NMV		
					1kV	72%																								NMV1515SC	
		24V	21.6V	26.4V	1kV	80%																							HL01R24D15YC	HL01RYC	
					1kV	80%																							HPR1023C	HPR10XXC	
					1kV	80%																								NMA2415DC	NMA2
					3kV	80%																								NMA2415SC	
		48V	43.2V	52.8V	1kV	80%																							NMA2415DC	NMV2	
					3kV	80%																									NMA2415SC
±0.067A	2W	5V	4.5V	5.5V	8kV	75%																					NMA4815DC	NMA2			
					3kV	80%																								NMA4815SC	
		12V	11.4V	12.6V	0.5kV	62%																						NMA4815DC	NMV2		
					1kV	84%																									NMA4815SC
		12V	10.8V	13.2V	6kV	78%																							NMA4815DC	NMV2	
					1kV	84%																									NMA4815SC
		15V	13.5V	16.5V	1kV	84%																							NMA4815DC	NMV2	
					3kV	80%																									NMA4815SC
		24V	22.8V	25.2V	0.5kV	62%																							NMA4815DC	NMV2	
					1kV	86%																									NMA4815SC
48V	43.2V		52.8V	1kV	85%																							NMA4815DC	NMV2		
				1kV	84%																									NMA4815SC	
				1kV	84%																									NMA4815DC	
				1kV	84%																									NMA4815SC	

±15V

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information											
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks							Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>										
								1/8	1/4	1/2	SM	TH	DIP	SIP	H	W	D	H	W	D												
<b>±15V</b>	<b>±0.067A</b>	<b>2W</b>	48V	43.2V	52.8V	1kV	85%										0.40	0.30	0.77	10.0	7.5	19.5	NMH4815SC	NMH								
							74%															0.45	1.25	0.80	11.4	31.8	20.3	BST-15/85-D5-C	BST-3W			
							72%																0.45	1.25	0.80	11.4	31.8	20.3	BWR-15/85-D5-C	BWR-3W		
			5V	4.5V	9V	1kV	75%													0.27	0.58	1.27	7.0	14.7	32.3	NDTD0515C	NDTD					
							5.5V	0.5kV	75%													0.40	1.27	0.81	10.2	32.3	20.5	PWR1205C	PWR12XXC			
							76%																0.45	1.25	0.80	11.4	31.8	20.3	BST-15/100-D12-C	BST-3W		
		12V	9V	18V	1kV	75%														0.45	1.25	0.80	11.4	31.8	20.3	BWR-15/100-D12-C	BWR-3W					
						78%															0.27	0.58	1.27	7.0	14.7	32.3	NDTD1215C	NDTD				
						66%																0.41	1.13	1.13	10.7	28.6	28.6	PWR70C	PWR70			
						15V	18V	36V	1kV	82%													0.49	0.36	1.02	12.5	9.3	26.0	NDH24155C	NDH		
										21.6V	26.4V	0.5kV	75%												0.27	0.58	1.27	7.0	14.7	32.3	NDTD2415C	NDTD
										18V	36V	1.5kV	73%													0.40	1.27	0.81	10.2	32.3	20.5	PWR1223C
	48V	18V	72V	1kV	77%														0.45	1.25	0.80	11.4	31.8	20.3	BST-15/100-D48-C	BST-3W						
					80%															0.45	1.25	0.80	11.4	31.8	20.3	BWR-15/100-D48-C	BWR-3W					
					36V	72V	1kV	78%													0.49	0.36	1.02	12.5	9.3	26.0	NDH48155C	NDH				
					75V	1kV	81%														0.27	0.58	1.27	7.0	14.7	32.3	NDTD4815C	NDTD				
					12V	10.8V	13.2V	8kV	88%														0.40	2.00	1.00	10.2	50.8	25.4	HB04U12D15QC	HB04UC		
									15V	13.5V	16.5V	8kV	88%												0.40	2.00	1.00	10.2	50.8		25.4	HB04U15D15QC
	<b>±0.133A</b>	<b>4W</b>	5V	4.5V	5.5V	1kV	75%												0.39	0.93	0.99	10.0	23.5	25.0	NMXD0515UC	NMXU						
						0.75kV	60%															0.40	2.00	2.00	10.2	50.8	50.8	PWR1546AC	PWR1546A			
						12V	10.8V	13.2V	1kV	75%													0.39	0.93	0.99	10.0	23.5	25.0	NMXD1215UC	NMXU		
						24V	18V	36V	1kV	83%													0.45	1.00	1.00	11.4	25.4	25.4	BWR-15/165-D24-C	BWR-5W		
	<b>±0.167A</b>	<b>5W</b>	48V	36V	72V	1kV	82%												0.45	1.00	1.00	11.4	25.4	25.4	BWR-15/165-D48-C	BWR-5W						
							5V	4.5V	5.5V	1kV	65%												0.39	0.93	1.59	10.0	23.5	40.5	NMXD0515SOC	NMXSO		
							12V	10.8V	13.2V	1kV	65%													0.39	0.93	1.59	10.0	23.5	40.5		NMXD1215SOC	
	<b>±0.20A</b>	<b>6W</b>	12V	10.8V	13.2V	1kV	79%													0.39	0.98	1.26	10.0	25.0	32.0	NDXD1215C	NDX					
							82%																0.39	0.98	1.26	10.0		25.0	32.0	NDXD2415C		
							24V	18V	36V	1kV	82%													0.39	0.98	1.26		10.0	25.0	32.0	NDXD2415EC	
							48V	36V	75V	1kV	82%													0.39	0.98	1.26		10.0	25.0	32.0	NDXD4815C	
	<b>±0.25A</b>	<b>7.5W</b>	12V	9V	18V	1kV	79%													0.39	0.98	1.26	10.0	25.0	32.0	NDXD4815EC						
							24V	18V	36V	1kV	82%												0.39	0.98	1.26	10.0	25.0	32.0	NDXD4815EC			
	<b>±0.28A</b>	<b>8W</b>	5V	4.7V	7.25V	1.5kV	79%													0.38	2.00	1.00	9.5	50.8	25.4	BWR-15/275-D5A-C	BWR 7-10W A-Series					
							84%																0.38	2.00	1.00	9.5		50.8	25.4	BWR-15/330-D12A-C		
	<b>±0.33A</b>	<b>10W</b>	24V	18V	36V	1.5kV	79%													0.42	2.00	1.00	10.5	50.8	25.4	WPC10R24D15NC	WPC10R					
							84%																0.38	2.00	1.00	9.5	50.8	25.4	BWR-15/330-D48A-C	BWR 7-10W A-Series		
							82%																	0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/500-D5A-C	BWR 15-20W A-Series	
<b>±0.50A</b>	<b>15W</b>	12V	10V	18V	1.5kV	84%													0.47	2.00	1.00	11.8	50.8	25.4	BWR-15/575-D12A-C	BWR 15-17W A-Series						
						86%																0.47	2.00	1.00	11.8		50.8	25.4	BWR-15/575-D24A-C			
						87%																	0.47	2.00	1.00		11.8	50.8	25.4	BWR-15/575-D48A-C		
<b>±0.58A</b>	<b>17W</b>	48V	36V	75V	1.5kV	83%													0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/670-D12A-C	BWR 15-20W A-Series						
						87%																0.44	1.99	1.59	11.2	50.6	40.4	WPN20R24D15C	WPN20RC			
						84%																	0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/670-D48A-C	BWR 15-20W A-Series		
<b>±0.67A</b>	<b>20W</b>	12V	9V	36V	1.5kV	83%														0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/670-D12A-C	BWR 15-20W A-Series					
						87%																	0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/670-D48A-C	BWR 15-20W A-Series		
						84%																		0.45	2.00	2.00	11.4	50.8	50.8	BWR-15/670-D48A-C	BWR 15-20W A-Series	
<b>±1.30</b>	<b>39A</b>	12V	10V	36V	1.5kV	85%														0.55	3.04	2.04	14.0	77.2	51.8	BMP-15/1.3-Q12-C	BMP 25-40W A-Series					
						88%																	0.55	3.04	2.04	14.0		77.2	51.8	BMP-15/1.3-D24-C		
						87%																		0.55	3.04	2.04		14.0	77.2	51.8	BMP-15/1.3-D48-C	
						85%																		0.55	3.04	2.04		14.0	77.2	51.8	BMP-15/1.3-Q48-C	

# Dual Output



## (Asymmetric) Isolated DC/DC Converters

When your application requires multiple positive voltages and you can't easily derive one from the other using a non-isolated PoL, consider an asymmetric dual.

Asymmetric duals are isolated, 2-output DC/DC converters that typically provide two low voltages such as 3.3V and 1.8V. As such, they are ideal for driving the core and

I/O logic of complex PLDs or ASICs. On DSL line cards, they can power both the DSP and the line drivers. In evolving process-control systems, they can power older 5V logic and newer 3.3V micros.

Asymmetric duals provide the real estate and cost savings of a single package with one set of input circuitry (stand-up caps, filters,

etc.). On the output side, many duals feature 2-loop designs that effectively deliver two independently regulated converters in a single package . . . with a standard pinout and internationally recognized safety approvals. Why evaluate and qualify two devices when you can do one . . . for less money?

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information		
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			1/8	1/4	1/2	SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
															H	W	D	H	W	D		
3.3/2.5V	15/15A	50W	24V	18V	36V	1.5kV	82%							0.50	2.40	2.30	12.7	61.0	58.4	BCP-3.3/15-2.5/15-D24-C	BCP-50W	
			48V	36V	75V	1.5kV	82%								0.50	2.40	2.30	12.7	61.0	58.4		BCP-3.3/15-2.5/15-D48-C
5/3.3V	0.1/0.152A	1W	5V	4.5V	5.5V	1.0kV	70%							0.27	0.39	0.77	6.8	9.8	19.5	NMD050503DC	NMD	
															0.39	0.24	0.77	10.0	6.0	19.5		NMD050503SC
	2.65/3A	15W	12V	10V	18V	1.5kV	86%							0.52	2.00	1.00	13.2	50.8	25.4	DSM-5/2.65-3.3/3-D12-C	DSM-15W	
															0.45	2.00	1.00	11.4	50.8	25.4		DSM-5/2.65-3.3/3-D12-C
			24V	18V	36V	1.5kV	86%								0.52	2.00	1.00	13.2	50.8	25.4		DSM-5/2.65-3.3/3-D24-C
																0.45	2.00	1.00	11.4	50.8		25.4
	3/4.25A	30W	12V	10V	18V	1.5kV	85%								0.48	2.00	2.00	12.2	50.8	50.8	BWR-5/3-3.3/4.25-D12A-C	BWR-5/3.3 30W
			24V	18V	36V	1.5kV	88%								0.48	2.00	2.00	12.2	50.8	50.8	BWR-5/3-3.3/4.25-D24A-C	
			48V	36V	75V	1.5kV	88%								0.48	2.00	2.00	12.2	50.8	50.8	BWR-5/3-3.3/4.25-D48A-C	
	6/7A	33W	12V	10V	18V	1.5kV	86%								0.45	2.00	2.00	11.4	50.8	50.8	BWR-5/6-3.3/7-D12-C	BWR-5/3.3 33W
			24V	18V	36V	1.5kV	88%								0.45	2.00	2.00	11.4	50.8	50.8	BWR-5/6-3.3/7-D24-C	
			48V	36V	75V	1.5kV	88%								0.45	2.00	2.00	11.4	50.8	50.8	BWR-5/6-3.3/7-D48-C	
	4.7/3.5A	35W	24V	18V	36V	1.5kV	81%								0.55	3.04	2.04	14.0	77.2	51.8	BMP-5/5-3.3/4-D24-C	BMP5-5
			48V	36V	75V	1.5kV	82%								0.55	3.04	2.04	14.0	77.2	51.8	BMP-5/5-3.3/4-D48-C	
	12/15A	60W	24V	18V	36V	1.5kV	90%								0.50	1.50	2.30	12.7	38.1	58.4	VSX60LD35C	VSX60
			48V	36	75V	1.5kV	90%								0.50	1.50	2.30	12.7	38.1	58.4	VSX60MD35-1C	
			48V	36V	75V	1.5kV	90%								0.50	1.50	2.30	12.7	38.1	58.4	VSX60MD35C	
	15/15A	75W	24V	18V	36V	1.5kV	87%								0.53	2.40	2.30	13.3	61.0	58.4	BCP-5/15-3.3/15-D24-C	BCP-75W
24V			18V	36V	1.5kV	87%								0.53	2.40	2.30	13.3	61.0	58.4	BCP-5/15-3.3/15-D48-C		
5/5V	0.1/0.1A	1W	5V	4.5V	5.5V	1.0kV	70%							0.27	0.39	0.77	6.8	9.8	19.5	NMD050505DC	NMD	
															0.39	0.24	0.77	10.0	6.0	19.5		NMD050505SC
			12V	10.8V	13.2V	1.0kV	70%								0.27	0.39	0.77	6.8	9.8	19.5		NMD120505DC
													0.39	0.24	0.77	10.0	6.0	19.5	NMD120505SC			
5/9V	0.1/0.056A	1W	5V	4.5V	5.5V	1.0kV	80%							0.27	0.39	0.77	6.8	9.8	19.5	NMD050509DC	NMD	
															0.39	0.24	0.77	10.0	6.0	19.5		NMD050509SC
			12V	10.8V	13.2V	1.0kV	80%								0.27	0.39	0.77	6.8	9.8	19.5		NMD120509DC
													0.39	0.24	0.77	10.0	6.0	19.5	NMD120509SC			
5/12V	0.1/0.042A	1W	5V	4.5V	5.5V	1.0kV	80%							0.27	0.39	0.77	6.8	9.8	19.5	NMD050512DC	NMD	
															0.39	0.24	0.77	10.0	6.0	19.5		NMD050512SC
			12V	10.8V	13.2V	1.0kV	80%								0.27	0.39	0.77	6.8	9.8	19.5		NMD120512DC
													0.39	0.24	0.77	10.0	6.0	19.5	NMD120512SC			
5/15V	0.1/0.034A	1W	5V	4.5V	5.5V	1.0kV	80%							0.27	0.39	0.77	6.8	9.8	19.5	NMD050515DC	NMD	
															0.39	0.24	0.77	10.0	6.0	19.5		NMD050515SC
			12V	10.8V	13.2V	1.0kV	80%								0.27	0.39	0.77	6.8	9.8	19.5		NMD120515DC
													0.39	0.24	0.77	10.0	6.0	19.5	NMD120515SC			



# Triple Output Isolated DC/DC Converters



If your challenge is to power an entire mixed-signal, analog/digital, system partition from a single dc source voltage, Murata Power Solutions' high-quality, triple-output DC/DC converters can provide your total solution.

Operating from inputs as low as 4.7V or as high as 75V, each of these full-featured power

converters offers a 3.3V or 5V primary output (with current as high as 30 Amps) and either ±12V or ±15V auxiliary outputs (with currents as high as ±4.2 Amps).

Our versatile offering includes: the industry's smallest triples (1 x 2 inches, 25 x 50mm) at 8-22W power levels; slightly larger, wide-input (9-36V and 18-75V) devices at

20-30 Watt levels; and traditional 1/2-bricks at 100 Watts. One unique product offers 24, 48 and 72V outputs.

Before you buy two or three DC/DC converters to accomplish your task, see if a single 3-output device from Murata Power Solutions does the job.

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style							Package Dimensions						Further Information	
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>	
								1/8	1/4					1/2	H	W	D	H	W			D
3.3/±12V	4±0.3A	20W	12V	10V	18V	1.5kV	85%						0.49	2	1	12.5	50.8	25.4	TWR-3.3/4-12/300-D12-C	TWR-22W		
	4.25±0.63A	30W	24V	18V	36V	1.5kV	86%						0.50	2	2	12.7	50.8	50.8	TWR-3.3/4250-12/625-D24-C	TWR-30W		
			48V	36V	75V	1.5kV	87%						0.50	2	2	12.7	50.8	50.8	TWR-3.3/4250-12/625-D48-C			
3.3/±15V	4±0.25A	21W	24V	18V	36V	1.5kV	86%						0.49	2	1	12.5	50.8	25.4	TWR-3.3/4-15/250-D24-C	TWR-22W		
	4.25±0.5A	30W	48V	36V	75V	1.5kV	87%						0.49	2	1	12.5	50.8	25.4	TWR-3.3/4-15/250-D48-C	TWR-30W		
			24V	18V	36V	1.5kV	86%							0.50	2	2	12.7	50.8	50.8		TWR-3.3/4250-15/500-D24-C	
			48V	36V	75V	1.5kV	87%						0.50	2	2	12.7	50.8	50.8	TWR-3.3/4250-15/500-D48-C			
3.3/12/12V	18/2.5/2.5A	60W	24V	18V	40V	1.5kV	86%						0.50	2.4	2.3	12.7	61	58.42	VKP60LT312C	VKP60XT		
3.3/15/15V	18/2.5/2.5A	60W	24V	18V	40V	1.5kV	86%						0.50	2.4	2.3	12.7	61	58.42	VKP60LT315C	VKP60XT		
5/±12V	1±0.13A	8W	5V	4.7V	7V	1.5kV	76%						0.38	2	1	9.5	50.8	25.4	TWR-5/1000-12/125-D5A-C	TWR8-11W		
			12V	9V	18V	1.5kV	82%							0.38	2	1	9.5	50.8	25.4		TWR-5/1000-12/210-D12A-C	
	1±0.21A	8W	24V	18V	36V	1.5kV	84%						0.38	2	1	9.5	50.8	25.4	TWR-5/1000-12/210-D24A-C		TWR12-15W	
			48V	36V	72V	1.5kV	85%							0.38	2	1	9.5	50.8	25.4			TWR-5/1000-12/210-D48A-C
	1.2±0.25A	12W	48V	18V	72V	1.5kV	81%							0.45	2	2	11.4	50.8	50.8		TWR-5/1200-12/250-D48A-C	TWR 20W A-SERIES
			48V	18V	72V	1.5kV	79%							0.45	2	2	11.4	50.8	50.8		TWR-5/1500-12/250-D48A-C	
	3±0.5A	20W	24V	9V	36V	1.5kV	82%							0.45	2	2	11.4	50.8	50.8	TWR-5/3000-12/500-D12A-C	TWR-22W	
			48V	18V	75V	1.5kV	83%							0.45	2	2	11.4	50.8	50.8	TWR-5/3000-12/500-D48A-C		
	3±0.3A	22W	12V	10V	18V	1.5kV	85%							0.49	2	1	12.5	50.8	25.4	TWR-5/3-12/300-D12-C	TMP25-40W	
			24V	18V	36V	1.5kV	86%							0.49	2	1	12.4	50.8	25.4	TWR-5/3-12/300-D24-C		
			48V	36V	75V	1.5kV	87%							0.49	2	1	12.5	50.8	25.4	TWR-5/3-12/300-D48-C		
	5±1A	25W	24V	10V	36V	1.5kV	84%							0.55	3	2	14	77.2	51.8	TMP-5/5-12/1-Q12-C	TWR-22W	
48V			18V	75V	1.5kV	86%							0.55	3	2	14	77.2	51.8	TMP-5/5-12/1-Q48-C			
24V			18V	36V	1.5kV	85%							0.55	3	2	14	77.2	51.8	TMP-5/5-12/1-D24-C			
48V			36V	75V	1.5kV	86%							0.55	3	2	14	77.2	51.8	TMP-5/5-12/1-D48-C			
5/±15V	0.8±0.15A	9W	5V	4.7V	7V	1.5kV	74%						0.38	2	1	9.5	50.8	25.4	TWR-5/800-15/150-D5A-C	TWR8-11W		
			12V	9V	18V	1.5kV	82%							0.38	2	1	9.5	50.8	25.4		TWR-5/1000-15/200-D12A-C	
	1±0.2A	11W	48V	36V	72V	1.5kV	84%						0.38	2	1	9.5	50.8	25.4	TWR-5/1000-15/200-D48A-C		TWR12-15W	
			24V	18V	36V	1.5kV	84%							0.38	2	1	9.5	50.8	25.4			TWR-5/1000-15/200-D24A-C
	1±0.25A	11W	48V	18V	72V	1.5kV	80%							0.45	2	2	11.4	50.8	50.8		TWR-5/1000-15/250-D48A-C	TWR 20W A-SERIES
			48V	18V	72V	1.5kV	81%							0.45	2	2	11.4	50.8	50.8		TWR-5/1500-15/250-D48A-C	
	3±0.5A	20W	24V	9V	36V	1.5kV	82%							0.45	2	2	11.4	50.8	50.8	TWR-5/3000-15/500-D12A-C	TWR-22W	
			48V	18V	75V	1.5kV	82%							0.45	2	2	11.4	50.8	50.8	TWR-5/3000-15/500-D48A-C		
	3±0.25A	20W	24V	18V	36V	1.5kV	86%							0.49	2	1	12.5	50.8	25.4	TWR-5/3-15/250-D24-C	TWR-22W	
48V			36V	75V	1.5kV	87%							0.49	2	1	12.5	50.8	25.4	TWR-5/3-15/250-D48-C			
3±0.25A	23W	12V	10V	18V	1.5kV	85%							0.49	2	1	12.5	50.8	25.4	TWR-5/3-15/250-D12-C			
5/±15V	5±1A	40W	24V	10V	36V	1.5kV	85%							0.55	3	2	14	77.2	51.8	TMP-5/5-15/1-Q12-C	TWR-22W	
			48V	18V	75V	1.5kV	85%							0.55	3.04	2.04	14	77.2	51.8	TMP-5/5-15/1-Q48-C		
			24V	18V	36V	1.5kV	86%							0.55	3.04	2.04	14	77.2	51.8	TMP-5/5-15/1-D24-C		
			48V	36V	75V	1.5kV	85%							0.55	3.04	2.04	14	77.2	51.8	TMP-5/5-15/1-D48-C		

Output Characteristics			Input Voltage			Isolation	Efficiency	Package Style						Package Dimensions						Further Information	
Rated Output Voltages	Rated Output Currents	Total Output Power	Nom.	Min.	Max.			Bricks		SM	TH	DIP	SIP	Inches			mm			Part Number <i>Note: Root part numbers may be shown. Please refer to datasheets for available options.</i>	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
								1/8	1/4					H	W	D	H	W	D		
5/12/12V	12/2.5/2.5A	60W	24V	18V	40V	1.5kV	87%					0.50	2.4	2.3	12.7	61.0	58.4	VKP60LT512C	VKP60XT		
												0.50	2.4	2.3	12.7	61.0	58.4	IHB60T240512C	IHB60TC		
5/15/15V	12/2/2A	60W	24V	18V	40V	1.5kV	87%					0.50	2.4	2.3	12.7	61.0	58.4	VKP60LT515C	VKP60XT		
24/48/72V	42/21/14mA	3W	5V	4.5V	5.5V	1.0kV	85%					0.44	0.30	0.86	11.1	7.5	21.8	NMT0572SC	NMT		
			12V	10.8V	13.2V	1.0kV	85%					0.44	0.30	0.86	11.1	7.5	21.8	NMT1272SC			

# Processor Support

Powering next generation 32-Bit and 64-Bit processors is becoming more demanding, requiring lower output voltages, higher currents, and higher di/dts.

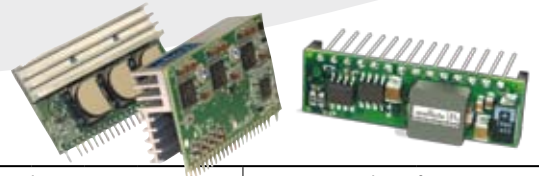
Our VRM products are designed to meet and exceed the performance demanded

by the next generation processors and are available in a variety of packages for an optimal fit in systems <1U to 2U with innovative open-frame designs that allow for better thermal management in today's system environments.



Output Characteristics				Input Voltage			Efficiency	Package Style					Package Dimensions						Further Information	
VRM Spec	Thermal Design Current	Max. Output Current	Output Voltage Range (VDC)	Nom.	Min.	Max.		Card Edge	Height				Inches			mm			Part Number	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
									<1U	1U	1.5U	2U	H	W	D	H	W	D		
Intel® 11.1	80A	70A	0.5-1.6	12	11.04	12.6	87%					0.78	3.66	0.75	19.81	92.96	19.05	VR111B080CA-C	VR111 Series (Fall 2008)	
	150A	130A	0.5-1.6	12	11.04	12.6	87%					1.18	3.80	0.87	29.97	96.52	22.10	VR111B150CU-C		
												1.86	3.80	1.00	47.24	96.52	25.40	VR111B150CL-C		
												2.50	3.80	0.87	63.50	96.52	22.10	VR111B150CS-C		
Intel® 11.0	80A	70A	0.8375-1.6	12	11.04	12.6	88%					0.78	3.66	0.75	19.81	92.96	19.05	VR110B080CA-1C	VR110 Series	
	150A	130A	0.8375-1.6	12	11.04	12.6	84%					1.18	3.80	0.475	29.97	96.52	12.07	VR110B080CU-1C		
												1.18	3.80	0.87	29.97	96.52	22.10	VR110B150CU-1C		
												1.86	3.80	1.00	47.24	96.52	25.40	VR110B150CL-1C		
				2.50	3.80	0.87	63.50	96.52	22.10	VR110B150CS-1C										
Intel® 10.1/10.2	150A	130A	0.8375-1.6	12	11.04	12.6	85%					1.18	3.80	0.87	29.97	96.52	22.10	VR102B150CU-3C	VR102 Series	
											2.50	3.80	0.87	63.50	96.52	22.10	VR102B150CS-2C			
AMD® K8	80A	70A	0.80-1.55	12	11.2	13.2	85%					1.16	3.80	1.00	29.46	96.52	25.40	VRK81B080CU-1C	VRK81 Series	
	100A	80A	0.80-1.55	12	11.2	13.2	85%					2.12	3.80	0.80	53.85	96.52	20.32	VRK81B0100CS-1C		
												0.42	2.73	2.22	10.54	69.34	56.39	VRK81B100TH-4C		

# Memory Support



Output Characteristics			Input Voltage			Efficiency	Package Style					Package Dimensions						Further Information		
DDR Spec	Max. Output Current	Output Voltage Range (VDC)	Nom.	Min.	Max.		Card Edge	SIP	Height				Inches			mm			Part Number	Datasheet Available at <a href="http://www.murata-ps.com">www.murata-ps.com</a>
									<1U	1U	1.5U	2U	H	W	D	H	W	D		
DDR Termination	9A	0.7-1.45	3.3	3	5.5	83%						0.50	1.60	0.35	12.70	40.64	8.89	DDR-9-W3-C	DDR Series	
													0.35	1.60	0.50	8.89	40.64	12.70		DDR-9-W3H-C
DDR1, DDR2, DDR3	60A	0.6-3.5	12	10.2	13.2	88%						1.25	2.40	0.38	31.75	60.96	9.53	VCN60BADJTU-1C	VCN60/70 Series	
	70A	0.6-3.5	12	10.2	13.2	87%						1.25	2.40	0.66	31.75	60.96	16.76	VCN70BADJTU-1C		

# Other products from Murata Power Solutions...

## Digital Panel Meters

From standard, off-the-shelf products to application specific designs, our DATEL digital panel meters are a versatile and cost-effective solution for a number of applications.



### General Purpose Voltmeters

12-pin, dual-in-line package offering component-like "plug-in" convenience for pc-board mounting and a built-in bezel for easy panel mounting.



### 2-Wire Meters

Power your measuring instrument with the signal you're measuring! Measure the voltage at a standard USA-style wall outlet simply by "plugging in" an AC line monitor.



### Process Monitors

4/20mA and 0-10V process control monitors

### AC Ammeters

Directly measure AC currents from 0-2A to 0-100A

### DC Ammeters

Include built-in shunts, reverse-polarity protection, and connections for all supply and load wiring

## Magnetics

Two essential elements of the vast majority of power electronics applications are filtering and isolation. Whether you need to reduce noise or protect vital components, Murata Power Solutions can offer a wide range of products to suit your requirements.



### Inductors & Transformers

Over 800 highly advanced and optimized inductor and transformer solutions with the emphasis on miniaturization, reliability, and ease of handling. These power oriented designs comprise the following through-hole & surface-mount products:

- Inductors
- Common-mode chokes
- Pulse transformers (general purpose/digital audio/silicon support)
- Current sense transformers
- Agency approved transformers
- Databus isolators
- Custom designs



### DC/DC Converter Filters

To reduce differential and common mode noise

## AC/DC Power Supplies

Murata Power Solutions can develop AC/DC power supplies to meet almost every possible application requirement in terms of power, performance, efficiency, protection, size, approvals compliance, and cooling requirements.



### Front End Modules for DPAs

AC to 12VDC or 48VDC ultra compact front end supplies for distributed power architectures with active power factor correction



### Open Frame

High-efficiency 200-400W single, dual, and triple output solutions in 1U chassis



### CompactPCI

High-efficiency 3U and 6U solutions from 150W to 500W including space-saving 4HP models



### CATV / Telco

Ultra-reliable, ruggedized power supplies for harsh CATV and Telecommunications

### High-Rel

Our Celab division has over 30 years' experience designing and producing custom power supplies.

### Custom Solutions

Custom product solutions from 7W to 5kW

## Hybrid Technologies

Our leadership status in high-performance data acquisition components is unchallenged in the areas of electrical performance, small packaging, and low-power consumption.



### Electronic Imaging

Resolution from 8 to 18-bits and sampling rates 20MSPS, low-cost commercial and High-Rel versions



### A/D Converters

### Sampling A/D Converters

Ideal for high-end applications such as medical or life-science imaging, analytical instrumentation, and military pulse and spread-spectrum applications



### Digital-to-Analog Converters

Settling times to 20 nanoseconds, update rates to 100MHz



### Sample/Hold Amplifiers

Accuracies from 0.01% to 0.0008% (12 to 16 bit equivalent resolution)



### Single-Package Data Acquisition

Multi-channel with differential or single-ended options

### Multiplexers

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<sup>1</sup> Safety Critical Component means any component whose failure to perform could cause the failure of, or affect the operation of a Life Support Device.

<sup>2</sup> Life Support Device means any device, system or ancillary equipment intended for implant into the body or used in relation to supporting or sustaining life.

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