S12P100

HY ELECTRONIC (CAYMAN) LIMITED www.hygroup.com.tw **Low VF=0.46V at IF=6A**

SCHOTTKY BARRIER RECTIFIERS	REVERSE VOLTAGE 100 Volts FORWARD CURRENT 12 Amperes

FEATURES

- Very low profile - typical hight of 1.1mm
- Ideal for automated placement
- Trench Schottky Technology
- High current capability,low VF
- High efficiency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260℃
- Fcompliant to RoHS Directive 2002/95/EC and accordance to WEEE 2002/96/EC
- For use in low voltage,high frequency inverters,free wheeling,**switching power supplies, DC-DC converter**,and polarity protection applications

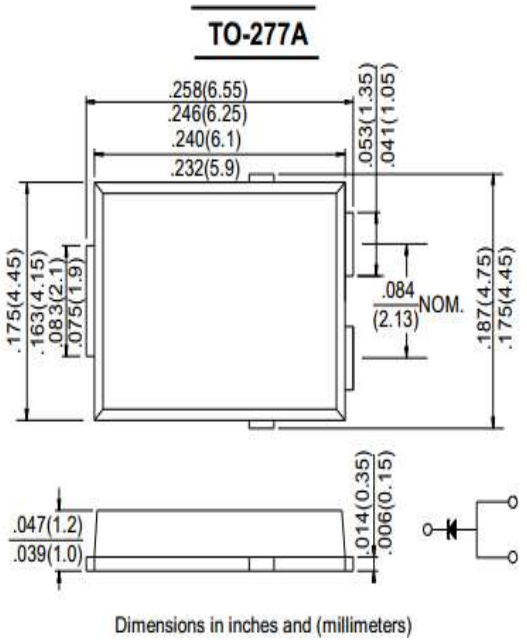
MECHANICAL DATA

- Case: TO-277A (SMPC)

Molding compound meets UL 94 V-0 flammability rating

- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

Pb RoHS COMPLIANT



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave ,60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	S12P100	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC Blocking Voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current (See Fig.1)	$I_{(AV)}$	12	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load	I_{FSM}	150	A
Peak repetitive reverse current at tp = 2 μs, 1 kHz	I_{RRM}	1	A
Operating Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +175	℃

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER / CONDITIONS	SYMBOL	Typ	Max	UNIT
Breakdown voltage per diode	V_{BR}	100 (minimun)	-	V
Forward Voltage (Note1) IF=6A @TJ=25℃ IF=6A @TJ=125℃ IF=12A @TJ=25℃ IF=12A @TJ=125℃	V_F	0.51 0.46 0.62 0.57	0.57 0.49 0.71 0.62	V
Maximum DC Reverse Current @TJ=25℃ at Rated DC Bolcking Voltage @TJ=125℃	I_R	198 40		uA mA
Typical Junction Capacitance (Note2)	C_J	747		pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	Typ S12P100	UNIT
Thermal Resistance Per Diode (Note3)	RθJL	4.0	℃/W

NOTES:1.300us pulse width,2% duty cycle.
2.Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3.Thermal resistance junction to case.

Rev.2, 25-Apr-2017

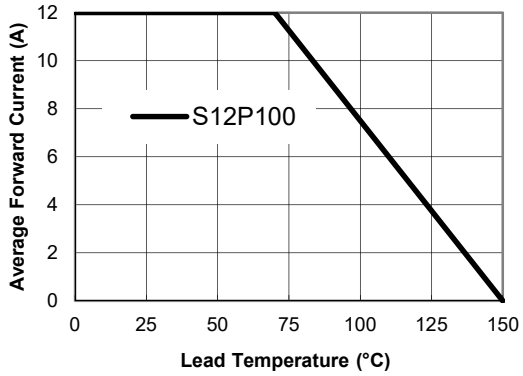


Figure 1. Forward Current Derating Curve

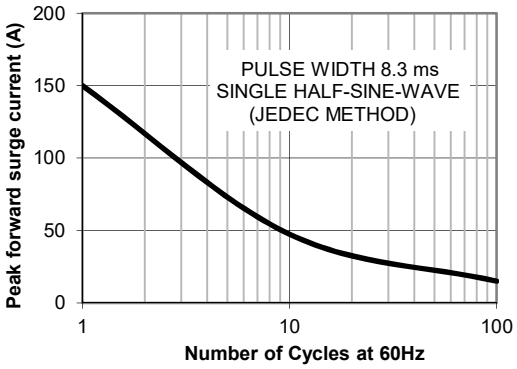


Figure 2. Maximum NON-Repetitive

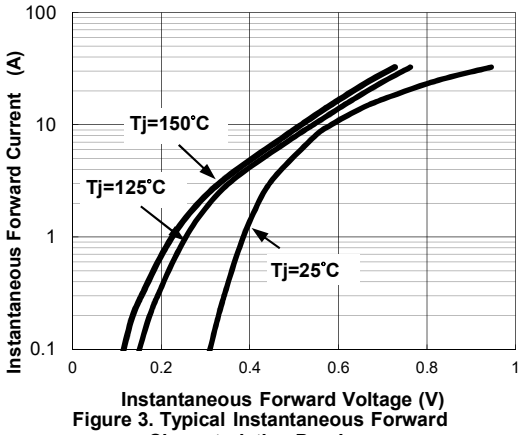


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

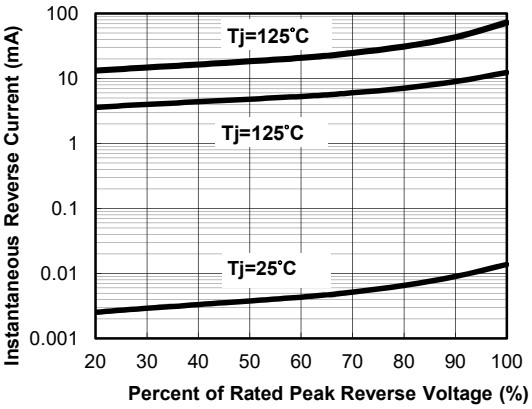


Figure 4. Typical Reverse Characteristics

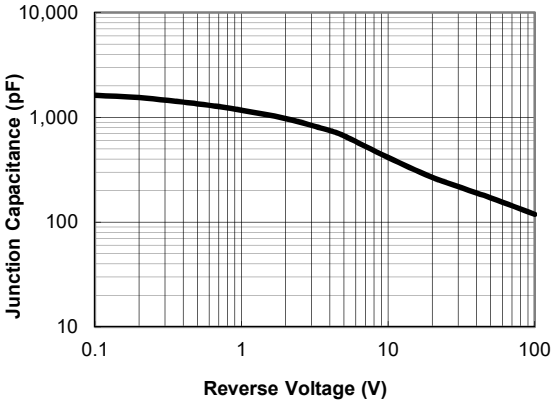


Figure 5. Typical Junction Capacitance

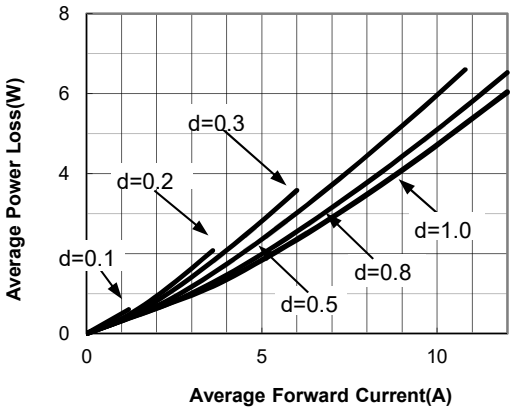


Figure 6. Forward Power Loss Characteristics

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