TLL Series

• 105℃ 10,000Hrs assured.

- Non-solvent proof.
- Long Life.
- For SMPS, Inverter.
- RoHS compliant.
- Halogen-free capacitors are also available.

TLB → TLL
Long Life, Low Temp.

SPECIFICATIONS

Item	Characteristics
Rated Voltage Range	200 ~ 500 VDC
Operating Temperature Range	-40 ~ +105℃
Capacitance Tolerance	±20%(M) (at 20℃, 120Hz)
Leakage Current	I = 3 $\sqrt{CV}$ or 3mA, Whichever is smaller. Where, I:Leakage Current(μA), C:Nominal capacitance(μF), V:Rated voltage(VDC) (at 20℃, 5minutes)
※Dissipation Factor(Tanδ)	Rated voltage(VDC): 200 ~ 500 Tanδ(Max.): 0.20 (at 20℃, 120Hz)
Temperature Characteristics (Max. Impedance ratio)	Rated voltage(VDC): 200~400 / 420~500 Z(-25℃)/Z(20℃): 4 / 8 Z(-40℃)/Z(20℃): 8 / 16 (at 120Hz)
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 10,000 hours at 105℃. Capacitance change ≦ ±25% of the initial value Tanδ ≦ 300% of the initial specified value Leakage current ≦ The initial specified value
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the exposing them at 105℃ for 1,000hours without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≦ ±20% of the initial value Tanδ ≦ 200% of the initial specified value Leakage current ≦ The initial specified value
Others	Satisfied characteristics KS C IEC 60384-4

※For capacitors with CV products >100,000 higher Tanδ value may apply.
When the capacitance exceeds 1,000μF, 0.01 shall be added every 1,000μF increase.

RATED RIPPLE CURRENT

When capacitors are operated in any other conditions at 120Hz the maximum ripple current must be multiplied by the figure shown in the table.

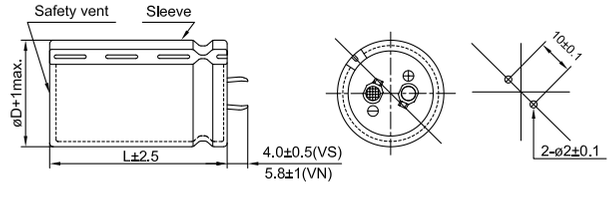
Frequency multiplying factor

VDC \ Freq.(Hz)	60	120	300	1k	10k~
200~250VDC	0.81	1.00	1.17	1.32	1.45
350~500VDC	0.77	1.00	1.16	1.30	1.41

DIMENSIONS OF TLL Series

Unit(mm)

ø D= ø 22~ ø 35 VN/VS type PC board pin-out



Marking : BROWN SLEEVE, SILVER INK
The standard design has no bottom plate.

RATINGS OF TLL Series

VDC	Capacitance (μF)	øD×L(mm)	Rated Ripple Current (Arms/105℃,120Hz)
200	270	25.4×25	1.01
	390	25.4×30	1.24
	470	25.4×35	1.40
	560	25.4×40	1.55
		30×30	1.63
	680	25.4×50	1.87
		30×35	1.80
	820	30×40	2.01
		35×30	2.01
	1000	30×45	2.29
		35×35	2.29
		40×30	2.25
	1200	35×40	2.58
		40×35	2.51
	1500	35×50	3.01
	1800	40×50	3.33
250	330	25.4×30	1.15
	390	25.4×35	1.29
		30×30	1.32
	470	25.4×40	1.49
		30×35	1.51
	560	25.4×50	1.70
		35×30	1.69
	680	30×45	1.97
		35×35	1.92
	820	30×50	2.03
		35×40	2.01
		40×35	1.96
	1000	35×45	2.30
		40×40	2.55
	1200	35×50	2.60
	1500	40×50	3.21
400	100	25.4×25	0.63
	150	25.4×30	0.84
	180	25.4×35	0.97
	220	25.4×40	1.11
	270	25.4×50	1.25
		30×35	1.25
		35×30	1.26
	330	30×40	1.29
		35×35	1.46
	390	30×45	1.58
		40×30	1.53
	470	35×40	1.76
		40×35	1.76
	560	35×50	2.01
		40×40	2.02
	680	40×50	2.29
	820	40×60	2.61

VDC	Capacitance (μF)	øD×L(mm)	Rated Ripple Current (Arms/105℃,120Hz)
450	100	25.4×25	0.59
	120	25.4×30	0.68
	150	25.4×35	0.81
	180	25.4×40	0.93
	220	25.4×45	1.08
		30×40	1.20
	270	35×30	1.17
		30×45	1.21
		35×35	1.19
	330	30×50	1.40
	390	35×40	1.52
	470	35×50	1.79
	560	40×60	2.19
500	68	25.4×30	0.33
	82	25.4×35	0.37
	100	30×30	0.41
	120	25.4×45	0.47
		30×35	0.47
	150	30×40	0.54
		35×30	0.55
	180	30×45	0.61
		35×35	0.62
	220	35×40	0.71
	270	35×50	0.83