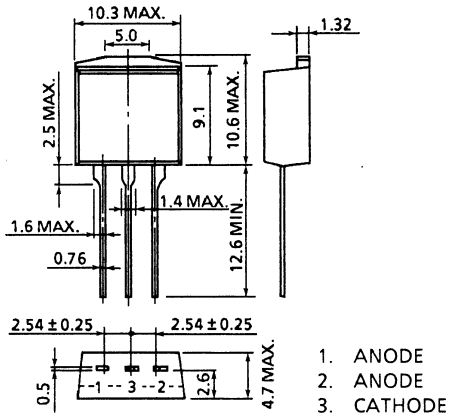
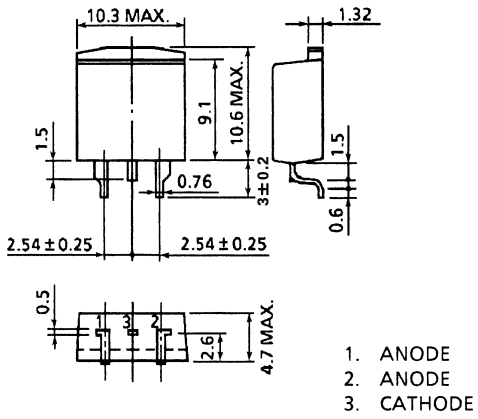
TOSHIBA HIGH EFFICIENCY DIODE STACK (HED) SILICON EPITAXIAL TYPE

10JL2C48A, U10JL2C48A

SWITCHING MODE POWER SUPPLY APPLICATION
CONVERTER and CHOPPER APPLICATION

- Repetitive Peak Reverse Voltage : V_{RRM} = 600V
- Average Output Rectified Current : I_O = 10A
- Ultra Fast Reverse-Recovery Time : t_{rr} = 35ns (Max)
- Low Switching Losses and Output Noise

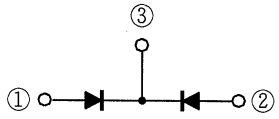
Unit in mm

10JL2C48A	U10JL2C48A
	
JEDEC —	JEDEC —
JEITA —	JEITA —
TOSHIBA 12-10D1A	TOSHIBA 12-10D2A

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Average Output Rectified Current	I_O	10	A
Peak One Cycle Surge Forward Current (Non-Repetitive, Sine Wave)	I_{FSM}	40	A
Junction Temparature	T_j	−40~150	°C
Storage Temparature Range	T_{stg}	−40~150	°C

POLARITY

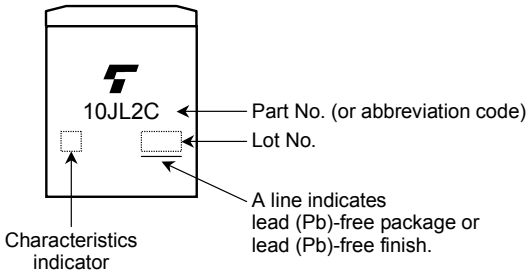


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Peak Forward Voltage	(Note)	V_{FM}	I_{FM} = 5A	—	—	4.0	V
Repetitive Peak Reverse Current	(Note)	I_{RRM}	V_{RRM} = 600V	—	—	50	μA
Reverse Recovery Time	(Note)	t_{rr}	I_F = 2A, di / dt = −20A / μs	—	—	35	ns
Junction Capacitance		C_j	V_R = 10V, f = 1.0MHz	—	36	—	pF
Thermal Resistance		$R_{th\ (j-c)}$	DC Total	—	—	2.5	°C / W

Note: A value of one cell.

MARKING



Abbreviation Code	Part No.
10JL2C	10JL2C48A
10JL2C	U10JL2C48A

Handling Precaution

The maximum ratings denote the absolute maximum ratings, which are rated values and must not be exceeded during operation, even for an instant. The following are the general derating methods that we recommend when you design a circuit with a device.

V_{RRM}: We recommend that the worst case voltage, including surge voltage, be no greater than 80% of the maximum rating of V_{RRM} for a DC circuit and be no greater than 50% of that of V_{RRM} for an AC circuit. V_{RRM} has a temperature coefficient of 0.1%/°C. Take this temperature coefficient into account designing a device at low temperature.

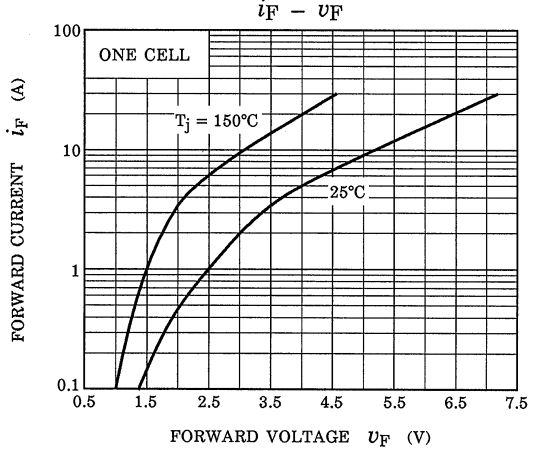
I_O: We recommend that the worst case current be no greater than 80% of the maximum rating of I_O. Carry out adequate heat design. If you can't design a circuit with excellent heat radiation, set the margin by using an allowable Tamax-I_O curve.

This rating specifies the non-repetitive peak current in one cycle of a 50-Hz sine wave, condition angle 180. Therefore, this is only applied for an abnormal operation, which seldom occurs during the lifespan of the device.

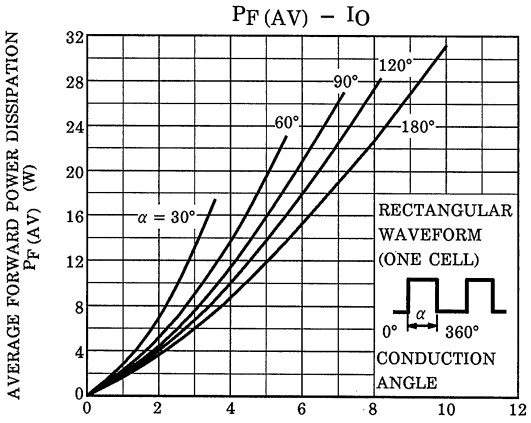
We recommend that a device be used at a Tj of below 120°C under the worst load and heat radiation conditions.

Please refer to the Rectifiers databook for further information.

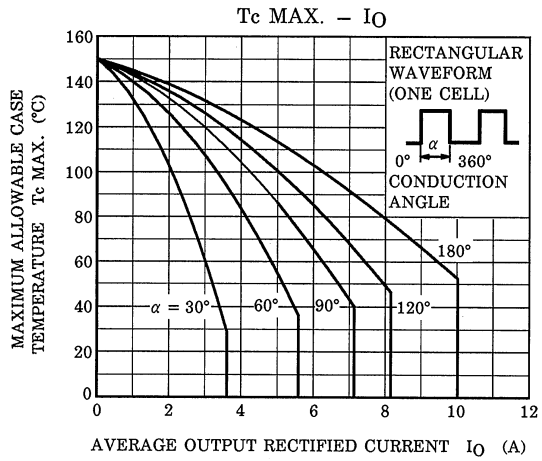
$i_F - v_F$



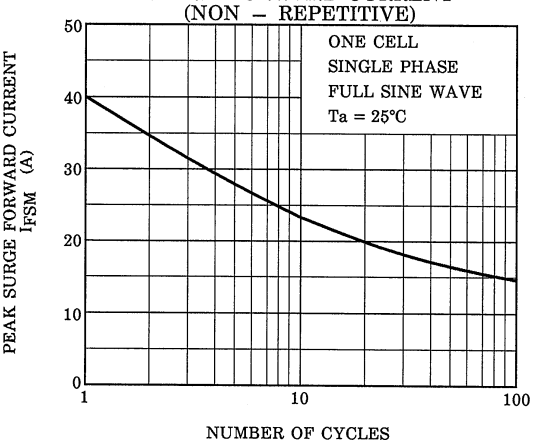
$P_{F(AV)} - I_O$



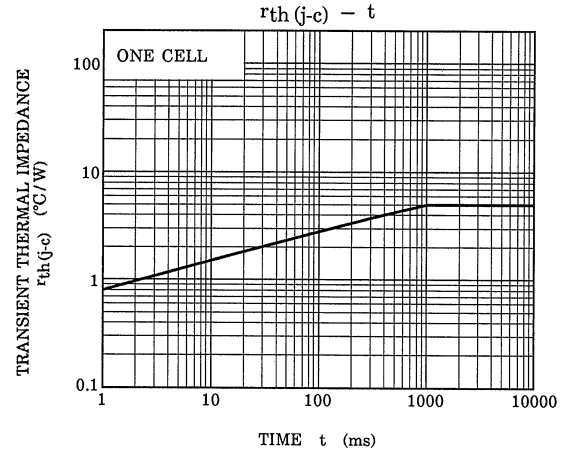
Tc MAX. – I_O



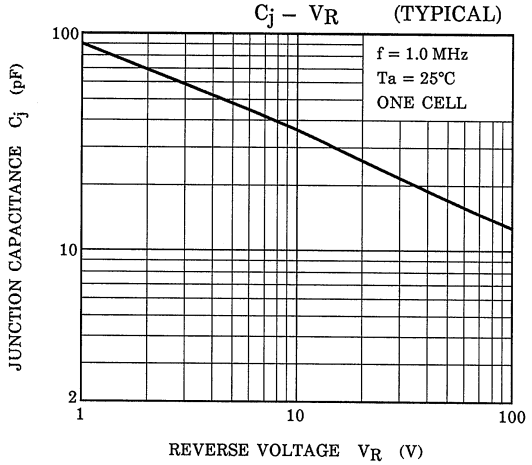
SURGE FORWARD CURRENT (NON – REPETITIVE)



$r_{th(j-c)} - t$



$C_j - V_R$ (TYPICAL)



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