

TOSHIBA Rectifier Silicon Diffused Type

S5688B, S5688G, S5688J, S5688N

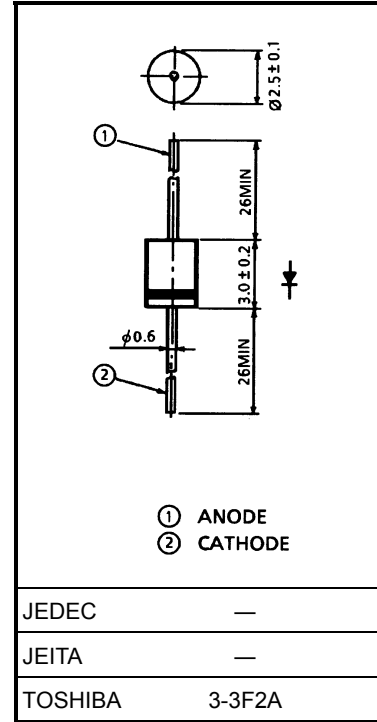
General Purpose Rectifier Application

Unit: mm

- Average forward current: $I_F (AV) = 1.0 \text{ A}$
- Repetitive peak reverse voltage: $V_{RRM} = 100 \text{ V} \sim 1000 \text{ V}$

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Ratings	Unit
Repetitive peak reverse voltage	S5688B	100	V
	S5688G	400	
	S5688J	600	
	S5688N	1000	
Average forward current	$I_F (AV)$	1.0	A
Peak one cycle surge forward current (non repetitive)	S5688B S5688G	45 (50 Hz)	A
		49 (60 Hz)	
	S5688J S5688N	30 (50 Hz)	
		33 (60 Hz)	
Junction temperature	T_j	-40~150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40~150	$^\circ\text{C}$

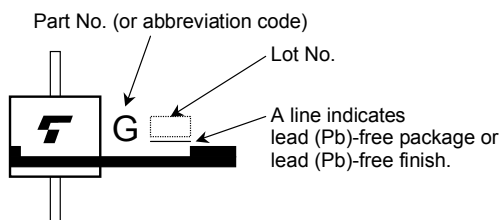


Weight: 0.18 g (typ.)

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test condition	Min	Typ.	Max	Unit
Peak forward voltage	V_{FM}	$I_{FM} = 1.0 \text{ A}$	—	—	1.2	V
Repetitive peak reverse current	I_{RRM}	$V_{RRM} = \text{rated}$	—	—	10	μA

Marking



Abbreviation Code	Part No.
B	S5688B
G	S5688G
J	S5688J
N	S5688N

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.

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

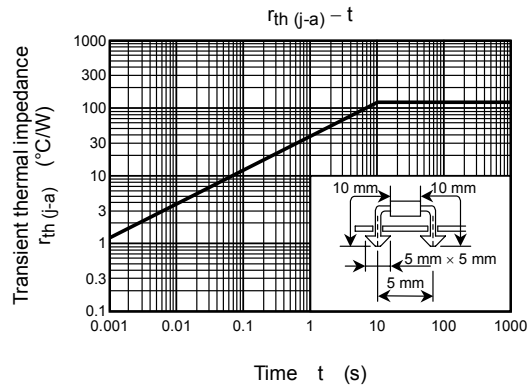
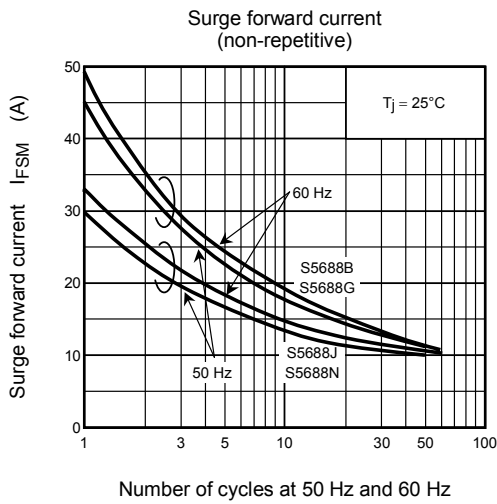
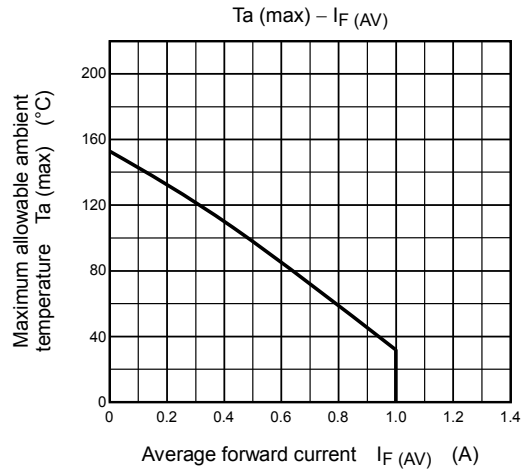
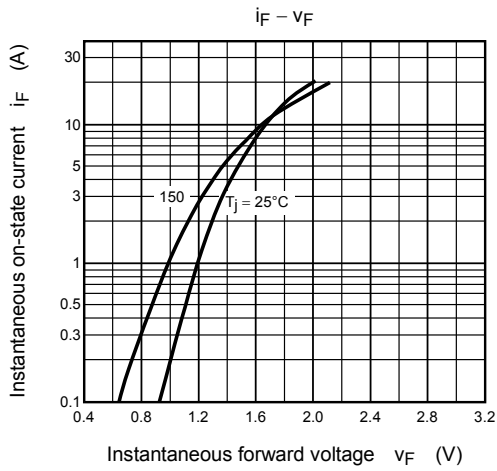
IF(AV): We recommend that the worst case current be no greater than 80% of the maximum rating of IF(AV). Carry out adequate heat design. If you can't design a circuit with excellent heat radiation, set the margin by using an allowable Tamax-IF(AV) curve.

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.

Thermal resistance between junction and ambient fluctuates depending on the device's mounting condition. When using a device, design a circuit board and a soldering land size to match the appropriate thermal resistance value.

Please refer to the Rectifiers databook for further information.



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