

TOSHIBA Schottky Barrier Rectifier Schottky Barrier Type

CRS03

Switching Mode Power Supply Applications

Portable Equipment Battery Applications

- Low forward voltage: $V_{FM} = 0.45 \text{ V (max)}$
- Average forward current: $I_F (AV) = 1.0 \text{ A}$
- Repetitive peak reverse voltage: $V_{RRM} = 30 \text{ V}$
- Suitable for compact assembly due to small surface-mount package
“S-FLAT™” (Toshiba package name)

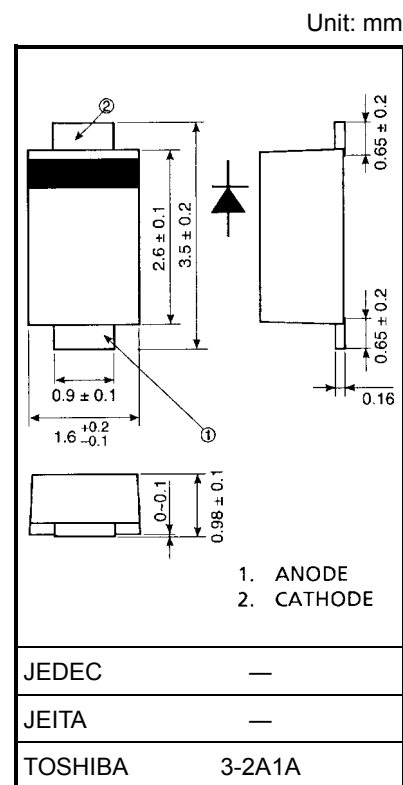
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	30	V
Average forward current	$I_F (AV)$	1.0 (Note)	A
Peak one cycle surge forward current (non-repetitive)	I_{FSM}	20 (50 Hz)	A
Junction temperature	T_j	$-40 \sim 150$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-40 \sim 150$	$^\circ\text{C}$

Note: $T_a = 61^\circ\text{C}$

Device mounted on a glass-epoxy board

(board size: 50 mm × 50 mm, land size: 6 mm × 6 mm)



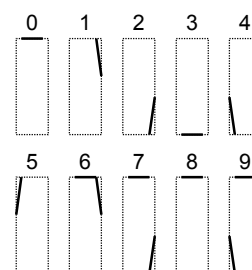
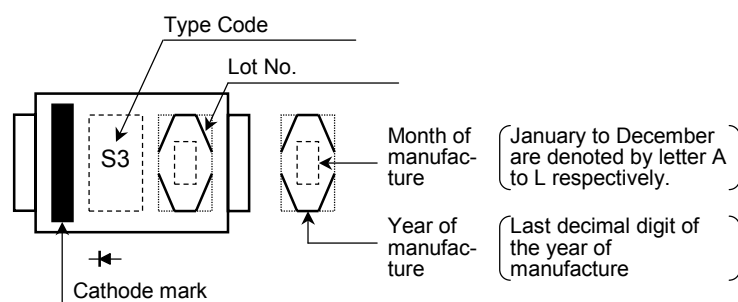
Weight: 0.013 g (typ.)

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

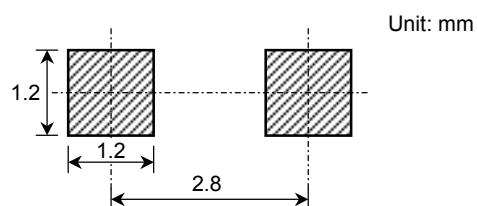
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM} (1)$	$I_{FM} = 0.1 \text{ A}$	—	0.33	—	V
	$V_{FM} (2)$	$I_{FM} = 0.7 \text{ A}$	—	0.425	0.45	
	$V_{FM} (3)$	$I_{FM} = 1.0 \text{ A}$	—	0.45	—	
Repetitive peak reverse current	$I_{RRM} (1)$	$V_{RRM} = 5 \text{ V}$	—	0.5	—	μA
	$I_{RRM} (2)$	$V_{RRM} = 30 \text{ V}$	—	—	100	
Junction capacitance	C_j	$V_R = 10 \text{ V}, f = 1.0 \text{ MHz}$	—	40	—	pF
Thermal resistance (junction to ambient)	$R_{th} (j-a)$	Device mounted on a ceramic board (soldering land: 2 mm × 2 mm)	—	—	70	$^\circ\text{C/W}$
		Device mounted on a glass-epoxy board (soldering land: 6 mm × 6 mm)	—	—	140	
Thermal resistance (junction to lead)	$R_{th} (j-l)$	—	—	—	20	$^\circ\text{C/W}$

Marking

Following Indicates the Date of Manufacture

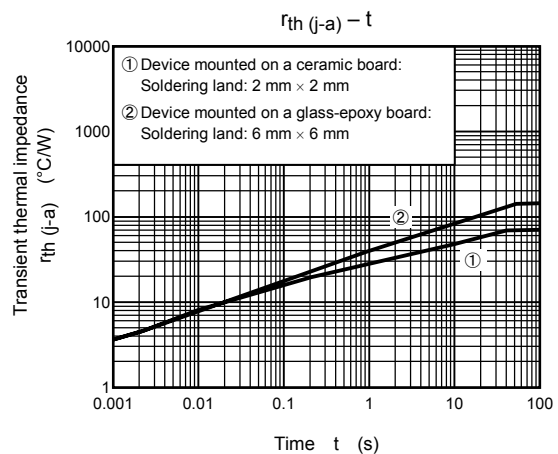
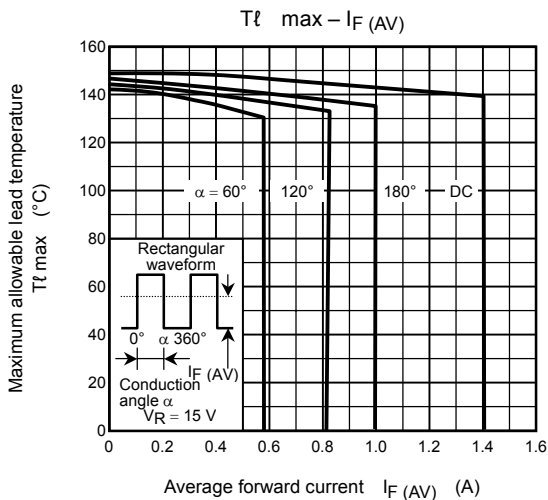
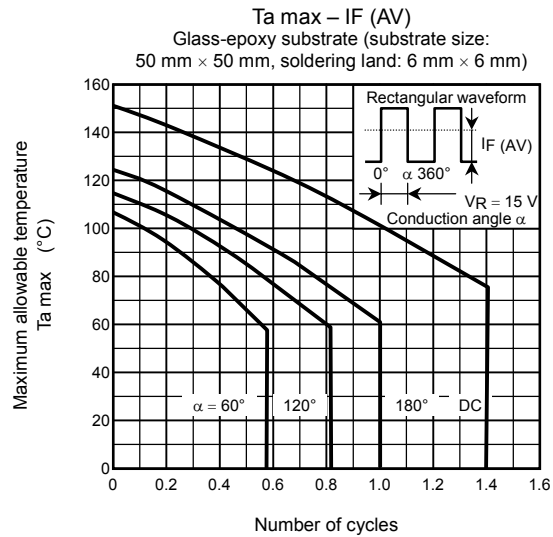
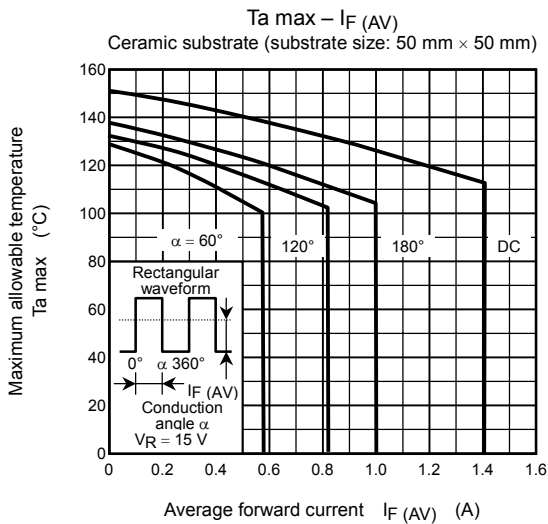
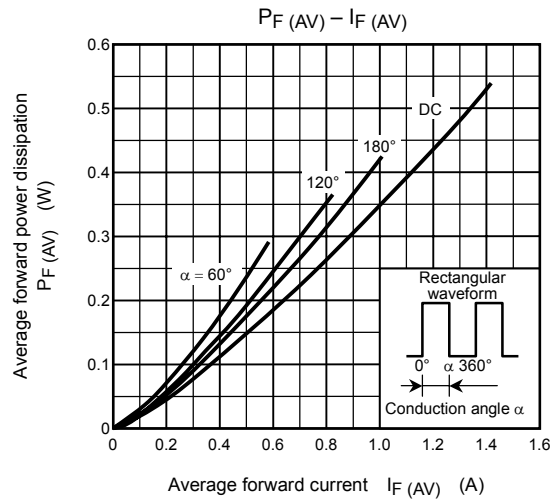
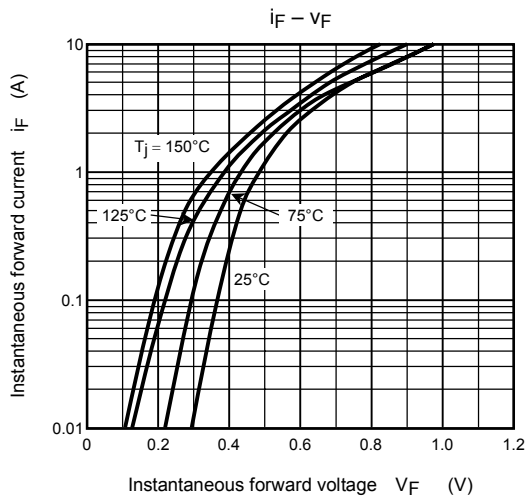


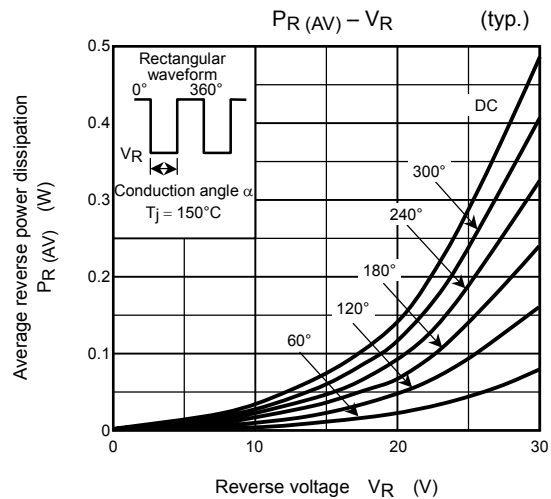
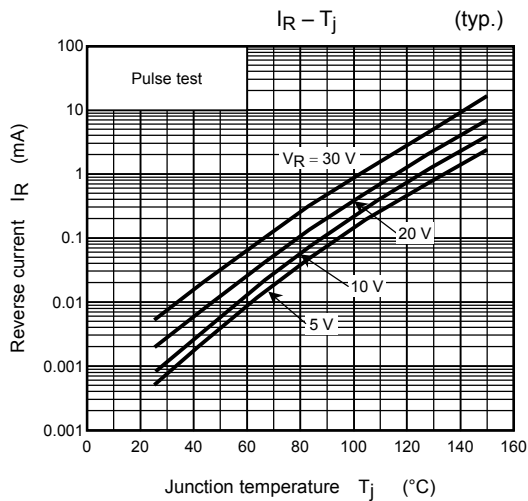
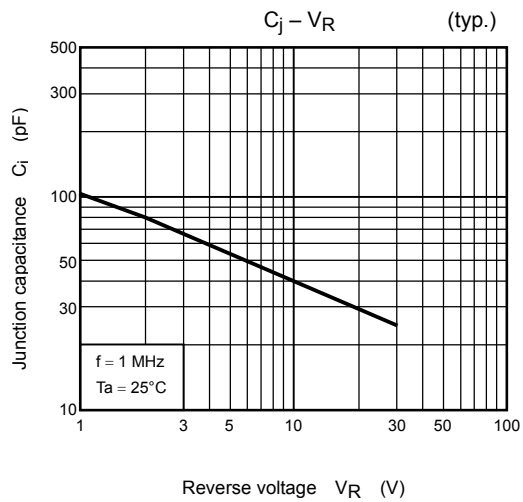
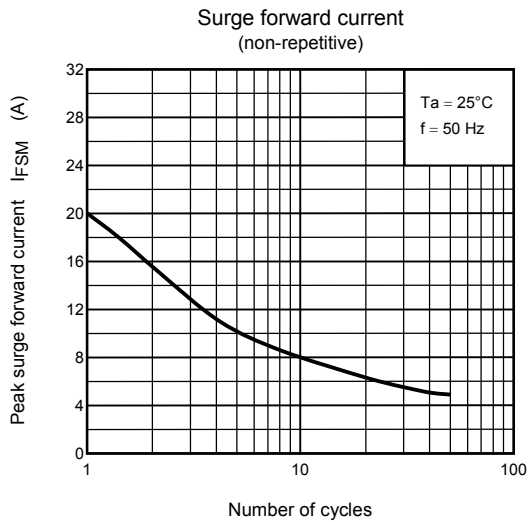
Standard Soldering Pad



Handling Precaution

Schottky barrier diodes are having large reverse current leakage characteristic compare to the other rectifier products. This current leakage and improper operating temperature or voltage may cause thermal runaway. Please take forward and reverse loss into consideration when you design.





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