

TOSHIBA Schottky Barrier Rectifier Trench Schottky Barrier Type

CMS02

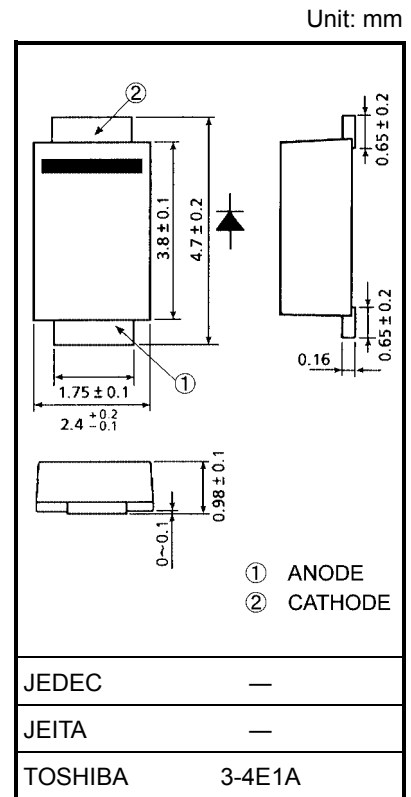
Switching Mode Power Supply Applications
 Portable Equipment Battery Applications

- Forward voltage: $V_{FM} = 0.40 \text{ V (max)}$
- Average forward current: $I_F (AV) = 3.0 \text{ A}$
- Repetitive peak reverse voltage: $V_{RRM} = 30 \text{ V}$
- Suitable for compact assembly due to small surface-mount package
 "M-FLAT™" (Toshiba package name)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	30	V
Average forward current	$I_F (AV)$	3.0 (Note)	A
Peak one cycle surge forward current (non-repetitive)	I_{FSM}	40 (50 Hz)	A
Junction temperature	T_j	-40~125	°C
Storage temperature	T_{stg}	-40~150	°C

Note: $T_l = 89.2^\circ\text{C}$: Rectangular waveform ($\alpha = 180^\circ$), $V_R = 15 \text{ V}$



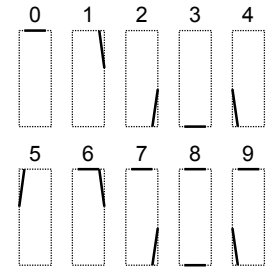
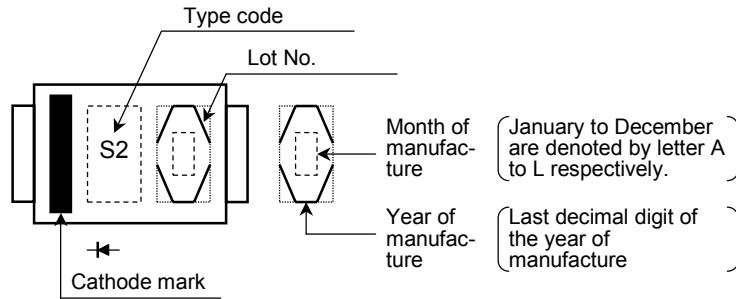
Weight: 0.023 g (typ.)

Electrical Characteristics (Ta = 25°C)

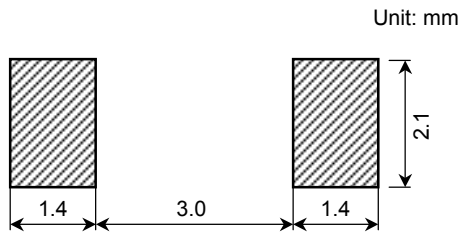
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM} (1)$	$I_{FM} = 0.5 \text{ A}$	—	0.27	—	V
	$V_{FM} (2)$	$I_{FM} = 1.0 \text{ A}$	—	0.30	—	
	$V_{FM} (3)$	$I_{FM} = 3.0 \text{ A}$	—	0.37	0.40	
Repetitive peak reverse current	I_{RRM}	$V_{RRM} = 5 \text{ V}$	—	0.05	—	mA
	I_{RRM}	$V_{RRM} = 30 \text{ V}$	—	0.07	0.5	
Junction capacitance	C_j	$V_R = 10 \text{ V}$, $f = 1.0 \text{ MHz}$	—	170	—	pF
Thermal resistance	$R_{th} (j-a)$	Device mounted on a ceramic board (soldering land: 2 mm × 2 mm)	—	—	60	°C/W
		Device mounted on a glass-epoxy board (soldering land: 6 mm × 6 mm)	—	—	135	
	$R_{th} (j-l)$	—	—	—	16	

Marking

Following Indicates the Data of Manufacture

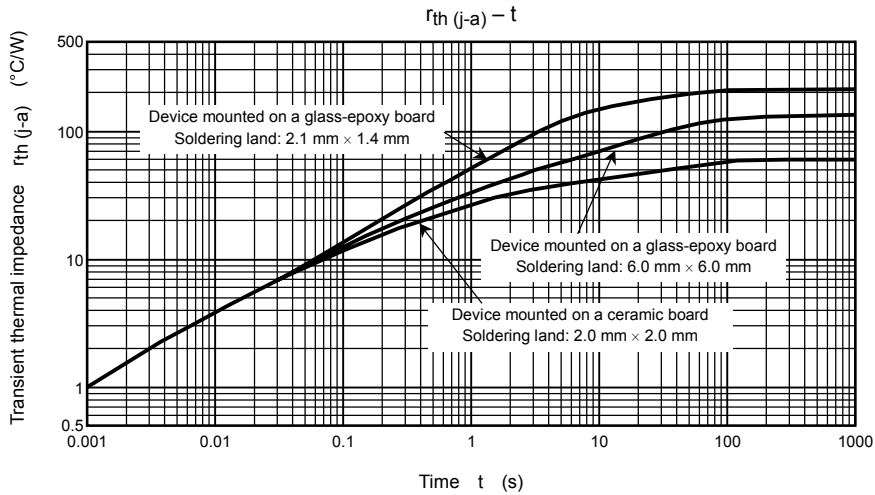
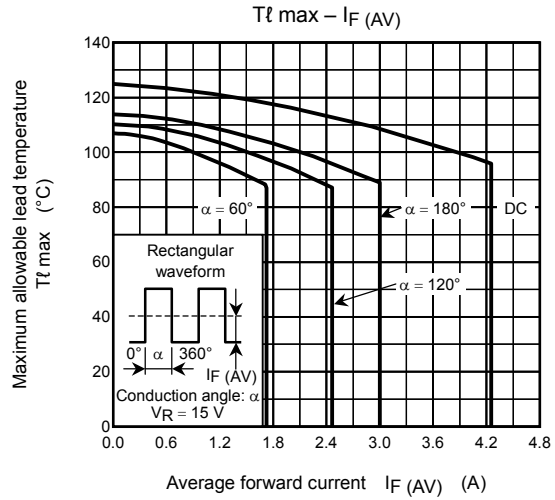
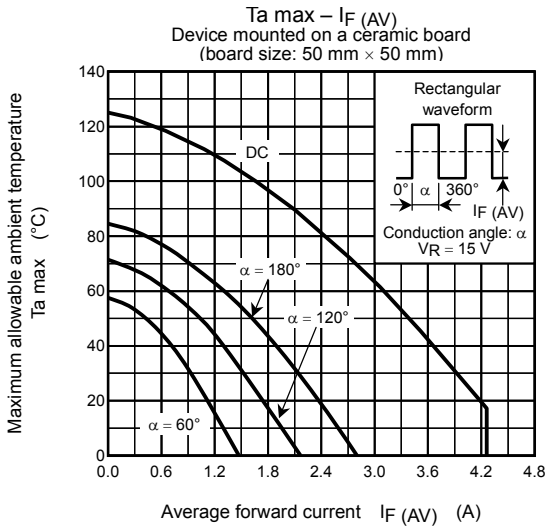
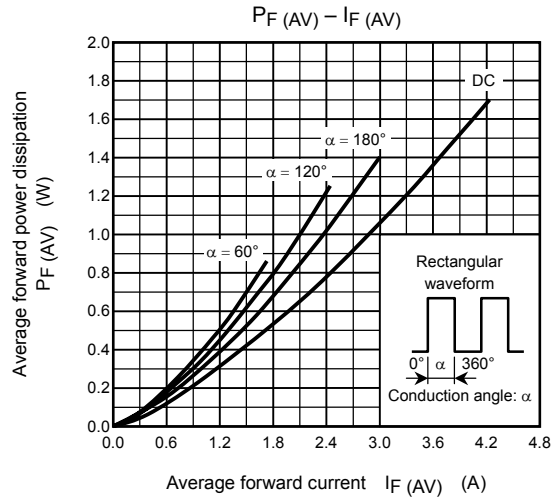
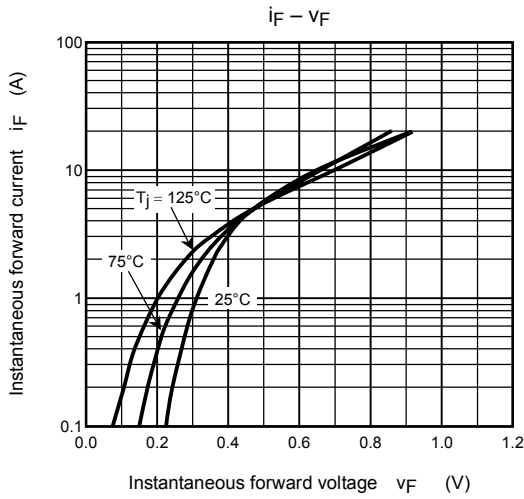


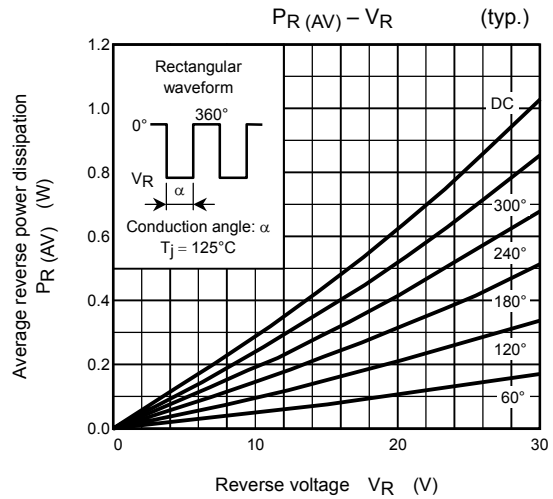
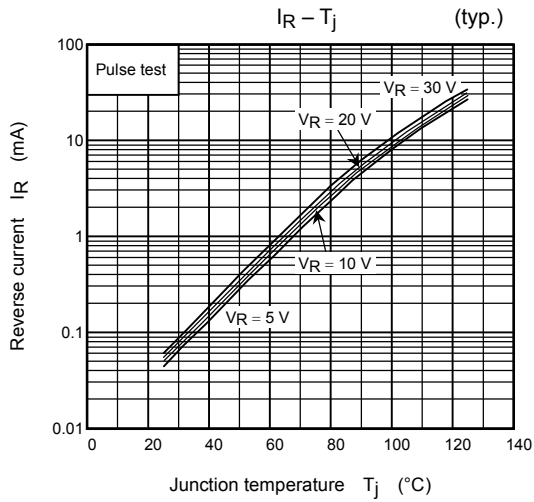
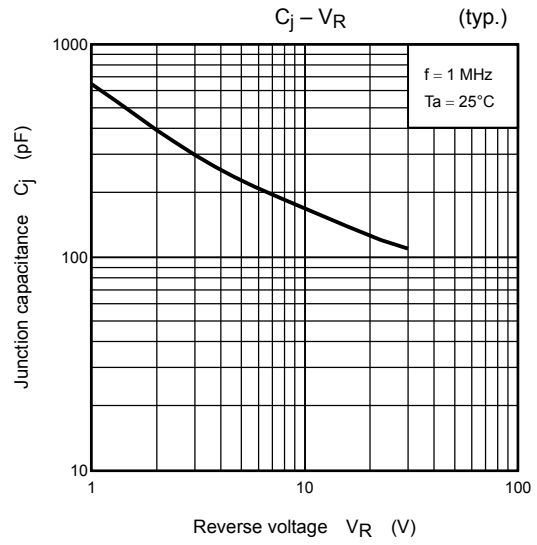
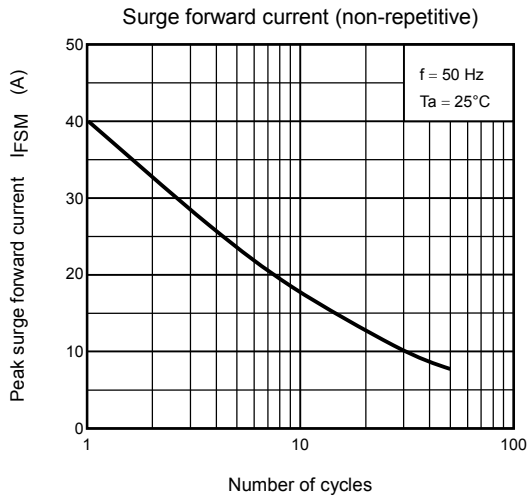
Standard Soldering Pad



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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