

TOSHIBA Schottky Barrier Rectifier Trench Schottky Barrier Type

# CMS02

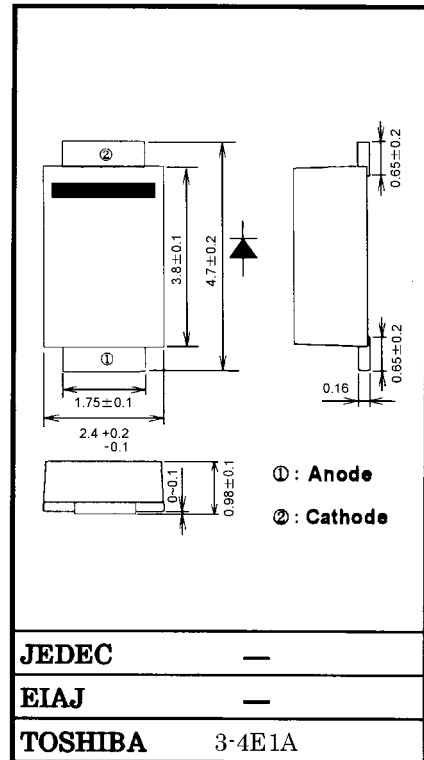
Switching Mode Power Supply Applications  
 Portable Equipment Battery Applications

Unit in mm

- Forward voltage:  $V_{FM} = 0.40 \text{ V (max)}$
- Average forward current:  $I_F (AV) = 3.0 \text{ A}$
- Repetitive peak reverse voltage:  $V_{RRM} = 30 \text{ V}$
- Small & thin package: "M-FLAT<sup>TM</sup>" (Toshiba package name)

## Maximum Ratings

Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Average forward current	$I_F (AV)$	3.0 ( $T_l = 89.2^\circ\text{C}$ )	A
Peak one cycle surge forward current (non-repetitive)	$I_{FSM}$	40 (50 Hz)	A
Junction temperature	$T_j$	-40~125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40~150	$^\circ\text{C}$



## Electrical Characteristics (Ta = 25°C)

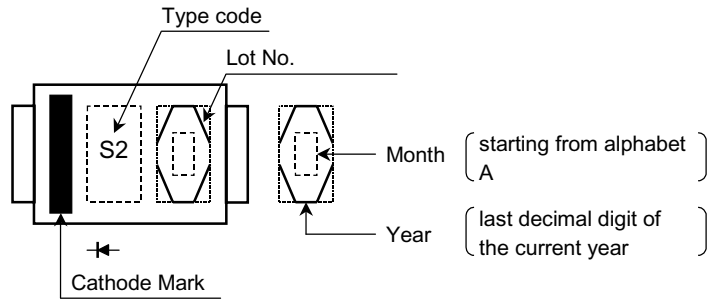
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM} (1)$	$I_{FM} = 0.5 \text{ A}$	—	0.27	—	V
	$V_{FM} (2)$	$I_{FM} = 1.0 \text{ A}$	—	0.30	—	
	$V_{FM} (3)$	$I_{FM} = 3.0 \text{ A}$	—	0.37	0.40	
Repetitive peak reverse current	$I_{RRM}$	$V_{RRM} = 5 \text{ V}$	—	0.05	—	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	$R_{th} (j-a)$	On ceramic substrate (soldering land 2 mm × 2 mm)	—	—	60	$^\circ\text{C/W}$
		On glass-epoxy substrate (soldering land 6 mm × 6 mm)	—	—	135	
	$R_{th} (j-l)$	—	—	—	16	

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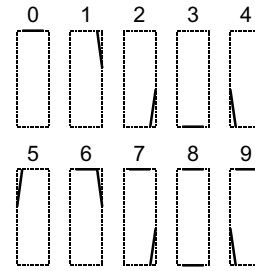
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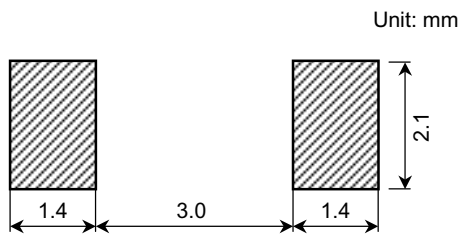
**Marking**



**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 not proper operating temperature or voltage may cause thermal runaway. Please take forward and reverse loss into consideration when you design.

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