

Toshiba Schottky Barrier Rectifier Schottky Barrier Type

# CRS05

Switching Mode Power Supply Applications  
 Portable Equipment Battery Applications

- Forward voltage:  $V_{FM} = 0.45 \text{ V (max)}$
- Average forward current:  $I_{F(AV)} = 1.0 \text{ A}$
- Repetitive peak reverse voltage:  $V_{RRM} = 30 \text{ V}$
- Repetitive peak reverse current:  $I_{RRM} = 5 \mu\text{A (max)}$  @  $V_{RRM} = 5 \text{ V}$
- Small package: "S-FLAT™" (Toshiba package name)

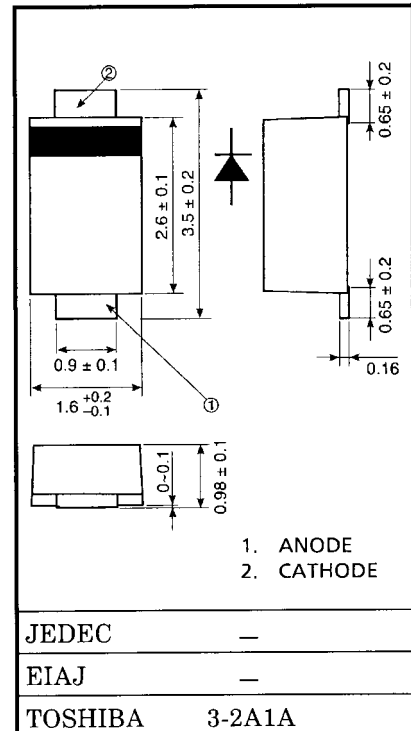
### Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Average forward current	$I_{F(AV)}$ (Note1)	1.0 (Ta = 102°C)	A
	$I_{F(AV)}$ (Note2)	1.0 (Ta = 54.7°C)	
Peak one cycle surge forward current (non-repetitive)	$I_{FSM}$	30 (50 Hz)	A
Junction temperature	$T_j$	-40~150	°C
Storage temperature	$T_{stg}$	-40~150	°C

Note1: On ceramic substrate (substrate size 50 mm × 50 mm, soldering land 2 mm × 2 mm)

Note2: On glass-epoxy substrate (substrate size 50 mm × 50 mm, soldering land 6 mm × 6 mm)

Unit in mm



Weight : 0.013g

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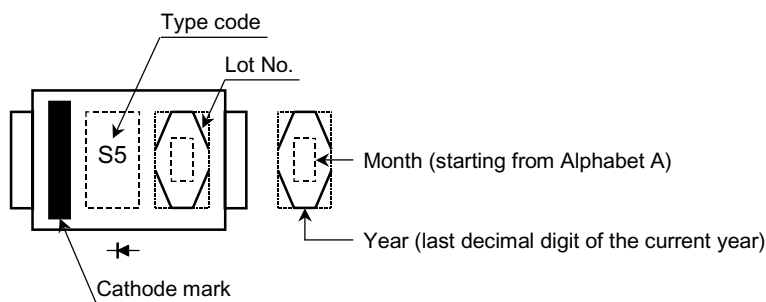
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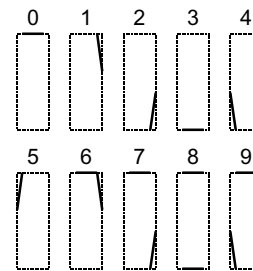
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM(1)}$	$I_{FM} = 0.1 \text{ A}$	—	0.33	—	V
	$V_{FM(2)}$	$I_{FM} = 0.7 \text{ A}$	—	0.40	—	
	$V_{FM(3)}$	$I_{FM} = 1.0 \text{ A}$	—	0.42	0.45	
Repetitive peak reverse current	$I_{RRM(1)}$	$V_{RRM} = 5 \text{ V}$	—	2.0	5.0	$\mu\text{A}$
	$I_{RRM(2)}$	$V_{RRM} = 30 \text{ V}$	—	20	200	
Junction capacitance	$C_j$	$V_R = 10 \text{ V}, f = 1.0 \text{ MHz}$	—	60	—	pF
Thermal resistance	$R_{th(j-a)}$	On ceramic substrate (soldering land 2 mm × 2 mm)	—	—	70	$^{\circ}\text{C/W}$
		On glass-epoxy substrate (soldering land 6 mm × 6 mm)	—	—	140	

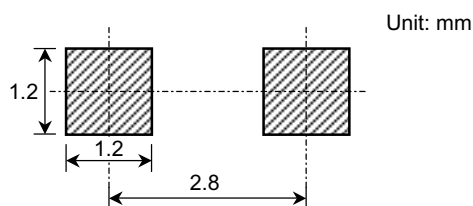
## Marking



## 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 not proper operating temperature or voltage may cause thermal runaway.

Please take forward and reverse loss into consideration when you design.

