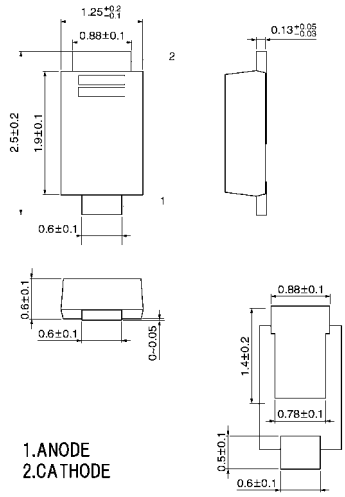
TOSHIBA Schottky Barrier Rectifier Schottky Barrier Type

CUS01

Portable Equipment Battery Application

- Forward voltage: V_{FM} = 0.37 V (max) @I_F = 0.7 A
- Average forward current: $I_{F\ (AV)}$ = 1.0 A
- Repetitive peak reverse voltage: V_{RRM} = 30 V
- Suitable for compact assembly due to small surface-mount package "US−FLAT™" (Toshiba package name)

Unit: mm



JEDEC	—
JEITA	
TOSHIBA	3-2B1A

Weight: 0.004 g (typ.)

Maximum Ratings (Ta = 25°C)

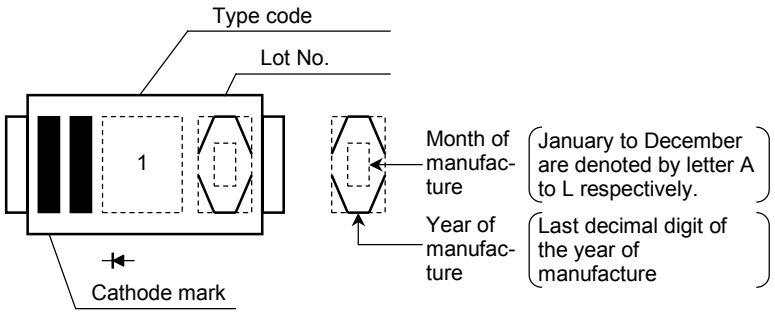
Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	30	V
Average forward current	$I_{F\ (AV)}$	1.0 (Note 1)	A
Peak one cycle surge forward current	I_{FSM}	20 (50 Hz)	A
Junction temperature	T_j	−40 to 125	°C
Storage temperature range	T_{stg}	−40 to 150	°C

Note 1: T_l = 86°C: Rectangular waveform (α = 180°), V_R = 15 V

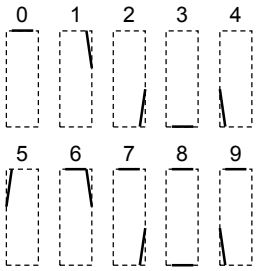
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM\ (1)}$	I_{FM} = 0.1 A	—	0.25	—	V
	$V_{FM\ (2)}$	I_{FM} = 0.7 A	—	0.33	0.37	
	$V_{FM\ (3)}$	I_{FM} = 1.0 A	—	0.39	—	
Repetitive peak reverse current	$I_{RRM\ (1)}$	V_{RRM} = 5 V	—	50	—	μA
	$I_{RRM\ (2)}$	V_{RRM} = 30 V	—	0.5	1.5	mA
Junction capacitance	C_j	V_R = 10 V, f = 1.0 MHz	—	40	—	pF
Thermal resistance (junction to ambient)	$R_{th\ (j\text{-}a)}$	Device mounted on a ceramic board (soldering land: 2 mm × 2 mm)	—	—	75	°C/W
		Device mounted on a glass-epoxy board (soldering land: 6 mm × 6 mm)	—	—	150	
Thermal resistance (junction to lead)	$R_{th\ (j\text{-}l)}$	Junction to lead of cathode side	—	—	30	°C/W

Marking

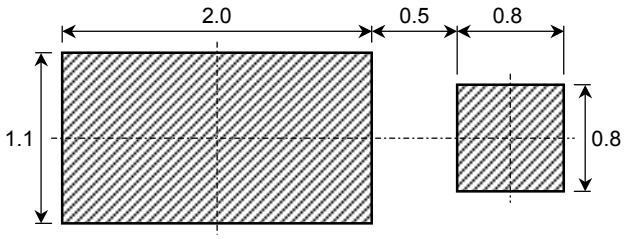


Following Indicates the Date of Manufacture



Standard Soldering Pad

Unit: mm

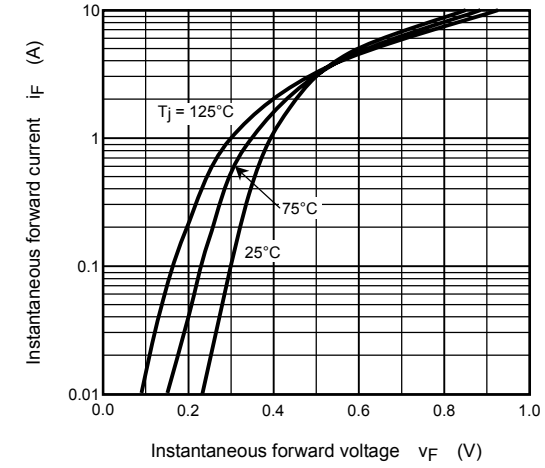


Handling Precaution

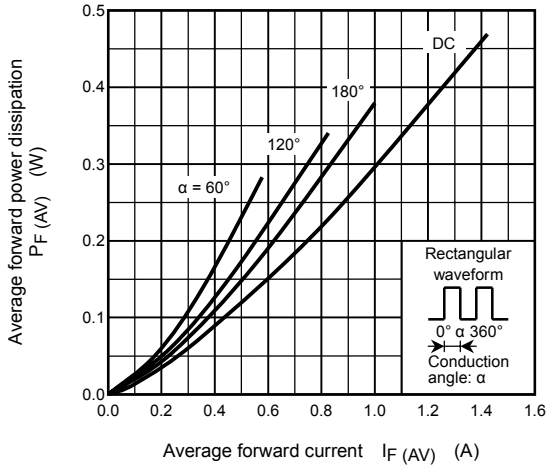
Schottky barrier diodes are having large-reverse-current-leakage characteristic compare to the other rectifier products. This current leakage and improper operating temperature or voltage may cause thermal runaway.

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

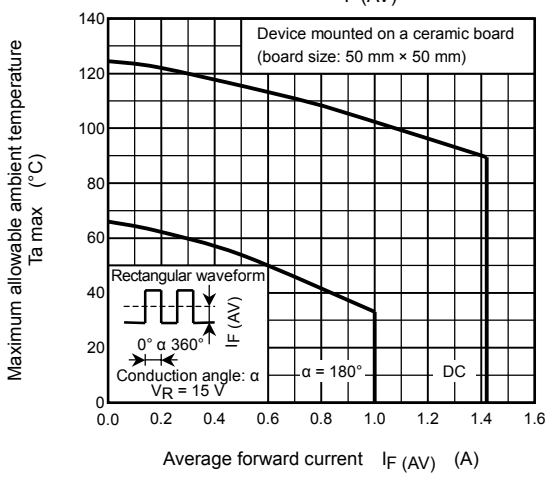
$i_F - v_F$



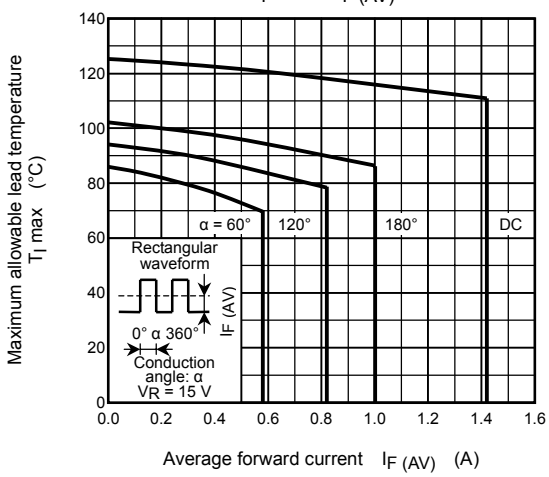
$P_{F\ (AV)} - I_{F\ (AV)}$



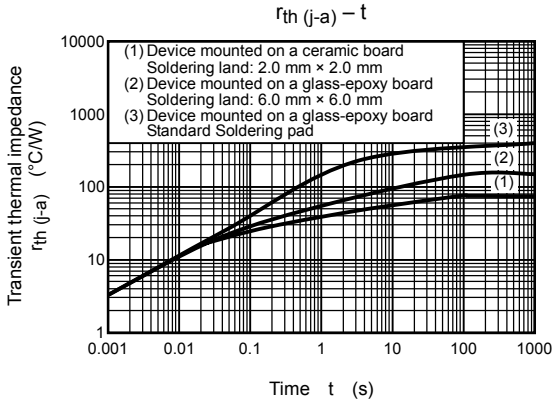
$Ta\ max - I_{F\ (AV)}$



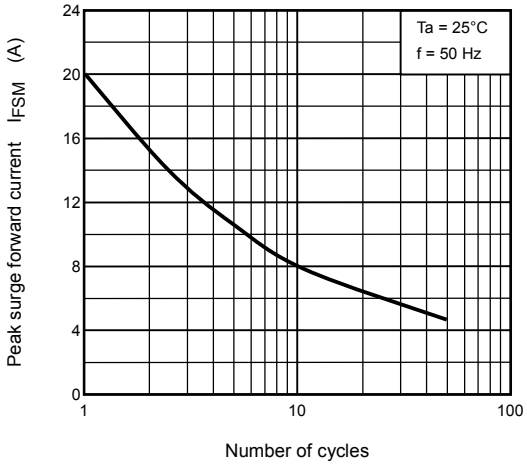
$T_l\ max - I_{F\ (AV)}$



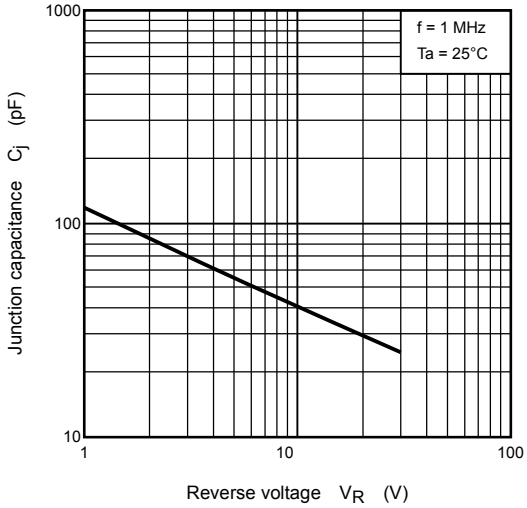
$r_{th\ (j\text{-}a)} - t$



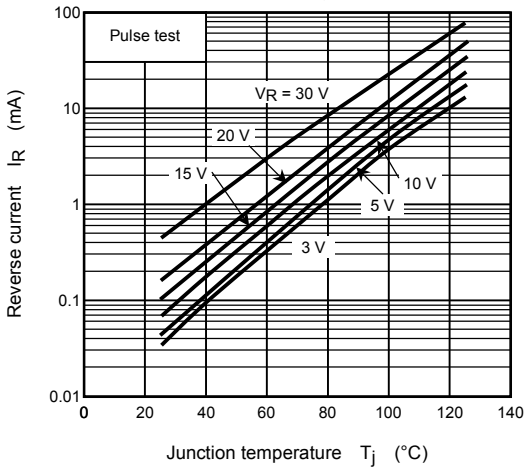
Surge forward current (non-repetitive)



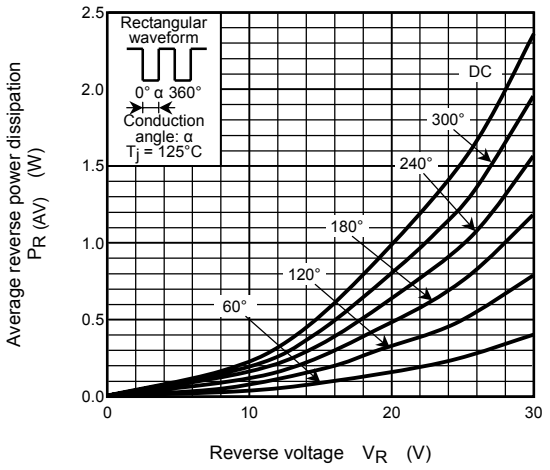
$C_j - V_R$ (typ.)



$I_R - T_j$ (typ.)



$P_{R\ (AV)} - V_R$ (typ.)



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