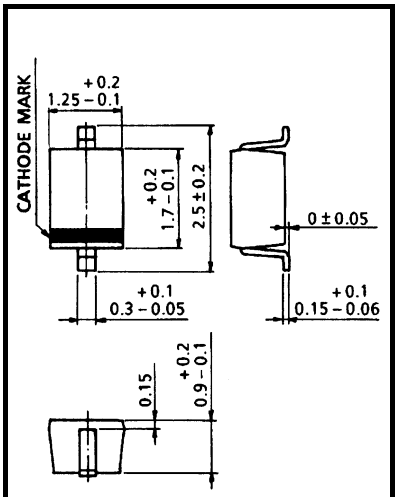
TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

1SS404

Unit: mm

High Speed Switching Applications

- Two-pin small packages are suitable for higher mounting densities
- Low forward voltage : $V_{F\ (3)}$ = 0.38 V (typ.)
- Low reverse current: I_R = 50 μA (max)
- Small total capacitance: C_T = 46 pF (typ.)



USC

JEDEC	—
JEITA	—
TOSHIBA	1-1E1A

Weight: 0.004 g (typ.)

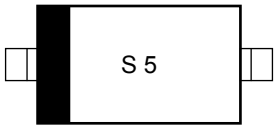
Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	25	V
Reverse voltage	V_R	20	V
Maximum (peak) forward current	I_{FM}	700	mA
Average forward current	I_O	300	mA
Power dissipation	P	200 (Note 1)	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55 to 125	°C
Operating temperature range	T_{opr}	−40 to 100	°C

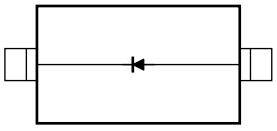
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Mounted on a glass epoxy board of 20 mm × 20 mm, pad dimension 4 mm × 4 mm.

Marking



Equivalent Circuit (top view)

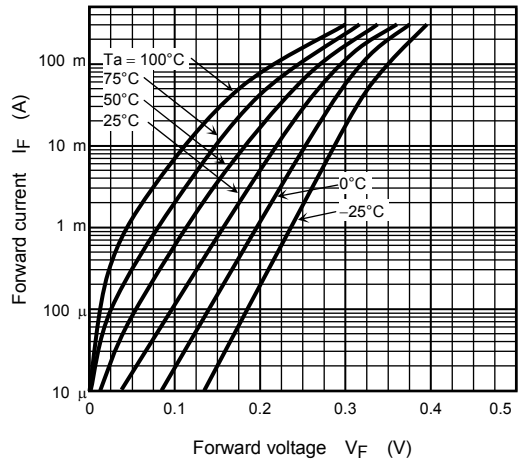


Electrical Characteristics (Ta = 25°C)

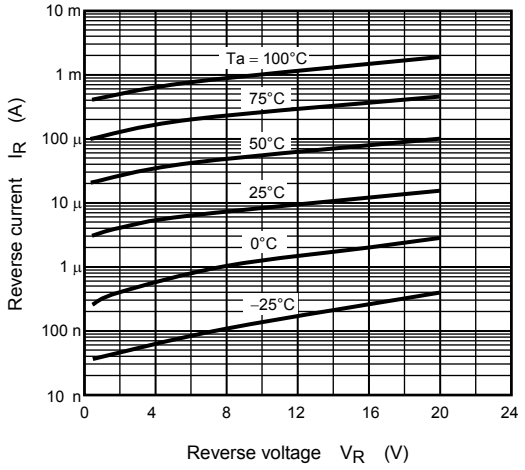
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F\ (1)}$	I_F = 1 mA	—	0.16	—	V
	$V_{F\ (2)}$	I_F = 10 mA	—	0.22	—	
	$V_{F\ (3)}$	I_F = 300 mA	—	0.38	0.45	
Reverse current	I_R	V_R = 20 V	—	—	50	μA
Total capacitance	C_T	V_R = 0, f = 1 MHz	—	46	—	pF

Start of commercial production
1999-06

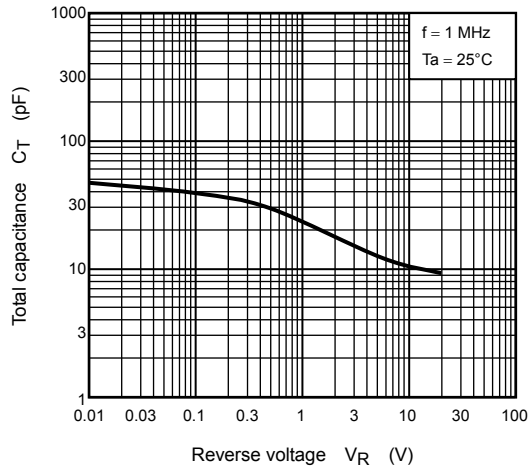
$I_F - V_F$



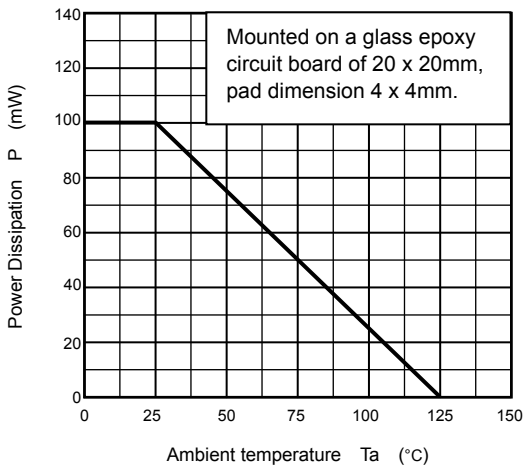
$I_R - V_R$



$C_T - V_R$



$P - T_a$



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