

# 1SS404

Unit: mm

## High Speed Switching Applications

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

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

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	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 125	$^\circ\text{C}$
Operating temperature range	$T_{opr}$	-40 to 100	$^\circ\text{C}$

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.

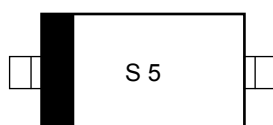
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

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

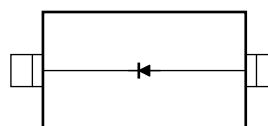
JEDEC	—
JEITA	—
TOSHIBA	1-1E1A

Weight: 0.004 g (typ.)

## Marking



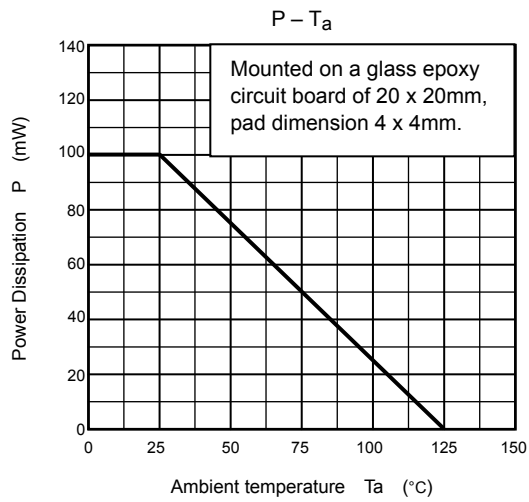
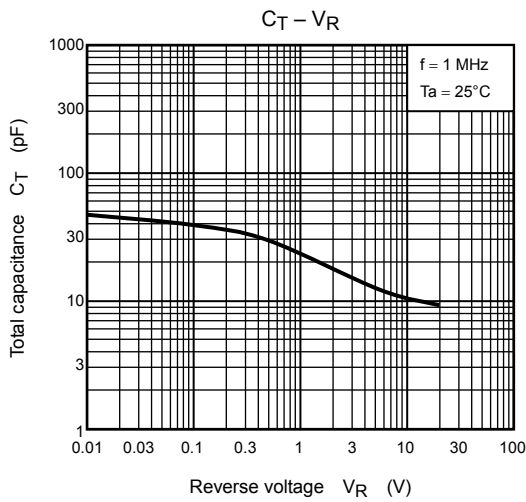
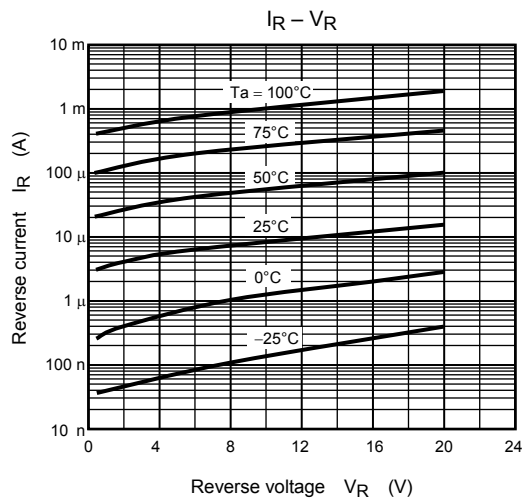
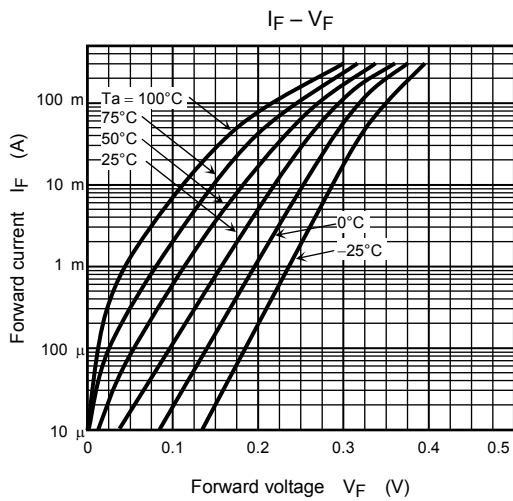
## Equivalent Circuit (top view)



## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

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

Start of commercial production  
1999-06



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