

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

## 1SS405

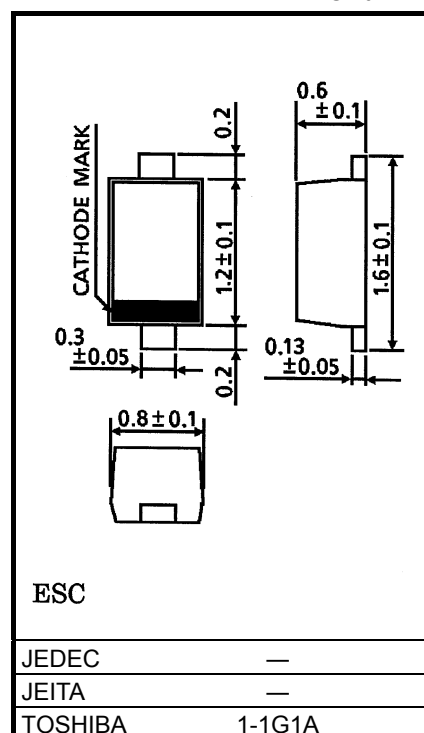
## High Speed Switching Application

Unit: mm

- Low forward voltage :  $V_F(3) = 0.50V$  (typ.)
- Low reverse current :  $I_R = 0.5\mu A$  (max)
- Small total capacitance :  $C_T = 3.9pF$  (typ.)

Absolute Maximum Ratings ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse Voltage	$V_{RM}$	25	V
Reverse voltage	$V_R$	20	V
Maximum (peak) forward current	$I_{FM}$	100	mA
Average forward current	$I_O$	50	mA
Surge current (10ms)	$I_{FSM}$	1	A
Power dissipation	$P^*$	150	mW
Junction temperature	$T_j$	125	$^\circ C$
Storage temperature range	$T_{stg}$	-55 to 125	$^\circ C$



Weight: 1.4mg(Typ.)

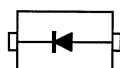
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

\*: Mounted on a glass epoxy circuit board of 20 × 20 mm, pad dimension of 4 × 4 mm.

Electrical Characteristics ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 1mA$	—	0.33	—	V
	$V_F(2)$	—	$I_F = 5mA$	—	0.38	—	
	$V_F(3)$	—	$I_F = 50mA$	—	0.50	0.55	
Reverse current	$I_R$	—	$V_R = 20V$	—	—	0.5	$\mu A$
Total capacitance	$C_T$	—	$V_R = 0, f = 1MHz$	—	3.9	—	pF

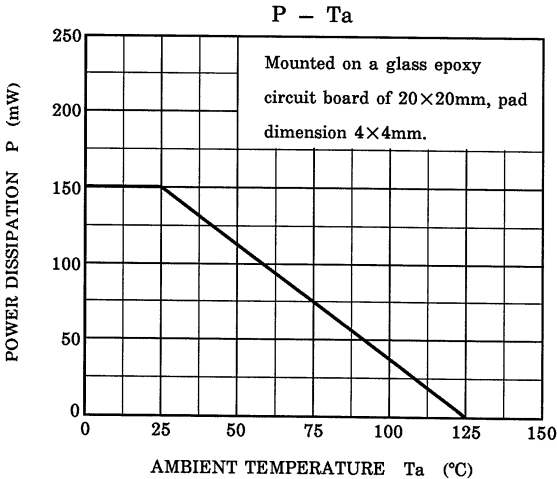
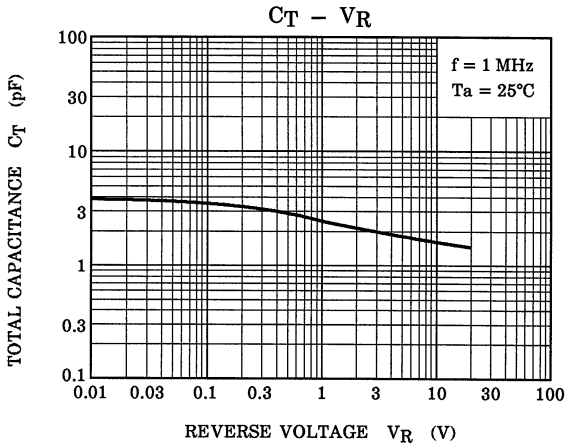
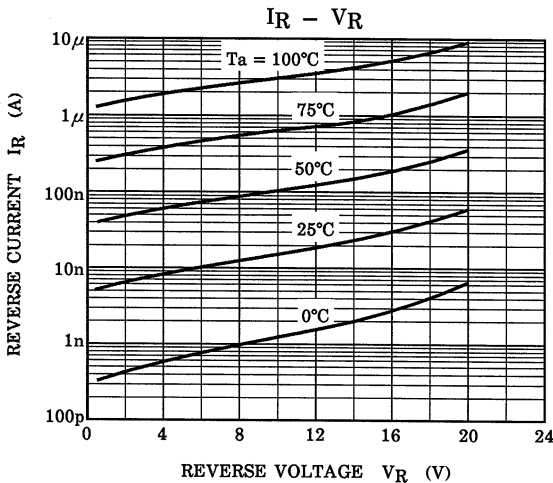
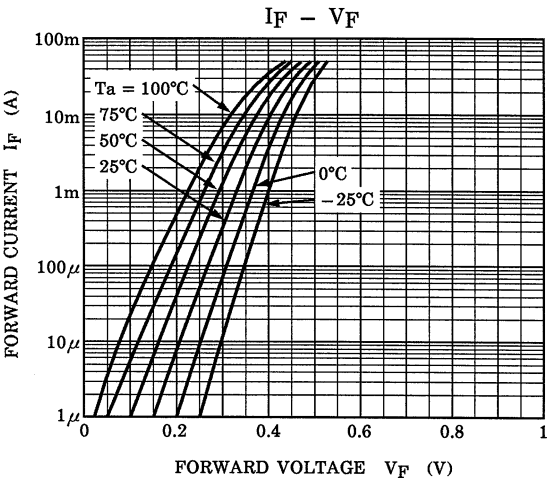
## Equivalent Circuit (Top View)



## Marking



Start of commercial production  
2001-09



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#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.