

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

# 1SS416CT

Unit: mm

## High Speed Switching Application

- Small package
- Low forward voltage:  $V_F = 0.23 \text{ V (typ.) @ } I_F = 5 \text{ mA}$

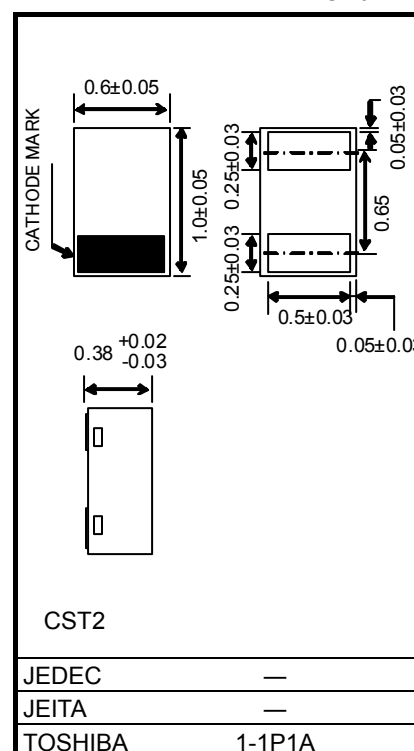
## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Rating	Unit
Maximum (peak) reverse Voltage	$V_{RM}$	35	V
Reverse voltage	$V_R$	30	V
Maximum (peak) forward current	$I_{FM}$	200	mA
Average forward current	$I_O$	100	mA
Surge current (10ms)	$I_{FSM}$	1	A
Power dissipation	$P^*$	100	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	$^\circ\text{C}$

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

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.

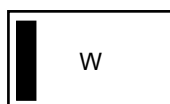
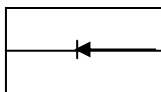
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

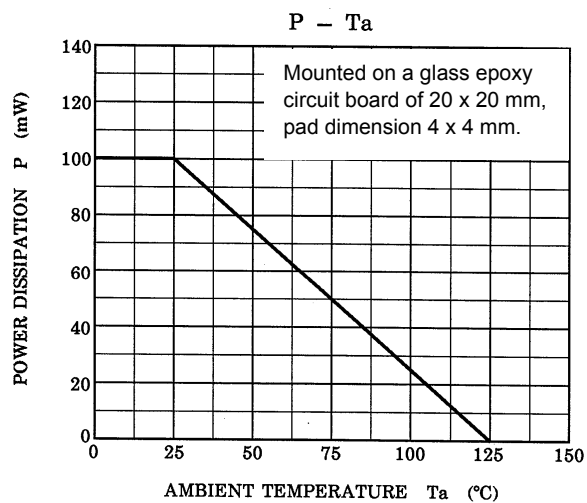
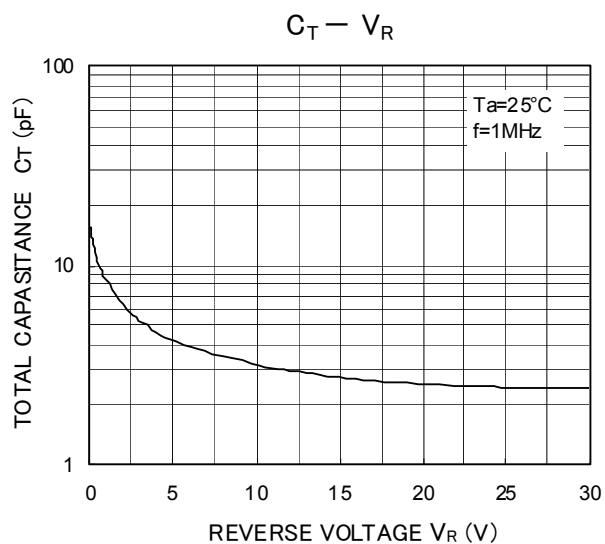
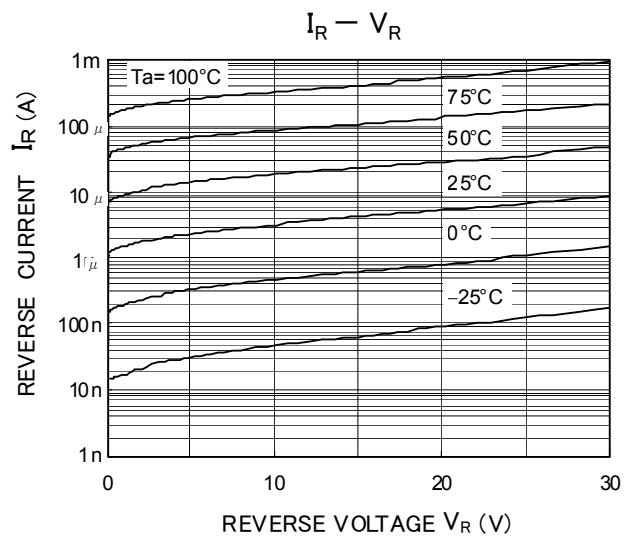
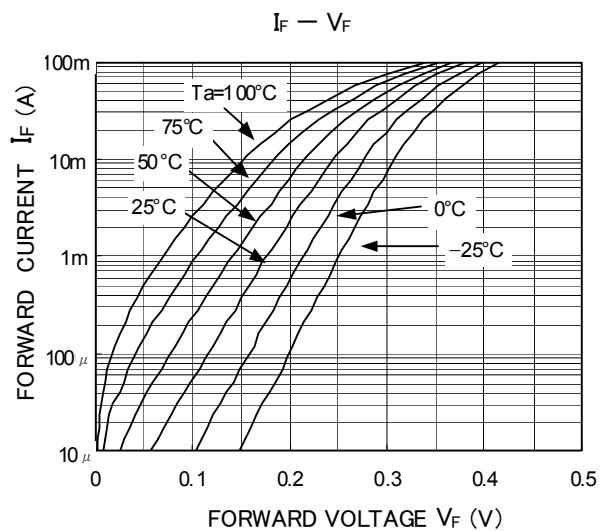


## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F (1)$	—	$I_F = 1 \text{ mA}$	—	0.18	—	V
	$V_F (2)$	—	$I_F = 5 \text{ mA}$	—	0.23	—	
	$V_F (3)$	—	$I_F = 100 \text{ mA}$	—	0.38	0.50	
Reverse current	$I_{R(1)}$	—	$V_R = 10 \text{ V}$	—	—	20	$\mu\text{A}$
	$I_{R(2)}$	—	$V_R = 30 \text{ V}$	—	—	50	
Total capacitance	$C_T$	—	$V_R = 0 \text{ V, } f = 1 \text{ MHz}$	—	15	—	pF

Start of commercial production  
2005-03

**Marking****Equivalent Circuit (top view)**



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