

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

1SS416CT

High Speed Switching Application

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

Absolute Maximum Ratings (Ta = 25°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	°C
Storage temperature range	T_{stg}	-55 to 125	°C
Operating temperature range	T_{opr}	-40 to 100	°C

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

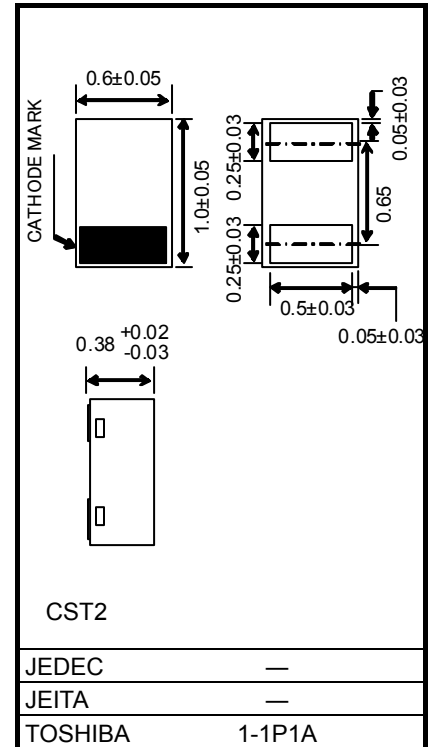
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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 (Ta = 25°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	μA
	$I_{R(2)}$	—	$V_R = 30 \text{ V}$	—	—	50	
Total capacitance	C_T	—	$V_R = 0 \text{ V, } f = 1 \text{ MHz}$	—	15	—	pF

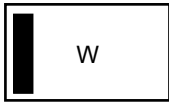
Unit: mm



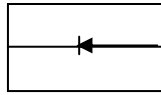
Weight: 0.7 mg (typ.)

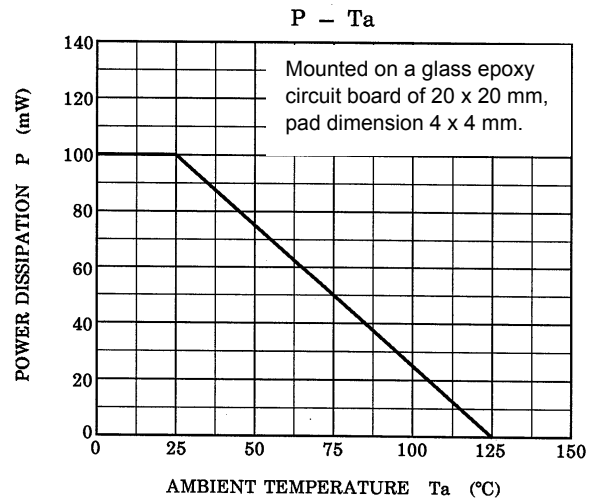
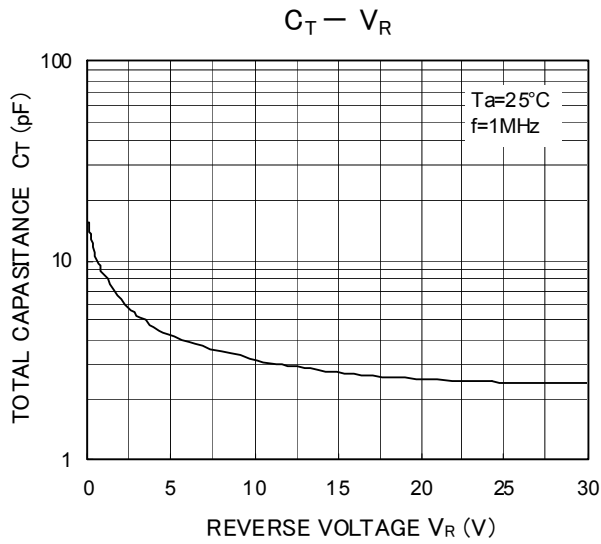
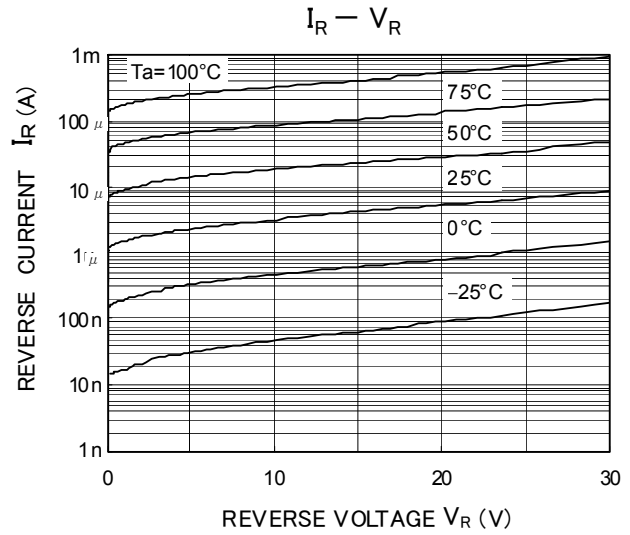
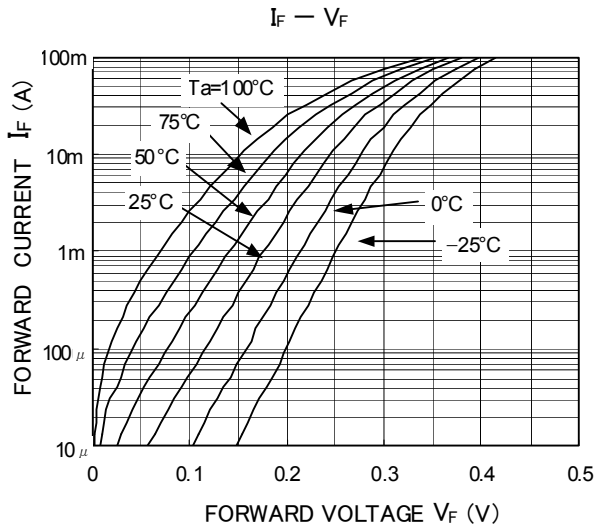
Start of commercial production
2005-03

Marking



Equivalent Circuit (top view)





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