

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

# 1SS416

## High Speed Switching Application

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

## Absolute Maximum Ratings (Ta = 25°C)

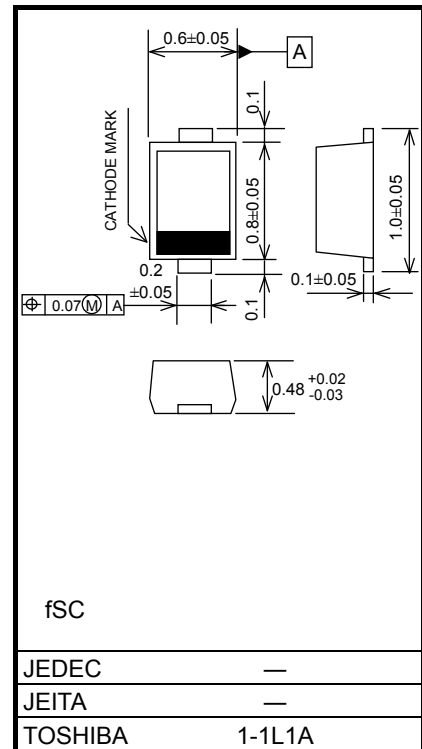
Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	35	V
Reverse voltage	$V_R$	30	V
Maximum (peak) forward current	$I_{FM}$	200	mA
Average forward current	$I_O$	100	mA
Surge current (10ms)	$I_{FSM}$	1	A
Power dissipation	$P^*$	100	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55~125	°C
Operating temperature range	$T_{opr}$	-40~100	°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).

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

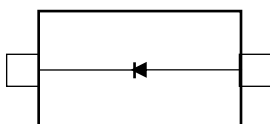
Unit: mm



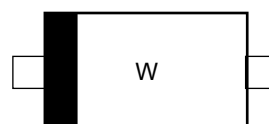
## Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$ (1)	—	$I_F = 1mA$	—	0.18	—	V
	$V_F$ (2)	—	$I_F = 5mA$	—	0.23	—	
	$V_F$ (3)	—	$I_F = 100mA$	—	0.38	0.50	
Reverse current	$I_R$ (1)	—	$V_R = 10V$	—	—	20	μA
	$I_R$ (2)	—	$V_R = 30V$	—	—	50	
Total capacitance	CT	—	$V_R = 0, f = 1MHz$	—	15	—	pF

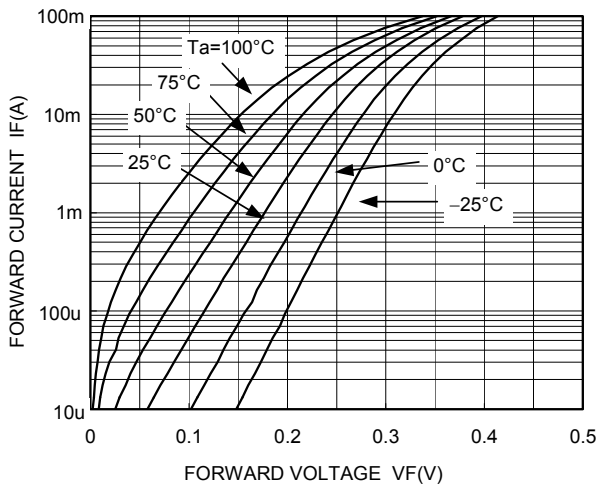
## Equivalent Circuit (Top View)



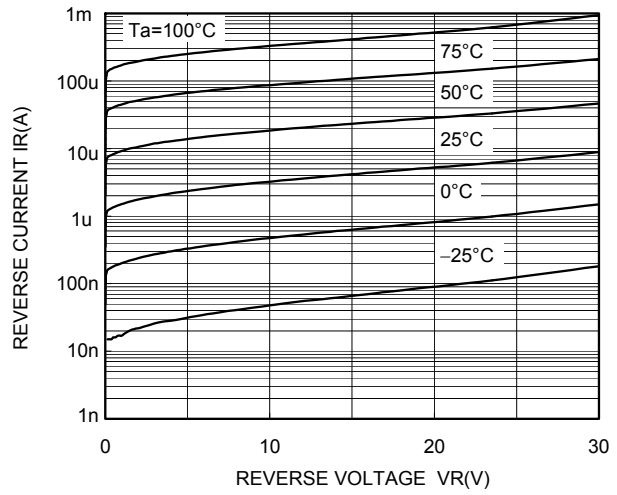
## Marking



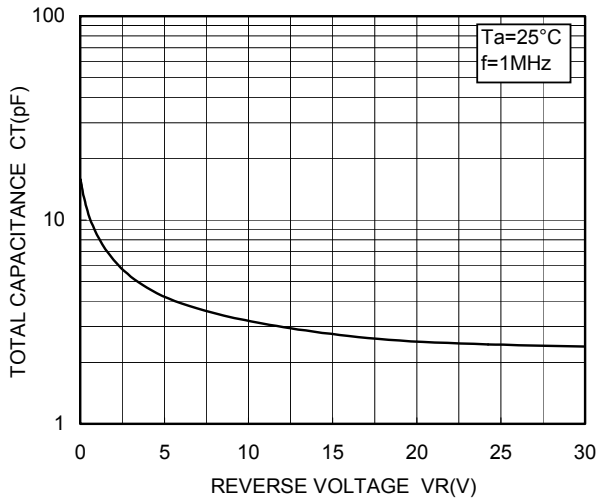
IF - VF



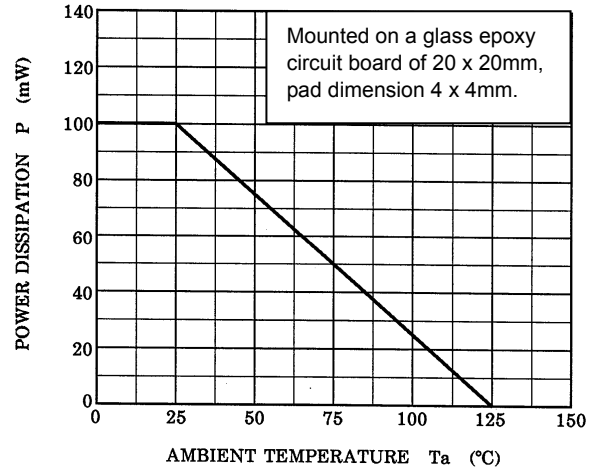
IR - VR



CT - VR



P - Ta



**RESTRICTIONS ON PRODUCT USE**

20070701-EN GENERAL

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