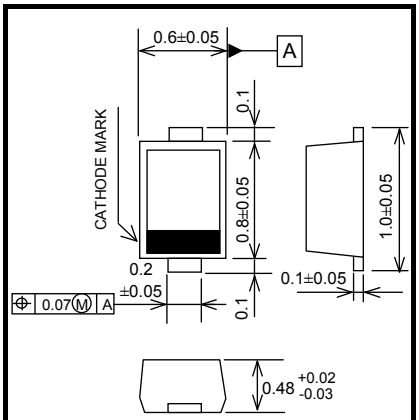
TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

1SS416

High Speed Switching Application

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

Unit: mm



fSC

JEDEC	—
JEITA	—
TOSHIBA	1-1L1A

Weight: 0.6mg(typ.)

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

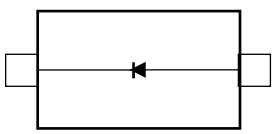
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

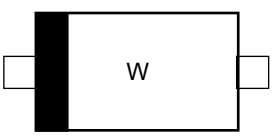
Electrical Characteristics (Ta = 25°C)

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	—	VR = 0, f = 1MHz	—	15	—	pF

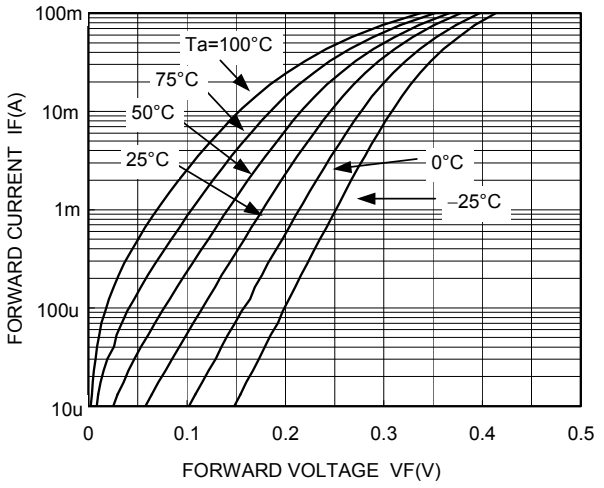
Equivalent Circuit (Top View)



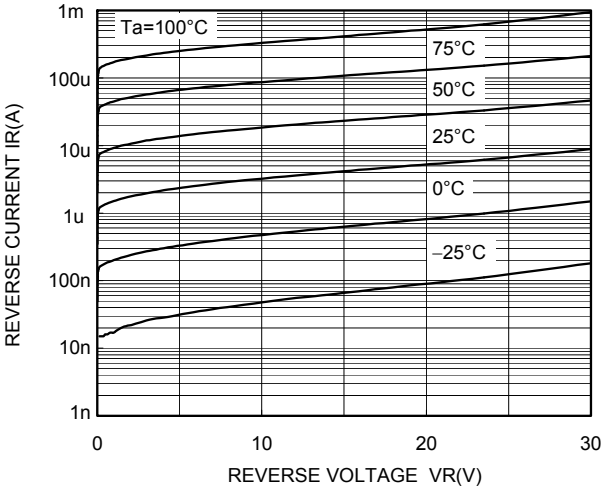
Marking



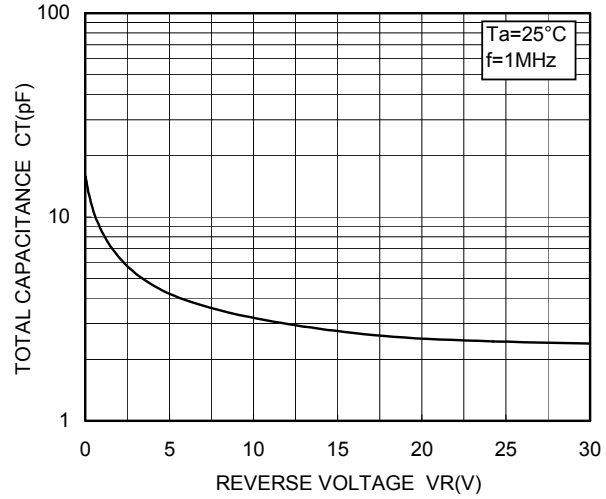
IF - VF



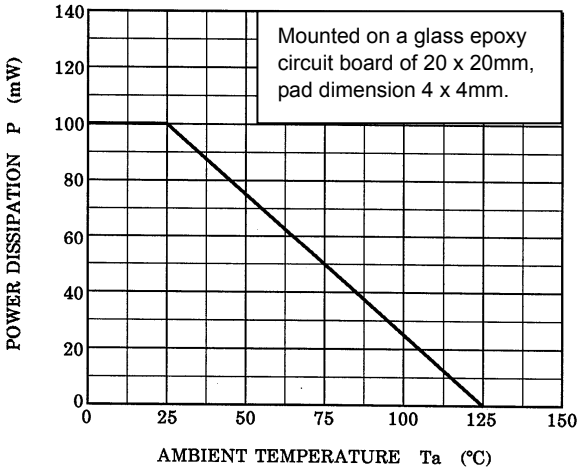
IR - VR



CT - VR



P – Ta



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20070701-EN GENERAL

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- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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