

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

1SS416

High Speed Switching Application

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

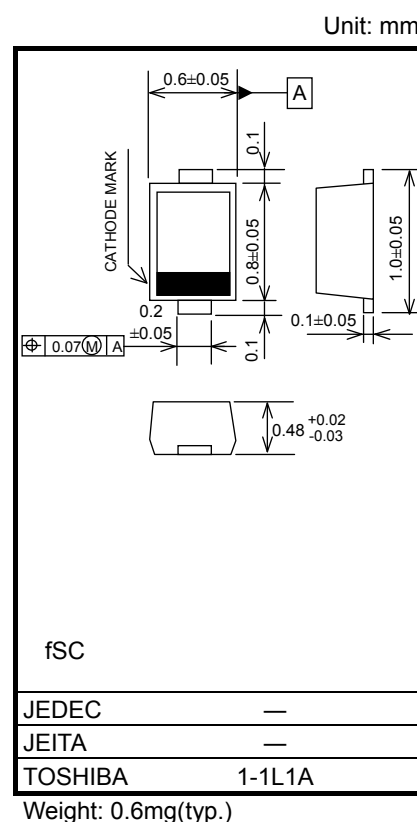
Absolute Maximum Ratings ($T_a = 25^\circ C$)

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	$^\circ C$
Storage temperature range	T_{stg}	-55~125	$^\circ C$
Operating temperature range	T_{opr}	-40~100	$^\circ C$

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).

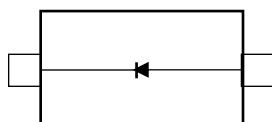
*: Mounted on a glass epoxy circuit board of 20 × 20mm, pad dimension of 4 × 4mm.



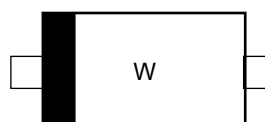
Electrical Characteristics ($T_a = 25^\circ C$)

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

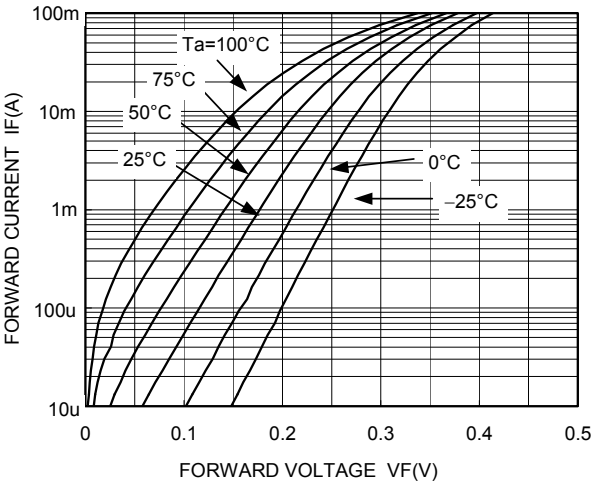
Equivalent Circuit (Top View)



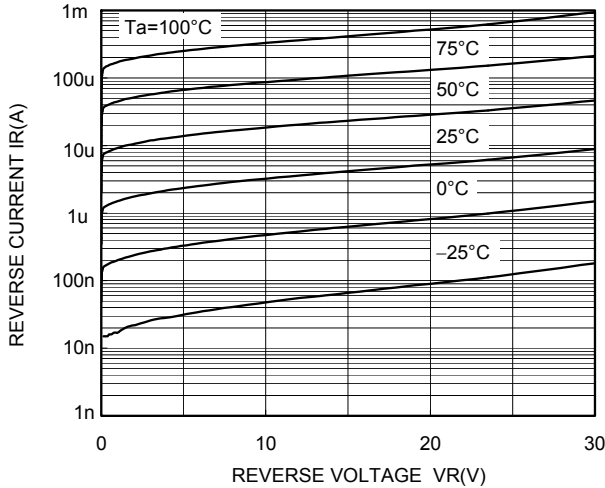
Marking



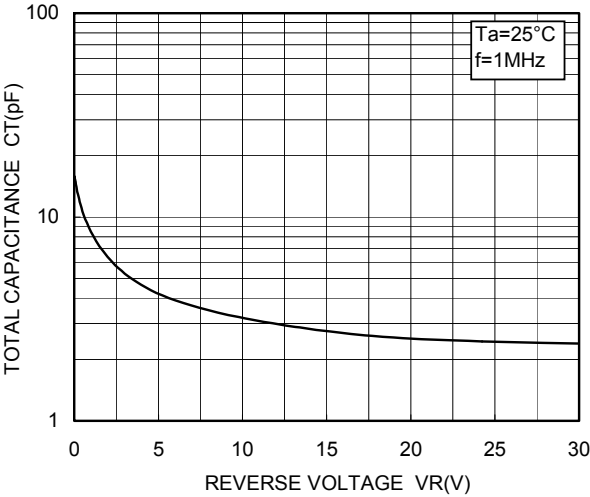
IF - VF



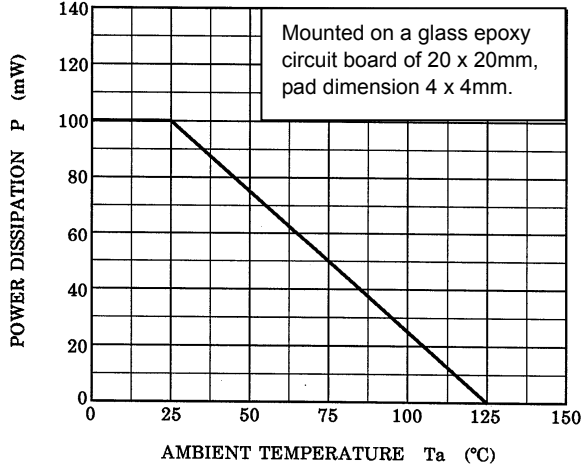
IR - VR



CT - VR



P - Ta



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