

TOSHIBA Diode Silicon Epitaxial Planar Type

# 1SS412

## General-Purpose Rectifier Applications

- Low forward voltage :  $V_F = 1.0 \text{ V (typ.)}$
- Low reverse current :  $I_R = 0.1 \text{ nA (typ.)}$
- Small total capacitance :  $C_T = 3.0 \text{ pF (typ.)}$
- Small package : SC-70

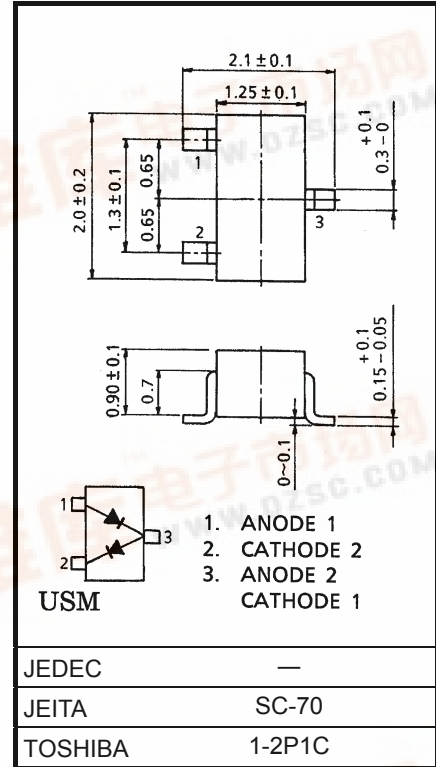
## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	85	V
Reverse voltage	$V_R$	80	V
Maximum (peak) forward current	$I_{FM}$	300 *	mA
Average forward current	$I_O$	100 *	mA
Surge current (10 ms)	$I_{FSM}$	1 *	A
Power dissipation	P	100	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~150	$^\circ\text{C}$

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).

\*: Unit rating. Total rating = unit rating  $\times$  0.7

Unit: imm

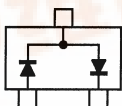


Weight: 0.006 g (typ.)

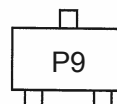
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

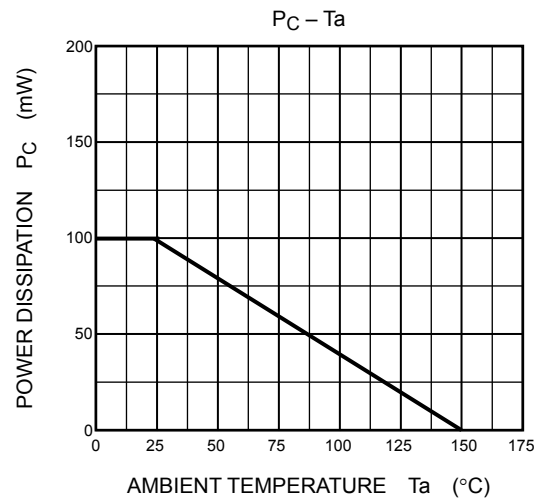
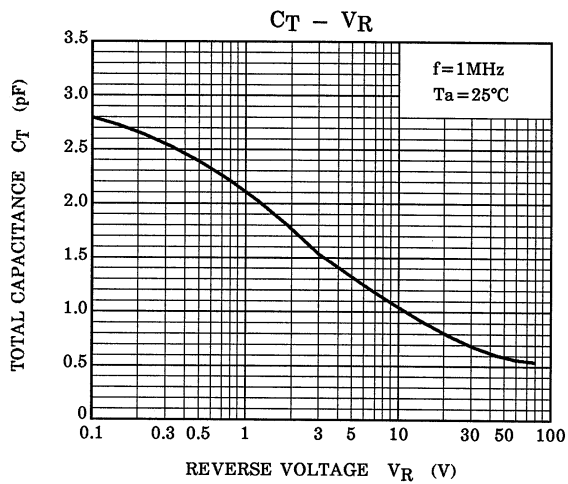
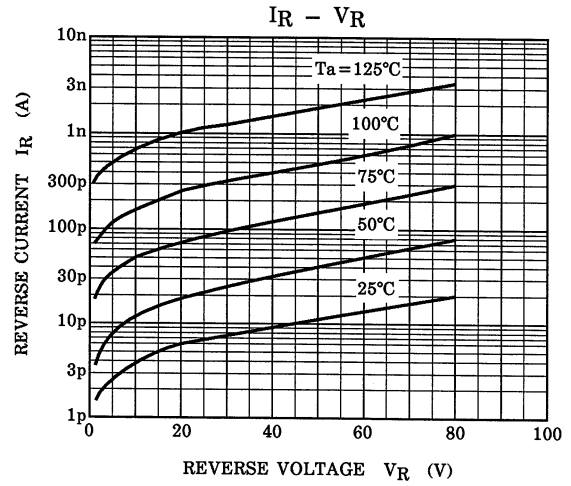
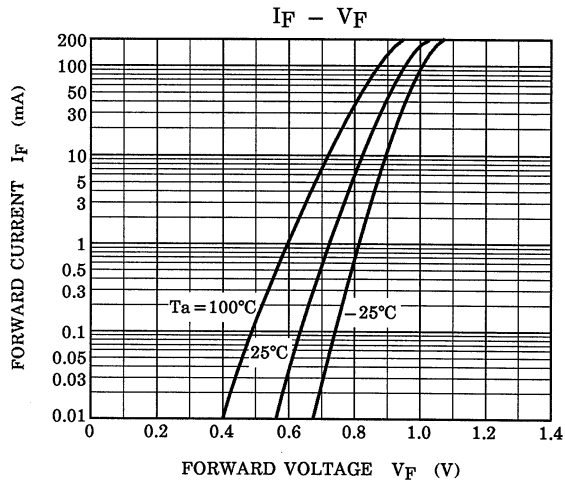
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$	—	$I_F = 100 \text{ mA}$	—	1.0	1.3	V
Reverse current	$I_R$	—	$V_R = 80 \text{ V}$	—	0.1	10	nA
Total capacitance (between cathode and anode)	$C_T$	—	$V_R = 0, f = 1 \text{ MHz}$	—	3.0	—	pF

## Equivalent Circuit (Top View)



## Marking





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20070701-EN GENERAL

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