

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

DSF01S30SC

High-Speed Switching Application

Unit: mm

Abbsolute Maximum Ratings (Ta = 25°C)

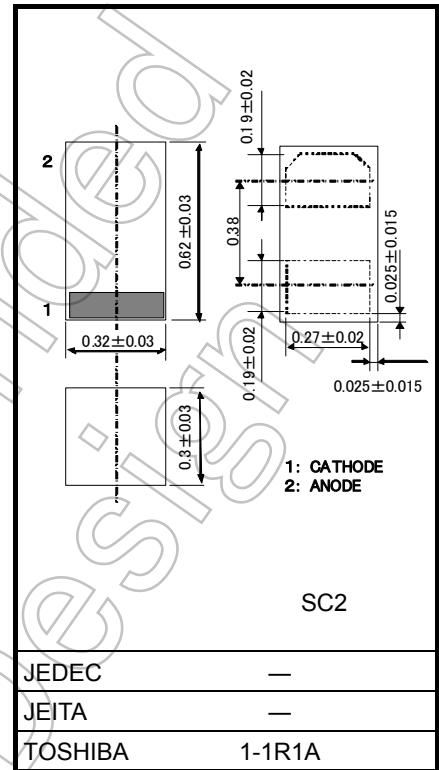
Characteristic	Symbol	Rating	Unit
Reverse voltage	V_R	30	V
Average forward current	I_O	100*	mA
Surge current (10ms)	I_{FSM}	2	A
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55 to 125	°C

*: Mounted on a FR4 board.

(25.4 mm × 25.4 mm × 1.6 mm, Cu Pad: 645 mm²)

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).

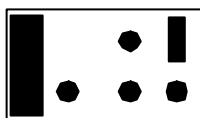


Weight: 0.17 mg (typ.)

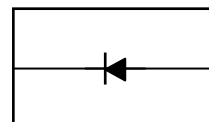
Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F(1)}$	$I_F = 10 \text{ mA}$	—	0.27	0.3	v
Forward voltage	$V_{F(2)}$	$I_F = 100 \text{ mA}$	—	0.41	0.5	v
Reverse current	$I_{R(1)}$	$V_R = 10 \text{ V}$	—	—	7	μA
Reverse current	$I_{R(2)}$	$V_R = 30 \text{ V}$	—	—	50	μA
Total capacitance	C_T	$V_R = 0, f = 1 \text{ MHz}$	—	9.3	—	pF

Marking



Equivalent Circuit (Top View)



Start of commercial production
2009-05

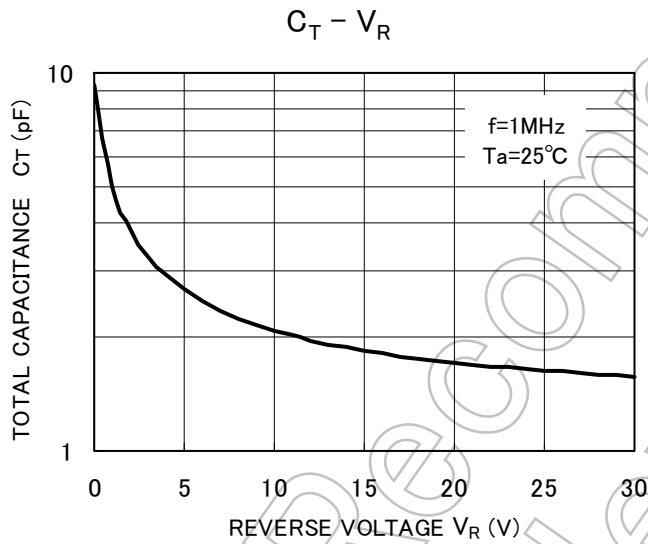
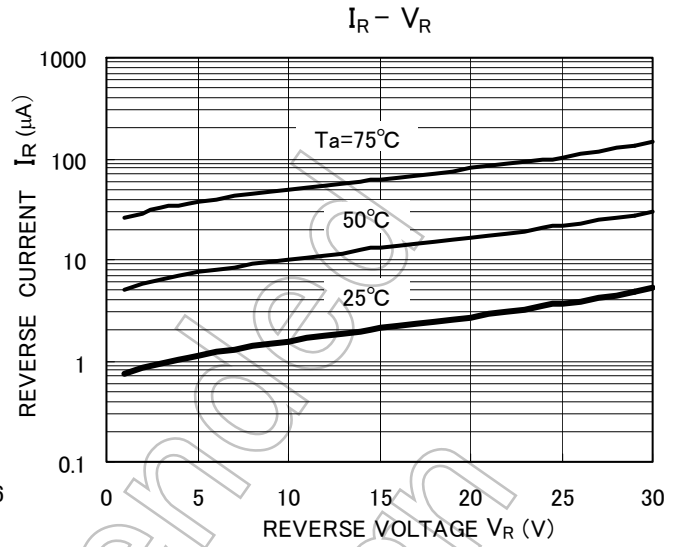
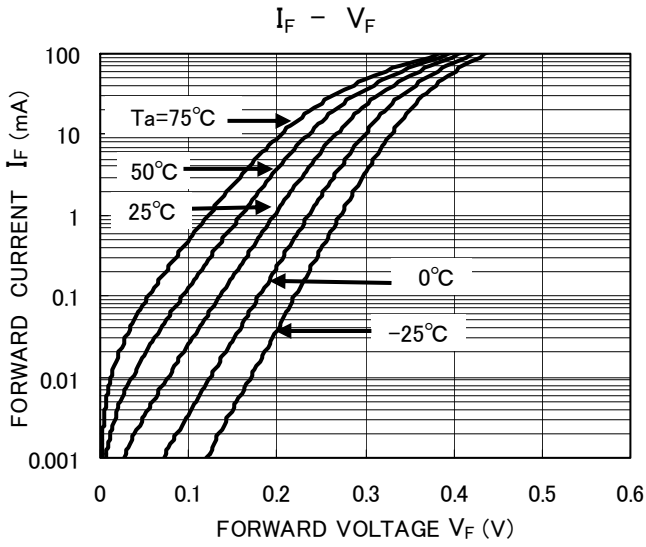
Handling Precaution

Schottky barrier diodes have reverse current characteristic compared to the other diodes.

There is a possibility SBD may cause thermal runaway when it is used under high temperature or high voltage.

Please take forward and reverse loss into consideration during design.

Not Recommended
for New Design



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