

TOSHIBA Diode Silicon Epitaxial Planar Type

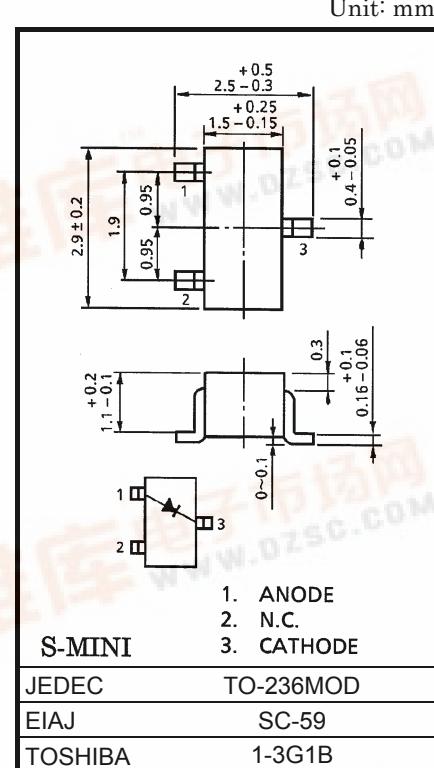
1SS193

Ultra High Speed Switching Application

- Small package : SC-59
- Low forward voltage : VF (3) = 0.9V (typ.)
- Fast reverse recovery time: trr = 1.6ns (typ.)
- Small total capacitance : CT = 0.9pF (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	VRM	85	V
Reverse voltage	VR	80	V
Maximum (peak) forward current	IFM	300	mA
Average forward current	IO	100	mA
Surge current (10ms)	IFSM	2	A
Power dissipation	P	150	mW
Junction temperature	Tj	125	°C
Storage temperature range	Tstg	-55~125	°C

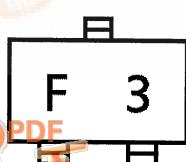


Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	VF (1)	—	IF = 1mA	—	0.60	—	V
	VF (2)	—	IF = 10mA	—	0.72	—	
	VF (3)	—	IF = 100mA	—	0.90	1.20	
Reverse current	IR (1)	—	VR = 30V	—	—	0.1	μA
	IR (2)	—	VR = 80V	—	—	0.5	
Total capacitance	CT	—	VR = 0, f = 1MHz	—	0.9	3.0	pF
Reverse recovery time	trr	—	IF = 10mA (Fig.1)	—	1.6	4.0	ns

Marking



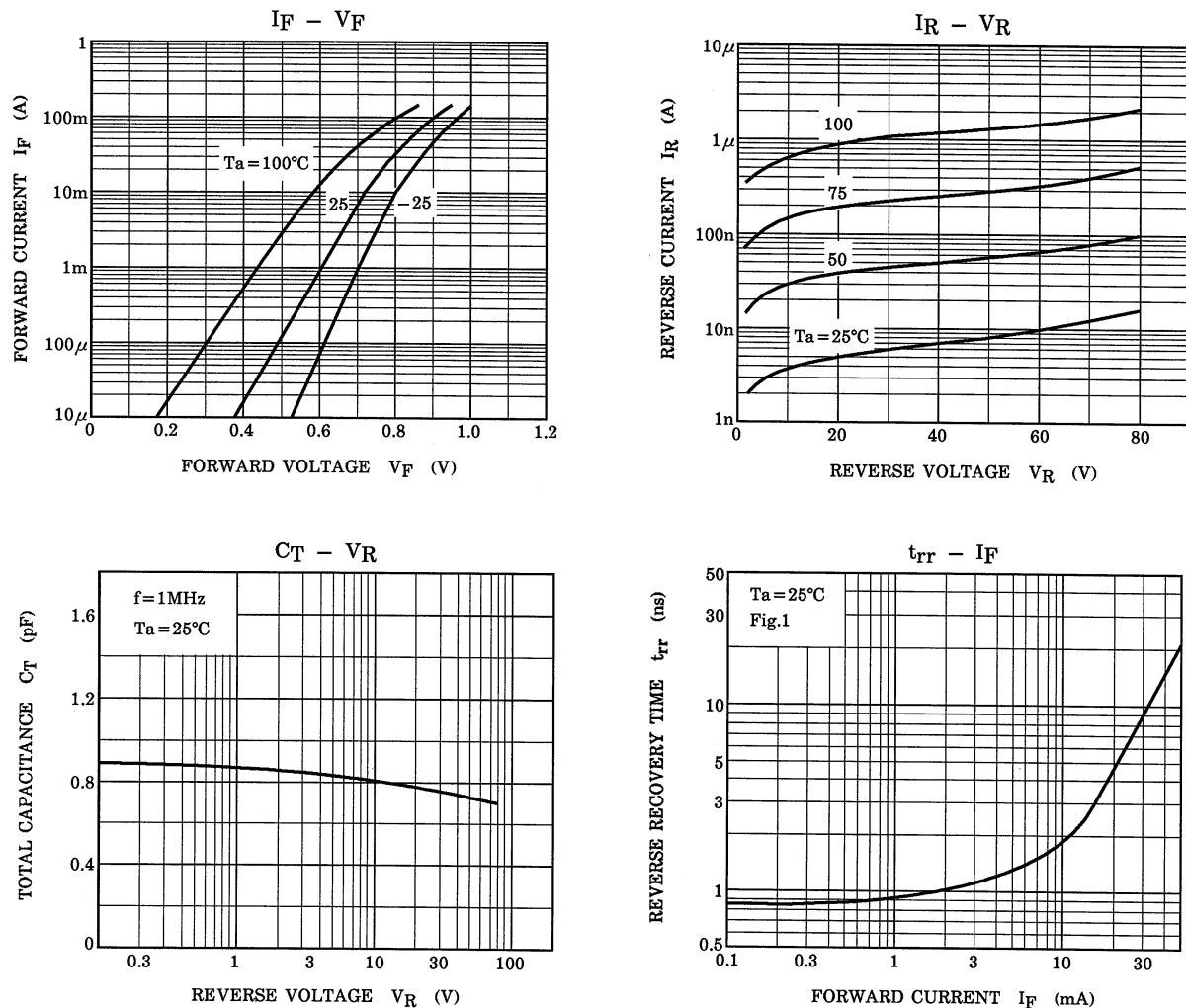
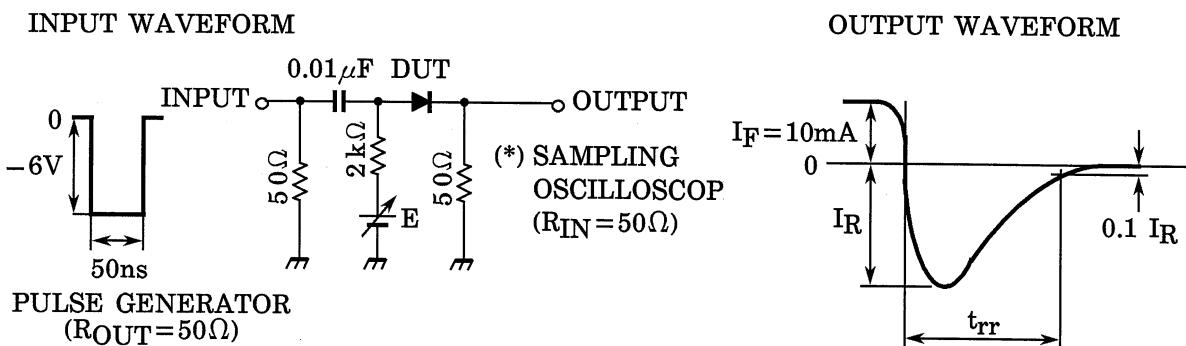


Fig.1 Reverse recovery time (t_{rr}) test circuit



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20070701-EN GENERAL

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