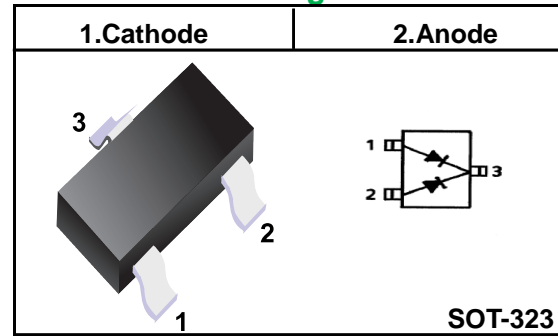


Ultra High Speed Switching Application

FEATURES

- ♦ Low forward voltage: $V_F(3) = 0.90\text{ V (typ.)}$
- ♦ Fast reverse recovery time : $t_{rr} = 1.6\text{ ns (typ.)}$
- ♦ Small total capacitance : $C_T = 0.9\text{ pF (typ.)}$

Pinning



Marking Code

1SS301W	B3
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Absolute Maximum Ratings (Ta = 25°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 (10ms)	I_{FSM}	2 *	A
Power dissipation	P_D (Note 2, 4)	200	mW
	P_D (Note 3)	100	
Junction temperature	T_j (Note 2)	150	°C
	T_j (Note 3)	125	
Storage temperature	T_{stg} (Note 2)	-55 to 150	°C
	T_{stg} (Note 3)	-55 to 125	

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.

Note 2: For devices with the ordering part number ending in LF(T).

Note 3: For devices with the ordering part number in other than LF(T).

Note 4: Mounted on a FR4 board. (25.4 mm × 25.4 mm × 1.6 mm, Cu pad: 0.5 mm² × 3)

*: Unit rating. Total rating = Unit rating × 1.5.

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	$I_F = 1\text{ mA}$	—	0.60	—	V
	$V_F(2)$	$I_F = 10\text{ mA}$	—	0.72	—	
	$V_F(3)$	$I_F = 100\text{ mA}$	—	0.90	1.20	
Reverse current	$I_R(1)$	$V_R = 30\text{ V}$	—	—	0.1	μA
	$I_R(2)$	$V_R = 80\text{ V}$	—	—	0.5	
Total capacitance	C_T	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	0.9	3.0	pF
Reverse recovery time	t_{rr}	$I_F = 10\text{ mA}$ (Fig.1)	—	1.6	4.0	ns

Electrical Characteristics (Ta = 25°C)

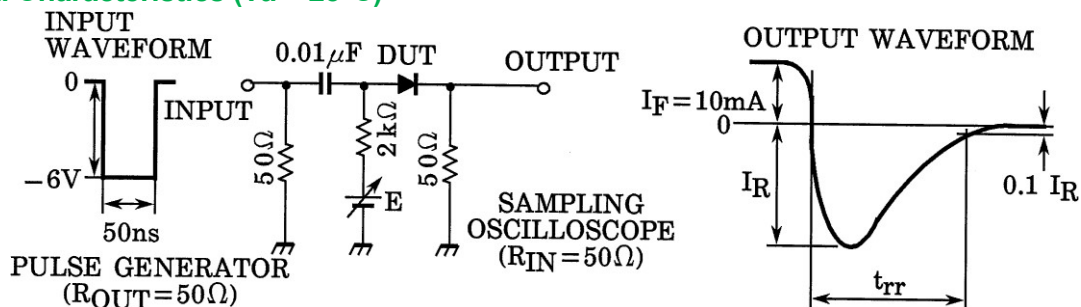
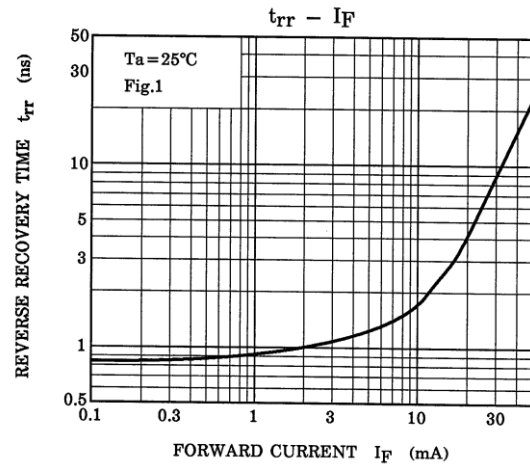
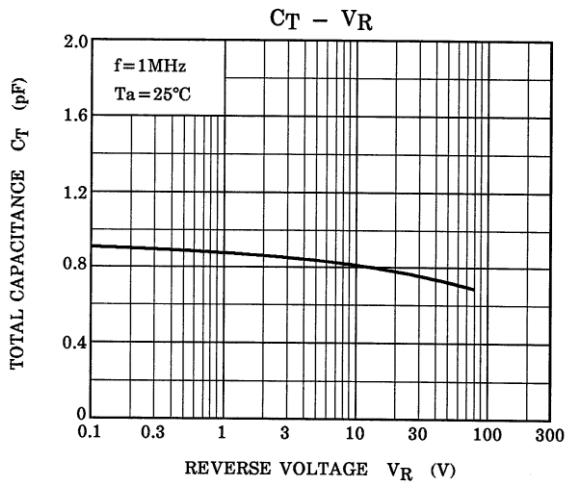
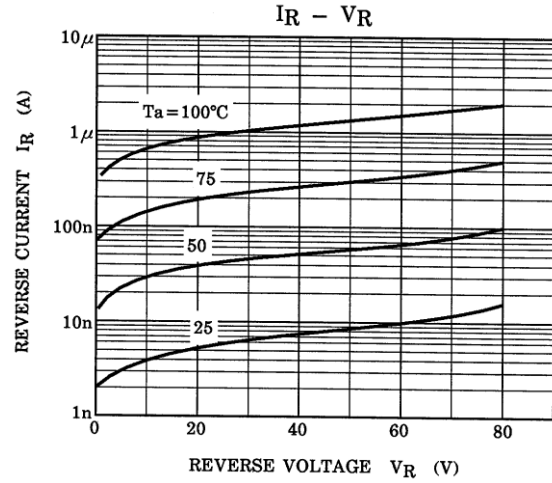
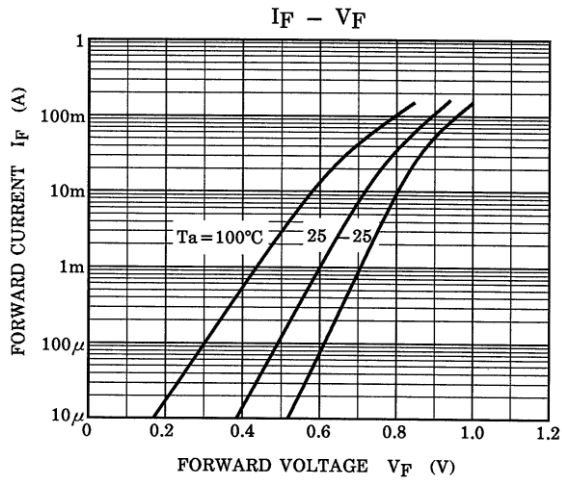


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

Characteristics Curves



The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Ordering information

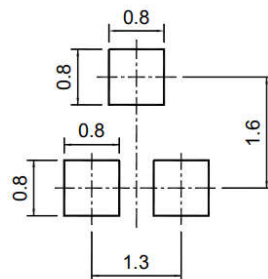
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-323

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
E	1.3		51	
E1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



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