



SF307DS THRU SF312DS

SUPER FAST GLASS PASSIVATED RECTIFIERS

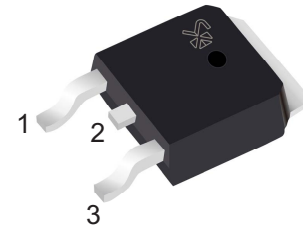
TO-252

Reverse Voltage – 100 to 600 V

Forward Current – 5.0 A

FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

CHARACTERISTICS	TO-252	SF307DS	SF308DS	SF309DS	SF310DS	SF311DS	SF312DS	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	V _{DC}	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current	I _{F(AV)}	5.0						A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150						A
Max Instantaneous Forward Voltage at 5 A DC	V _F	1.0		1.30		1.70		V
Maximum DC Reverse Current T _a = 25°C at Rated DC Reverse Voltage T _a =125°C	I _R	1 300						uA
Typical Junction Capacitance f=1MHz,4V DC	C _j	65						pF
Typical Thermal Resistance ⁽¹⁾	R _{θJA}	50						°C/W
Maximum Reverse Recovery Time ⁽²⁾	t _{rr}	35						ns
Operating Junction Temperature Range	T _j	-55 ~ +150						°C
Storage Temperature Range	T _{stg}	-55 ~ +150						°C

(1) P.C.B. mounted with 10cm x 10cm x 1mm copper pad areas.

(2) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

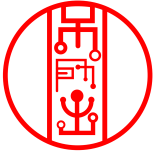


Fig.1 Maximum Average Forward Current Rating

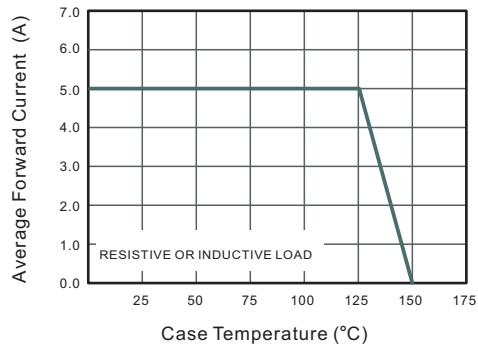


Fig.2 Typical Reverse Characteristics

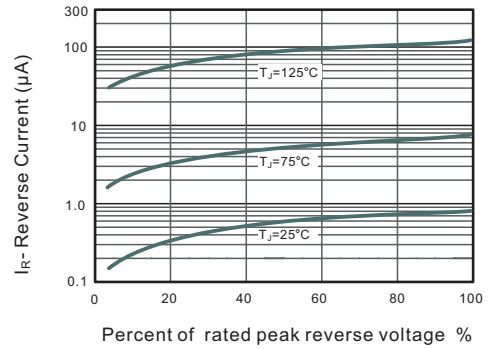


Fig.4 Typical Forward Characteristics

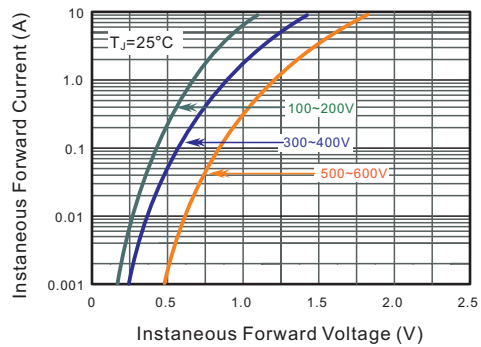


Fig.4 Typical Junction Capacitance

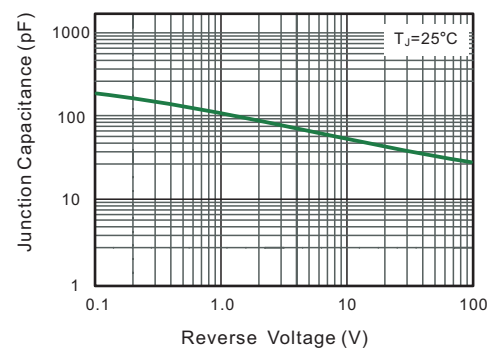


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

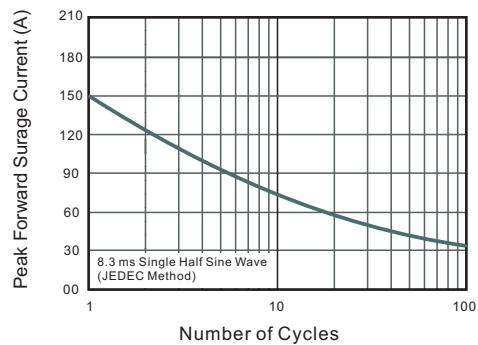
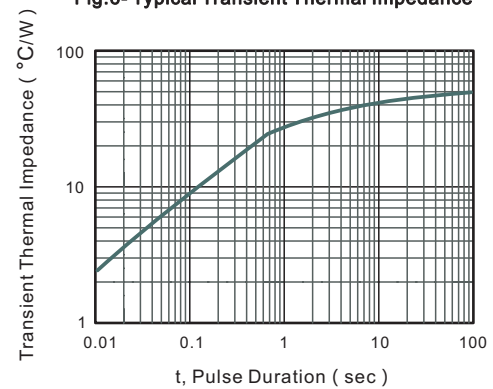


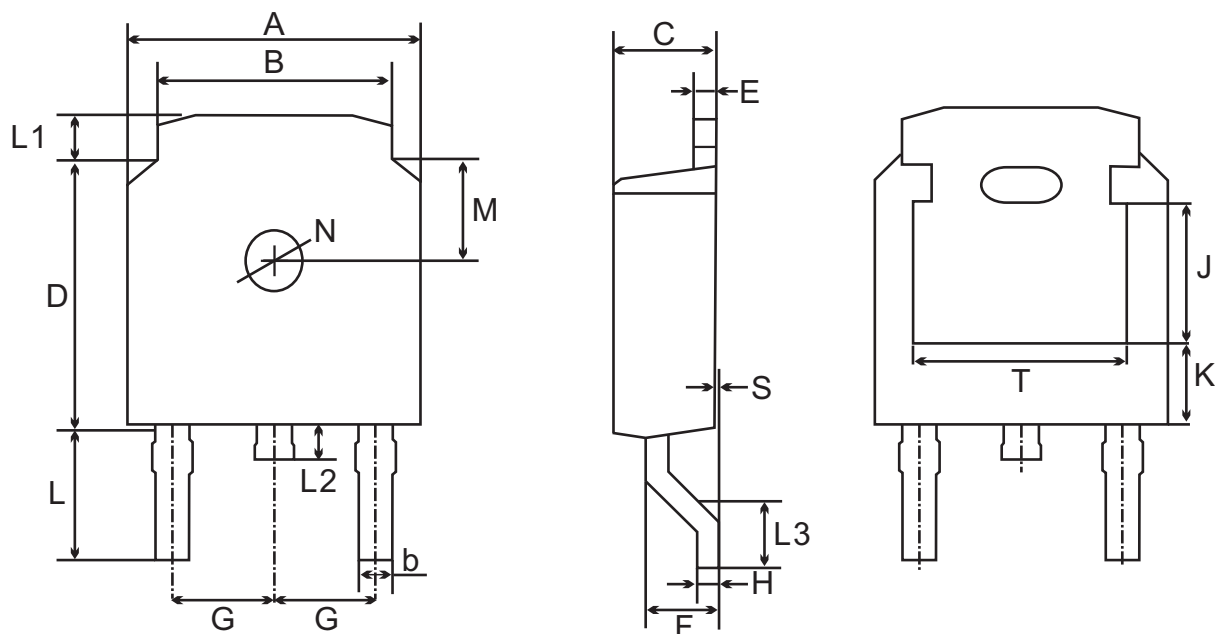
Fig.6- Typical Transient Thermal Impedance





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TO-252 Package Outline Dimensions



TO-252 mechanical data

UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	K	T
mm	max	6.7	5.5	0.8	2.5	6.3	0.6	1.8	2.29 TYPICAL	0.55	3.1	1.2	1.0	1.75	0.1	1.8 TYPICAL	1.3 TYPICAL	3.16 ref.	1.80 ref.	4.83 ref.
	min	6.3	5.1	0.3	2.1	5.9	0.4	1.3		0.45	2.7	0.8	0.6	1.40	0.0					
mil	max	264	217	31	98	248	24	71	90 TYPICAL	22	122	47	39	69	4	71 TYPICAL	51 TYPICAL	124 ref.	71 ref.	190 ref.
	min	248	201	12	83	232	16	51		18	106	31	24	55	0					