

## SUPER FAST GLASS PASSIVATED RECTIFIERS

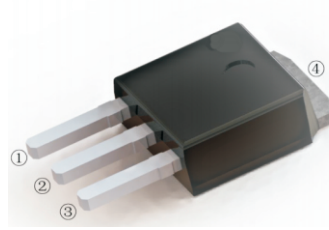
Reverse Voltage – 100 to 600 V

Forward Current – 10 A

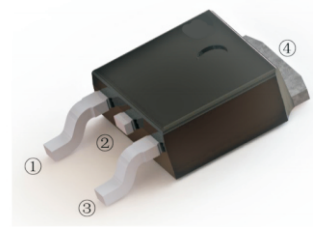
### FEATURES

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

**TO-251(I-PAK)**



**TO-252(D-PAK)**



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

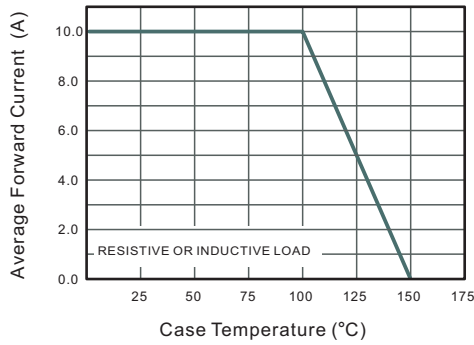
Ratings at 25°C ambient temperature unless otherwise specified

CHARACTERISTICS	TO-251	SF1001VS	SF1002VS	SF1003VS	SF1004VS	SF1005VS	SF1006VS	Units
	TO-252	SF1001DS	SF1002DS	SF1003DS	SF1004DS	SF1005DS	SF1006DS	
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	$I_{F(AV)}$	10						A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	170						A
Max Instantaneous Forward Voltage at 10 A DC	$V_F$	0.95		1.30		1.70		V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 125^\circ\text{C}$	$I_R$	1 300						$\mu\text{A}$
Typical Junction Capacitance $f=1\text{MHz}, 4\text{V DC}$	$C_j$	45						pF
Typical Thermal Resistance <sup>(1)</sup>	$R_{\theta JA}$	15						$^\circ\text{C/W}$
Maximum Reverse Recovery Time <sup>(2)</sup>	$t_{rr}$	35						ns
Operating Junction Temperature Range	$T_j$	-55 ~ +150						$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ +150						$^\circ\text{C}$

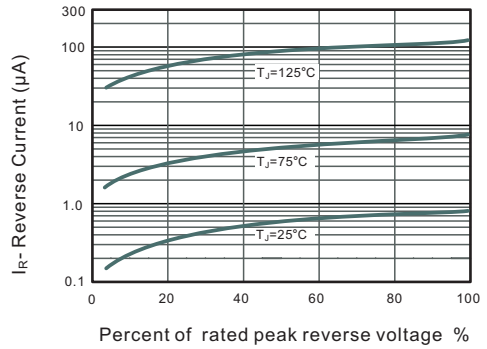
(1) P.C.B. mounted with 10cm x 10cm x 1mm copper pad areas.

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

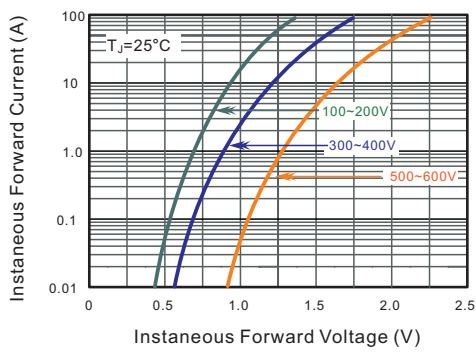
**Fig.1 Maximum Average Forward Current Rating**



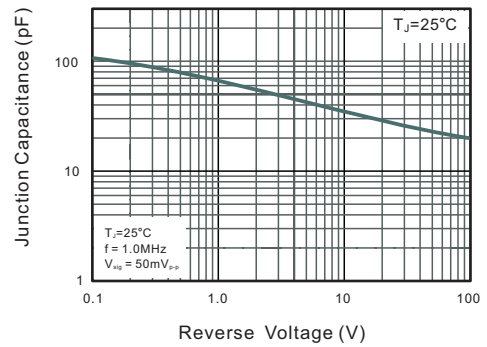
**Fig.2 Typical Reverse Characteristics**



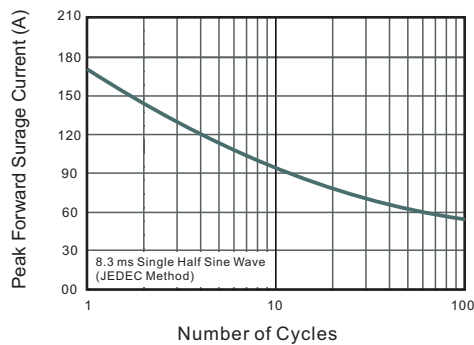
**Fig.4 Typical Forward Characteristics**



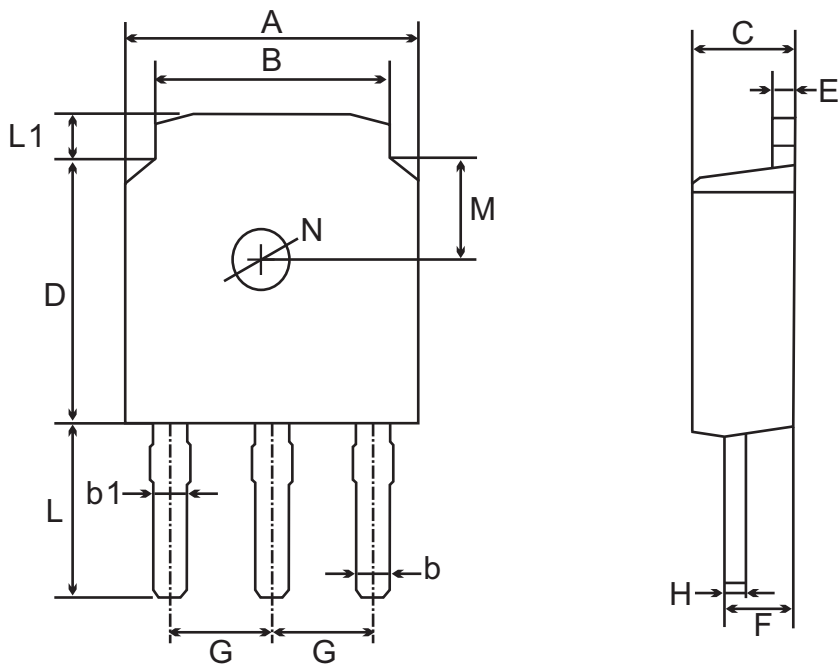
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



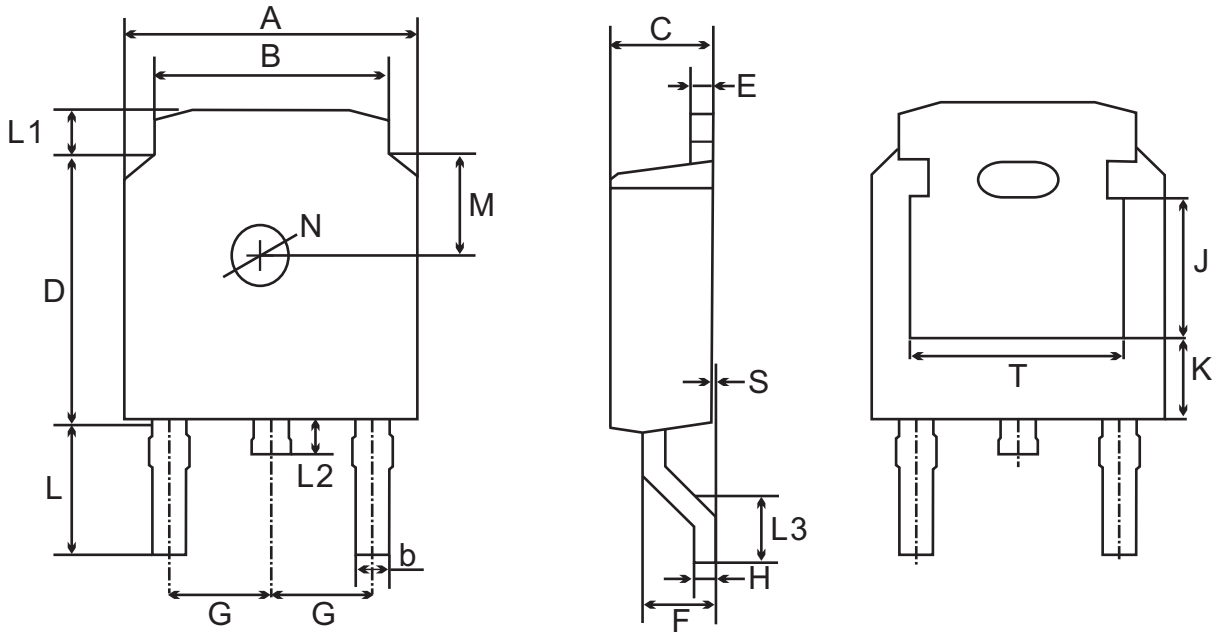
## TO-251(D-PAK) Package Outline Dimensions



### TO-251(I-PAK) mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N
mm	max	6.7	5.5	0.8	0.9	2.5	6.3	0.6	1.8	2.29 TYPICAL	0.55	4.3	1.2	1.8 TYPICAL	1.3 TYPICAL
	min	6.3	5.1	0.3	0.76	2.1	5.9	0.4	1.3		0.45	3.9	0.8		
mil	max	264	217	31	35	98	248	24	71	90 TYPICAL	22	169	47	71 TYPICAL	51 TYPICAL
	min	248	201	12	30	83	232	16	51		18	154	31		

## TO-252(D-PAK) Package Outline Dimensions



TO-252(D-PAK) 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	1.80	4.83
	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			ref.	ref.	ref.
mil	max	264	217	31	98	248	24	71	90 TYPICAL	22	122	47	39	69	4	71 TYPICAL	51 TYPICAL	124	71	190
	min	248	201	12	83	232	16	51		18	106	31	24	55	0			ref.	ref.	ref.

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