

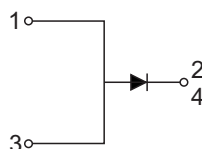
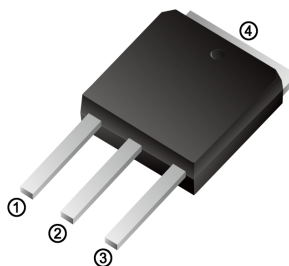


SF1001XS THRU SF1006XS Superfast Recovery Rectifiers

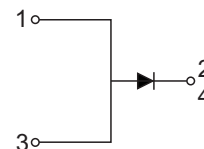
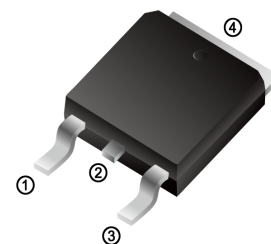
FEATURES

- 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	UNIT
	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 <sub(av)< sub=""></sub(av)<>	10.0						A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I _{FSM}	170						A
Maximum Forward Voltage at 10.0A DC	V _F	1.0		1.30		1.70		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	J=25°C		1.0		J=125°C		uA
Typical Junction Capacitance Per Element (Note1)	C _J	45						pF
Typical Thermal Resistance (Note2)	R _{θJA}	15						°C/W
Maximum Reverse Recovery Time(Note3)	T _{rr}	35						ns
Operating Temperature Range	T _J	-55 to +150						°C
Storage Temperature Range	T _{STG}	-55 to +150						°C

NOTES: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Mounted on 10cm x 10cm x 1mm copper pad area
3. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, I_{rr}=0.25A



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Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 - FORWARD CURRENT DERATING CURVE

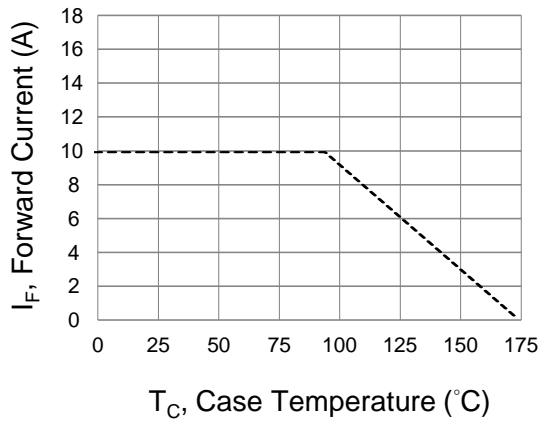


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

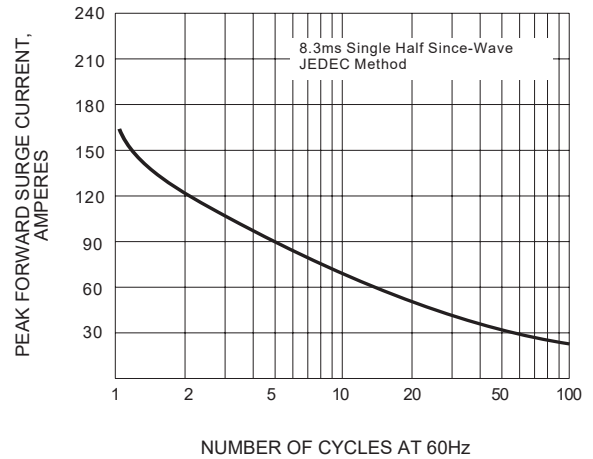


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

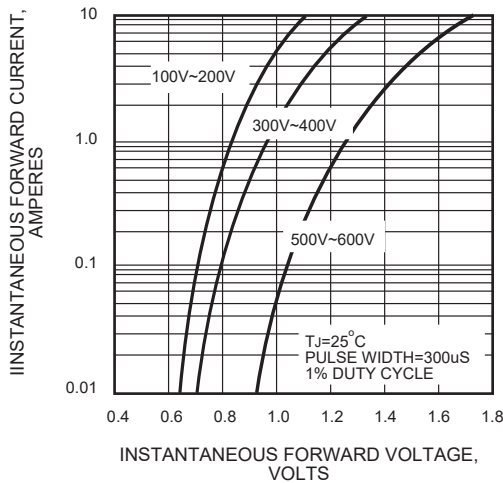


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

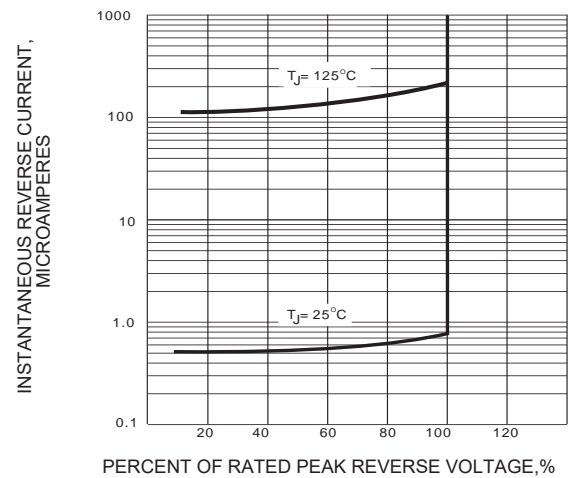
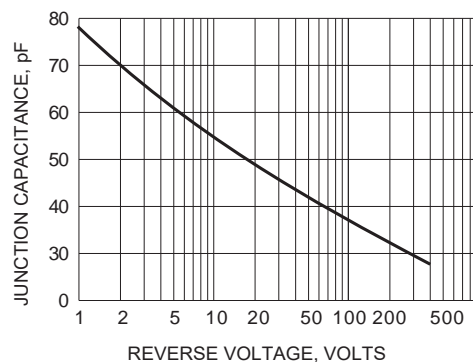


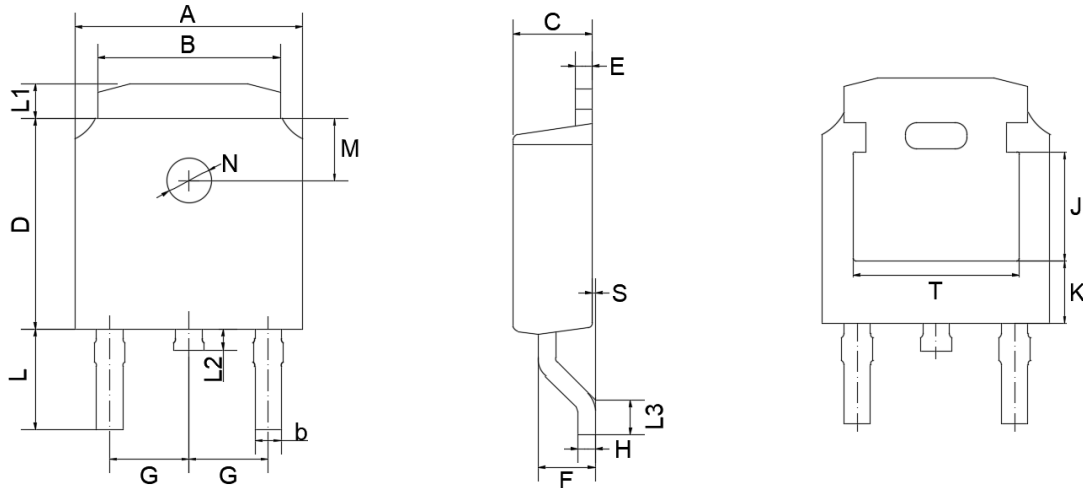
FIG.5 - TYPICAL JUNCTION CAPACITANCE





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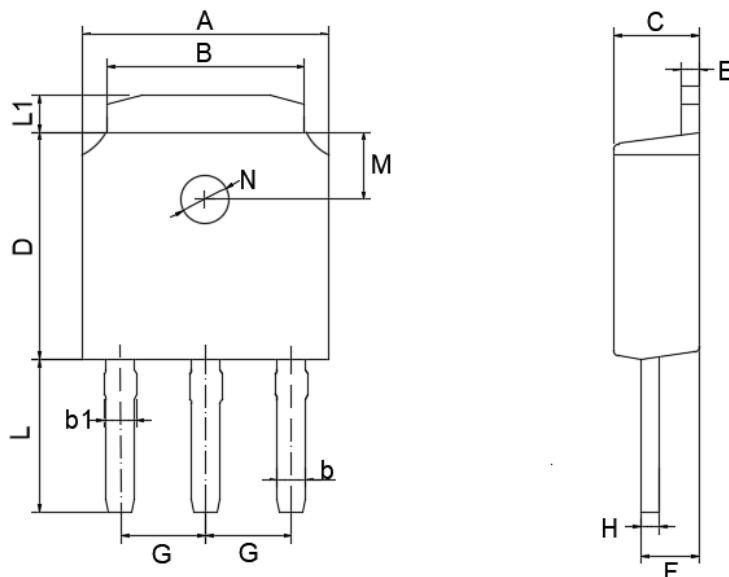
TO-252(D-PAK) Package Outline Dimensions



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	0.86	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	0.66	2.1	5.9	0.4	1.3		0.45	2.7	0.8	0.6	1.40	0.0					
mil	max	264	217	33	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	26	83	232	16	51		18	106	31	24	55	0					

TO-251(I-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	0.86	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	0.66	0.76	2.1	5.9	0.4	1.3		0.45	3.9	0.8		
mil	max	264	217	33	35	98	248	24	71	90 TYPICAL	22	169	47	71 TYPICAL	51 TYPICAL
	min	248	201	26	30	83	232	16	51		18	154	31		