



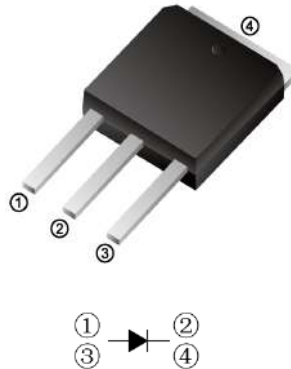
# SF801 THRU SF806

## 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	SF801VS	SF802VS	SF803VS	SF804VS	SF805VS	SF806VS	UNIT
	TO-252	SF801DS	SF802DS	SF803DS	SF804DS	SF805DS	SF806DS	
Maximum Recurrent Peak Reverse Voltage	VRRM	100	200	300	400	500	600	V
Maximum RMS Voltage	VRMS	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	VDC	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current	I(AV)	8.0						A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	IFSM	175						A
Maximum Forward Voltage at 8.0A DC	VF	1.0		1.30		1.70		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	1.0 300						uA
Typical Junction Capacitance Per Element (Note1)	CJ	45						pF
Typical Thermal Resistance (Note2)	RθJA	15						°C/W
Maximum Reverse Recovery Time(Note3)	Trr	35						ns
Operating Temperature Range	TJ	-55 to +150						°C
Storage Temperature Range	TSTG	-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: IF=0.5A, IR=1A, Irr=0.25A



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

FIG.1 - FORWARD CURRENT DERATING CURVE

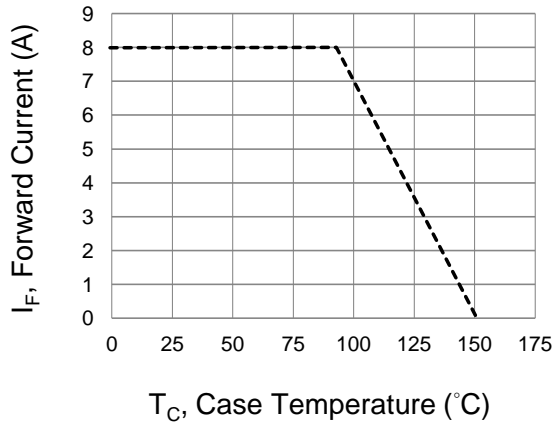


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

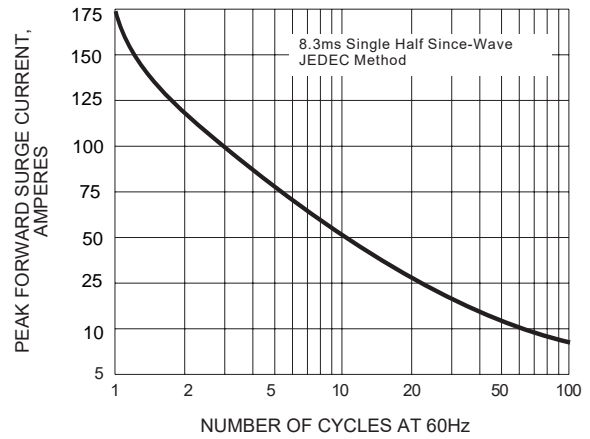


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

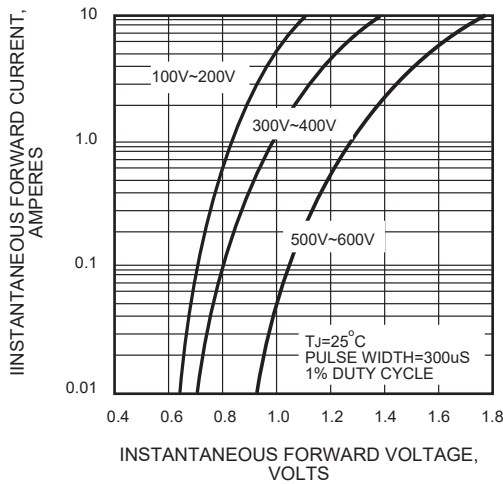


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

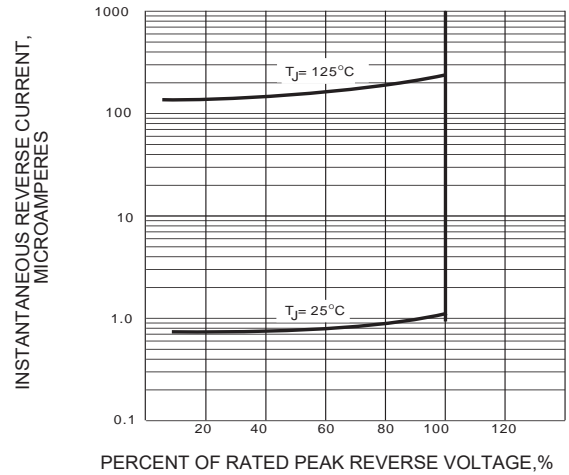
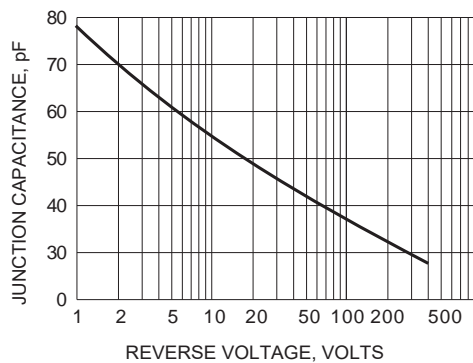


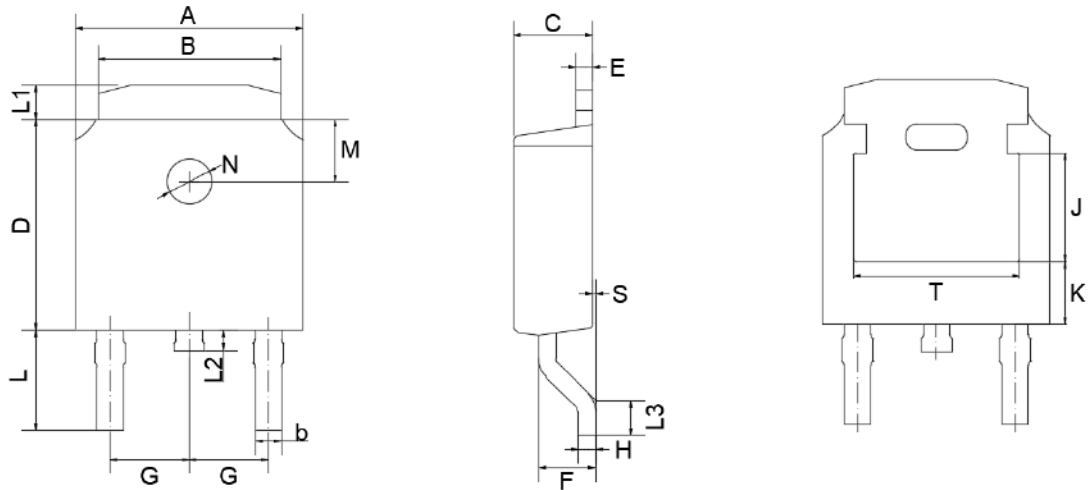
FIG.5 - TYPICAL JUNCTION CAPACITANCE





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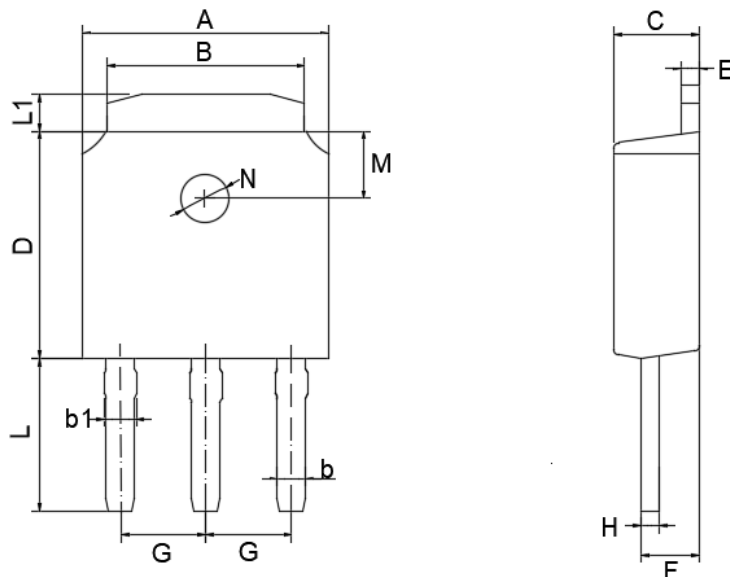
## TO-252(D-PAK) Package Outline Dimensions



TO-252(D-PAK) mechanical data

UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	M	N	J	K	T
mm	max	6.70	5.50	0.80	2.50	6.30	0.60	1.80	2.29	0.55	3.10	1.20	0.80	1.60	1.8	1.3	3.16	1.80	4.83
	min	6.30	5.10	0.30	2.10	5.90	0.40	1.30	TYPICAL	0.45	2.70	0.80	0.40	1.40	TYPICAL	TYPICAL	ref.	ref.	ref.
mil	max	264	217	31	98	248	24	71	90	22	122	47	31	63	71	51	124	71	190
	min	248	201	12	83	232	16	51	TYPICAL	18	106	31	16	55	TYPICAL	TYPICAL	ref.	ref.	ref.

## 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	6.70	5.50	0.80	0.90	2.50	6.30	0.60	1.80	2.29	0.55	4.30	1.20	1.8	1.3
	min	6.30	5.10	0.30	0.76	2.10	5.90	0.40	1.30	TYPICAL	0.45	3.90	0.80	TYPICAL	TYPICAL
mil	max	264	217	31	35	98	248	24	71	90	22	169	47	71	51
	min	248	201	12	30	83	232	16	51	TYPICAL	18	154	31	TYPICAL	TYPICAL