SF301VS/DS Series

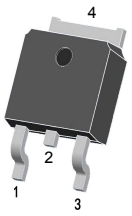
SUPER FAST GLASS PASSIVATED RECTIFIERS

FEATURES

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

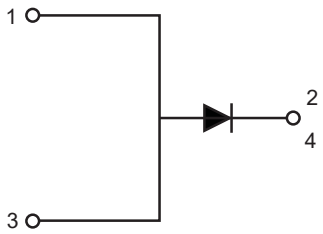
PACKAGE

TO-251



TO-252

CIRCUIT DIAGRAM



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

CHARACTERISTICS	TO-251 / TO-252	SF301VS / SF301DS	SF302VS / SF302DS	SF303VS / SF303DS	SF304VS / SF304DS	SF305VS / SF305DS	SF306VS / SF306DS	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}	700	200	300	400	500	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0						A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	130						A
Max Instantaneous Forward Voltage at 3 A DC	V_F	0.95		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	45						pF
Typical Thermal Resistance (1)	$R_{\theta JC}$	25						°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 A, I_R = 1 A, I_{rr} = 0.25 A.

TYPICAL CHARACTERISTICS

Fig.1 Maximum Average Forward Current Rating

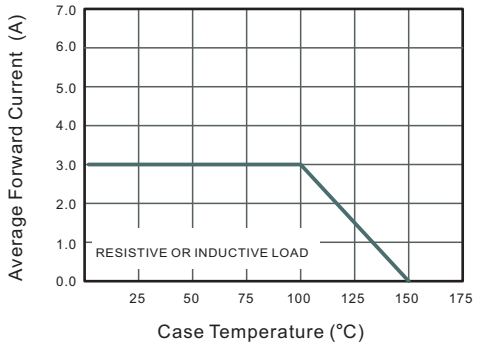


Fig.2 Typical Reverse Characteristics

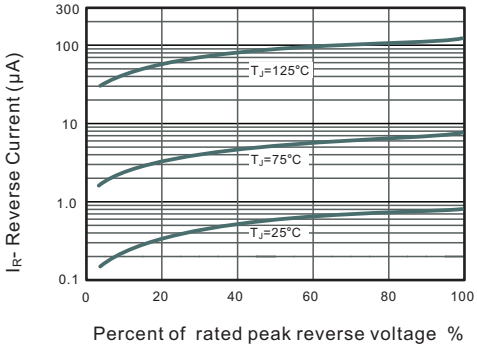


Fig.4 Typical Forward Characteristics

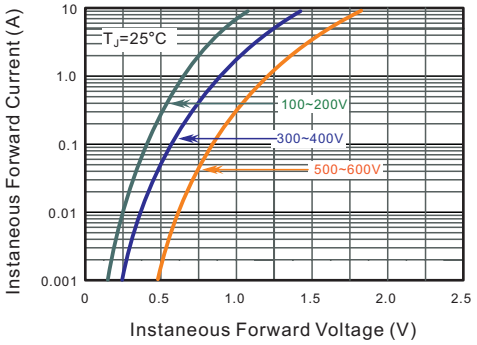


Fig.4 Typical Junction Capacitance

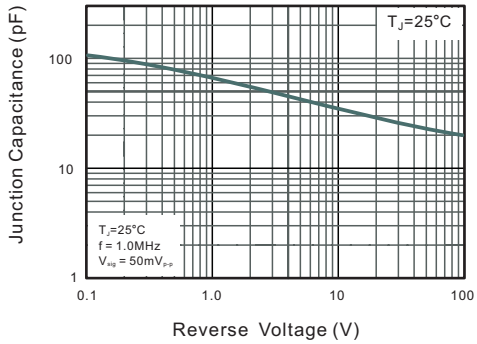
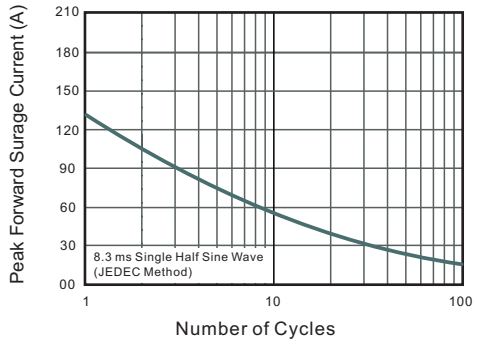
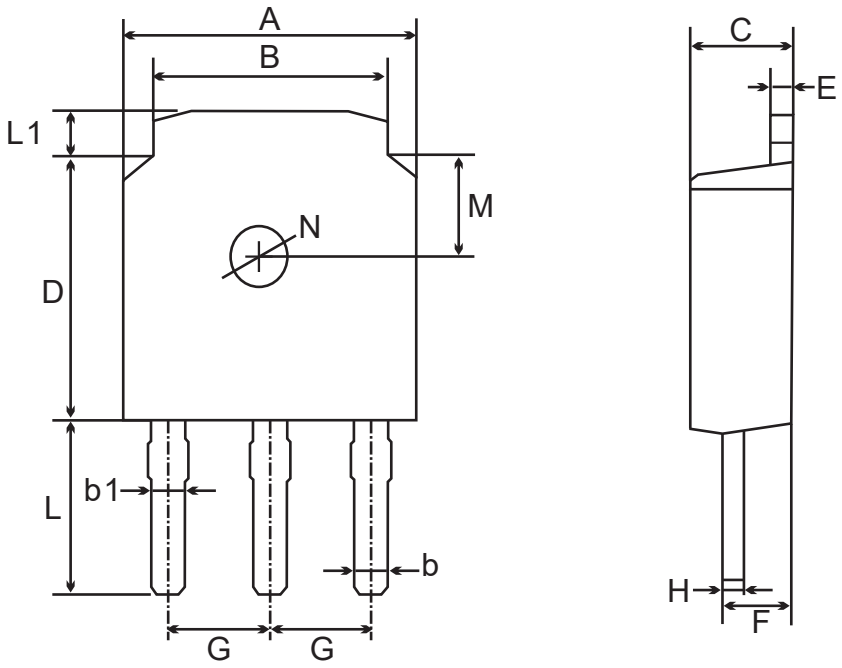


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

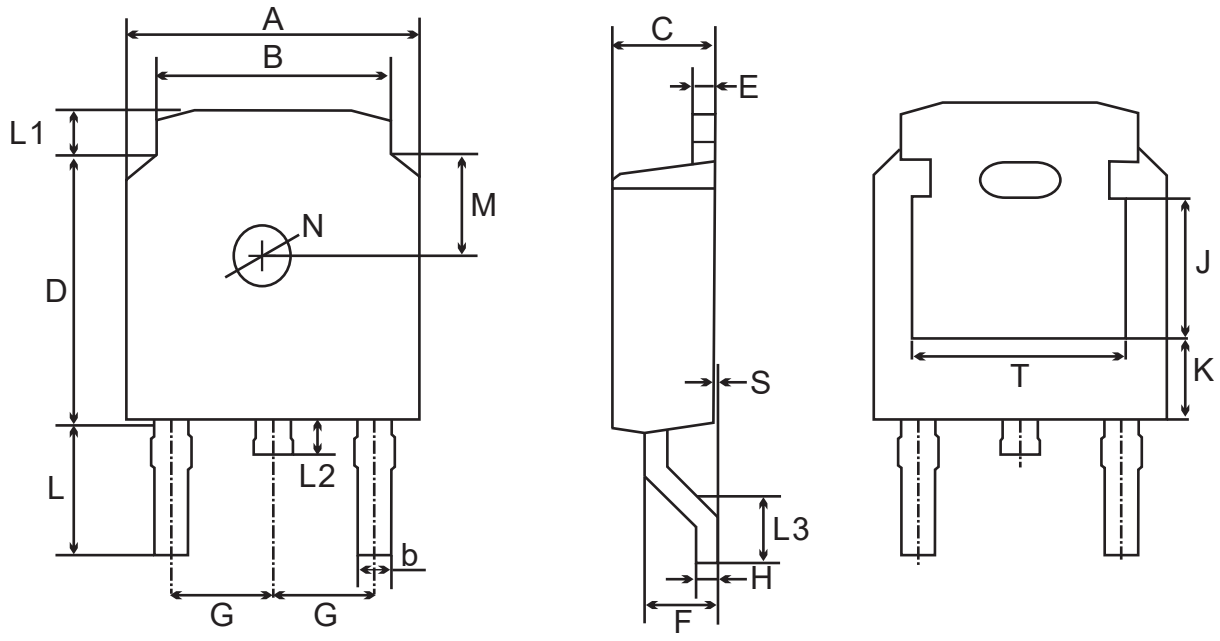


TO-251 PACKAGE OUTLINE DRAWING



SYM.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.3	6.7	0.248	0.268
B	5.1	5.5	0.201	0.217
b	0.3	0.8	0.012	0.031
b1	0.76	0.9	0.030	0.035
C	2.1	2.5	0.083	0.098
D	5.9	6.3	0.232	0.248
E	0.4	0.6	0.016	0.024
F	1.3	1.8	0.051	0.071
G	2.29 TYP.		0.090 TYP.	
H	0.45	0.55	0.018	0.022
L	3.9	4.3	0.154	0.169
L1	0.8	1.2	0.031	0.047
M	1.8 TYP.		0.071 TYP.	
N	1.3 TYP.		0.051 TYP.	

TO-252 PACKAGE OUTLINE DRAWING



SYM.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.3	6.7	0.248	0.264
B	5.1	5.5	0.201	0.217
b	0.3	0.8	0.012	0.031
C	2.1	2.5	0.083	0.098
D	5.9	6.3	0.232	0.248
E	0.4	0.6	0.016	0.024
F	1.3	1.8	0.051	0.071
G	2.29 TYP.		0.090 TYP.	
H	0.45	0.55	0.018	0.022
L	2.7	3.1	0.106	0.122
L1	0.8	1.2	0.031	0.047
L2	0.6	1.0	0.024	0.039
L3	1.40	1.75	0.055	0.069
S	0.0	0.1	0.000	0.004
M	1.8 TYP.		0.071 TYP.	
N	1.3 TYP.		0.051 TYP.	
J	3.16 REF.		0.124 TYP.	
K	1.80 REF.		0.071 TYP.	
T	4.83 REF.		0.190 TYP.	