



SUPER FAST GLASS PASSIVATED RECTIFIERS

Reverse Voltage – 100 to 600 V

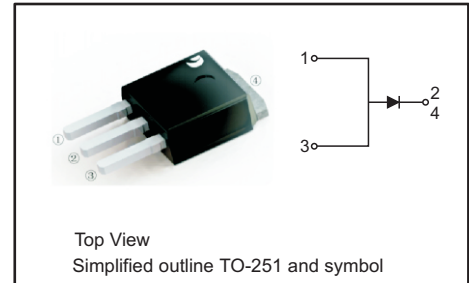
Forward Current – 10 A

FEATURES

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

PINNING

PIN	DESCRIPTION
2,4	Cathode
1,3	Anode



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

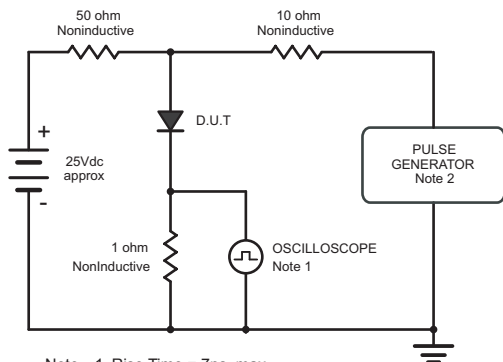
Parameter	Symbols	SF1001VYC	SF1002VYC	SF1003VYC	SF1004VYC	SF1005VYC	SF1006VYC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	V_{DC}	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current @ Fig.1	$I_{F(AV)}$	10						A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	170						A
Peak Forward Surge Current, 1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	340						A
I^2t Rating for fusing (3ms ≤ t ≤ 8.3ms)	I^2t	119.9						A ² S
Max Instantaneous Forward Voltage at 10 A	V_F	1		1.3		1.7		V
Maximum DC Reverse Current at Rated DC Reverse Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	I_R	1 350						μA
Typical Junction Capacitance ⁽¹⁾	C_j	189		123		80		pF
Maximum Reverse Recovery Time ⁽²⁾	t_{rr}	35						ns
Typical Thermal Resistance (without heat sink)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	55 6 10						$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						$^\circ\text{C}$

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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



Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

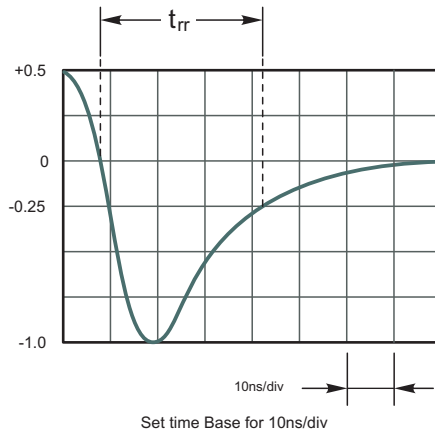


Fig.1 Forward Current Derating Curve

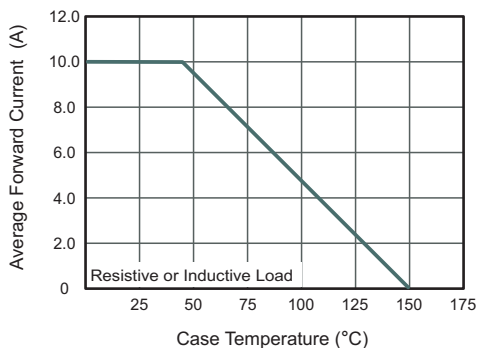


Fig.3 Typical Forward Characteristics

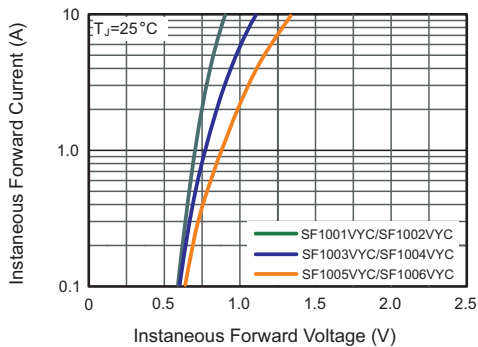


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

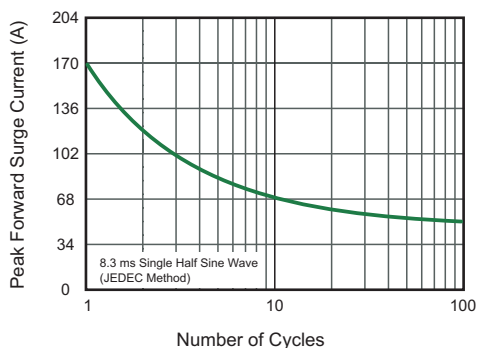


Fig.2 Typical Reverse Characteristics

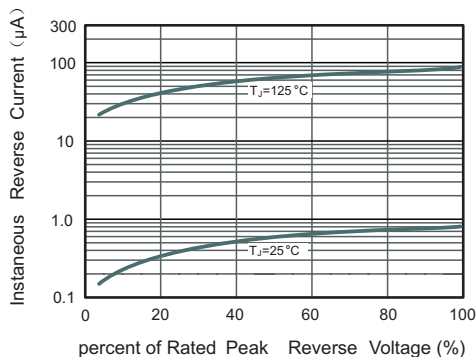
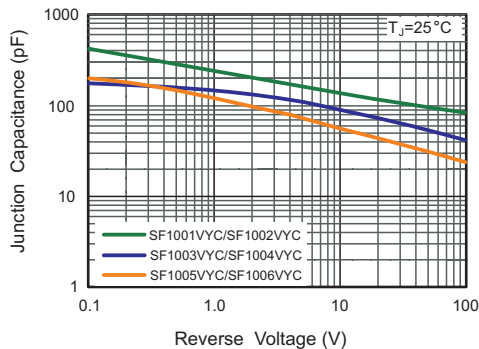


Fig.4 Typical Junction Capacitance

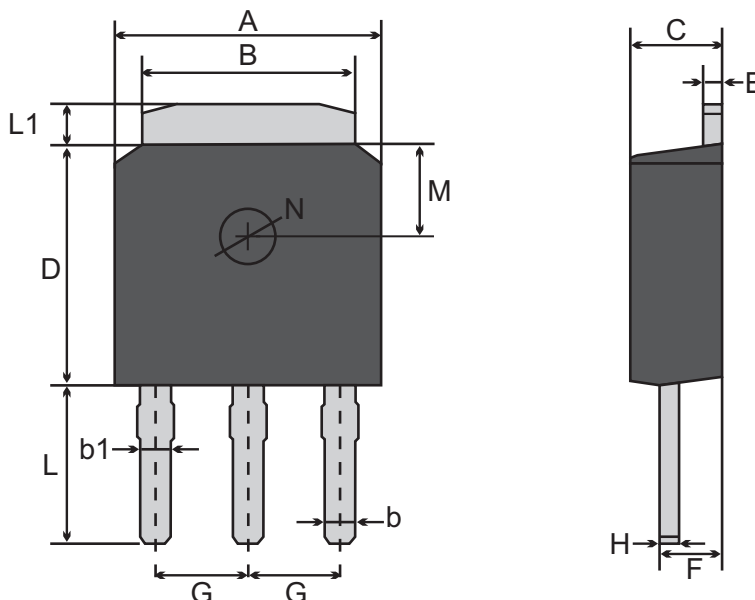




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

TO-251



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		

Marking

Type number	Marking code
SF1001VYC	SF1001VY
SF1002VYC	SF1002VY
SF1003VYC	SF1003VY
SF1004VYC	SF1004VY
SF1005VYC	SF1005VY
SF1006VYC	SF1006VY



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