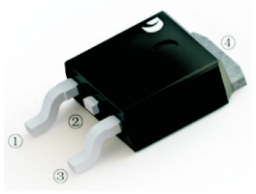
SUPER FAST GLASS PASSIVATED RECTIFIERS
Reverse Voltage – 100 to 600 V
Forward Current – 10 A

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



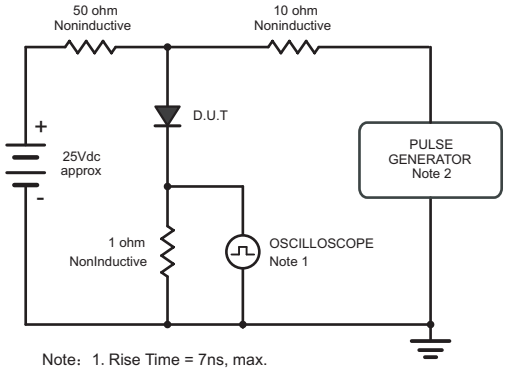
Top View
Simplified outline TO-252 and symbol

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25℃ ambient temperature unless otherwise specified

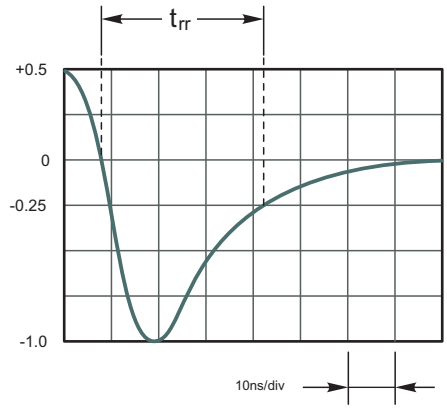
Parameter	Symbols	SF1001DYC	SF1002DYC	SF1003DYC	SF1004DYC	SF1005DYC	SF1006DYC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	V_{DC}	100	200	300	400	500	600	V
Maximum Average Forward Rectified 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^2S
Max Instantaneous Forward Voltage at 10 A	V_F	1		1.3		1.7		V
Maximum DC Reverse Current T_a = 25°C at Rated DC Reverse Voltage T_a =125°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 (3)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	55 6 10						°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
(2) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.
(3) P.C.B. mounted with 0.3" X 0.3" (8mm X 8mm) copper pad areas.

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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



Set time Base for 10ns/div

Fig.1 Forward Current Derating Curve

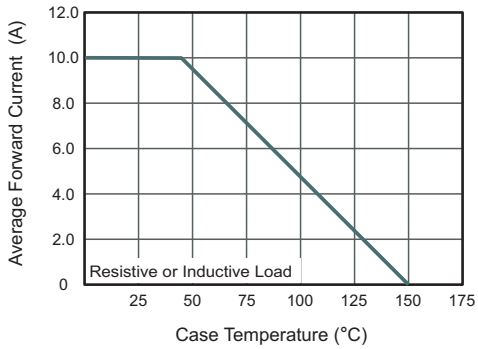


Fig.2 Typical Reverse Characteristics

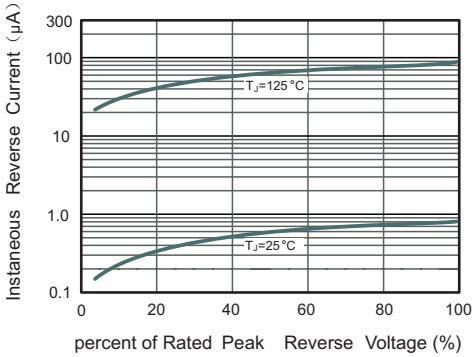


Fig.3 Typical Forward Characteristics

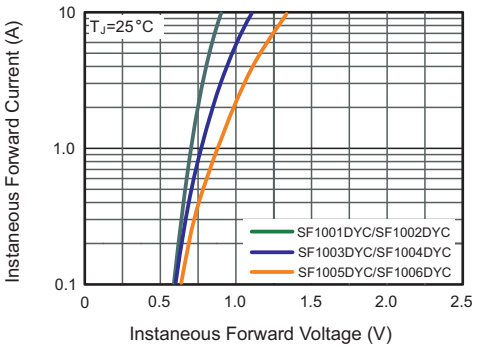


Fig.4 Typical Junction Capacitance

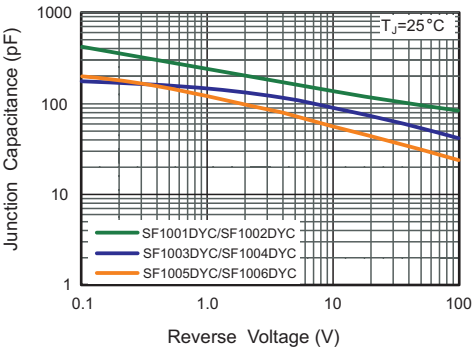
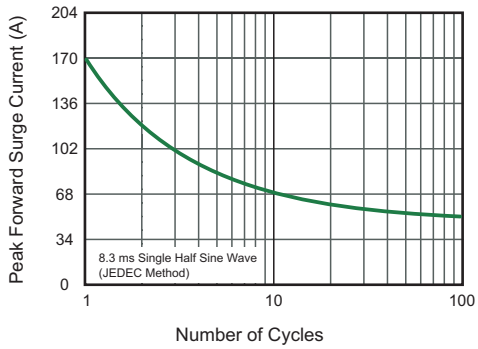
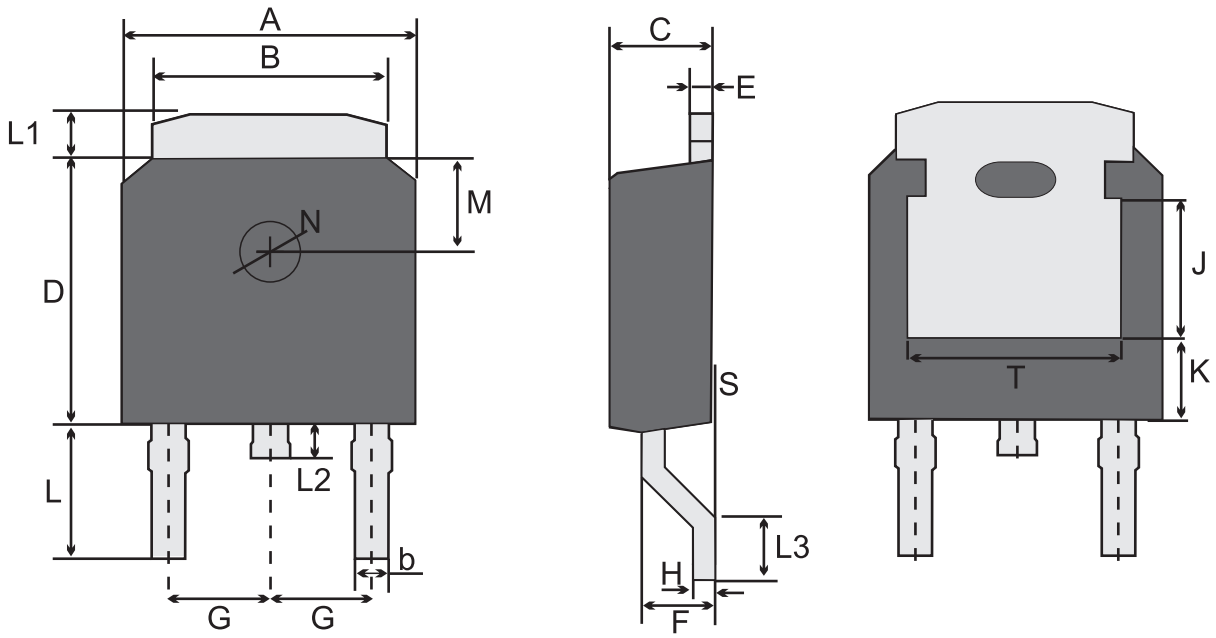


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

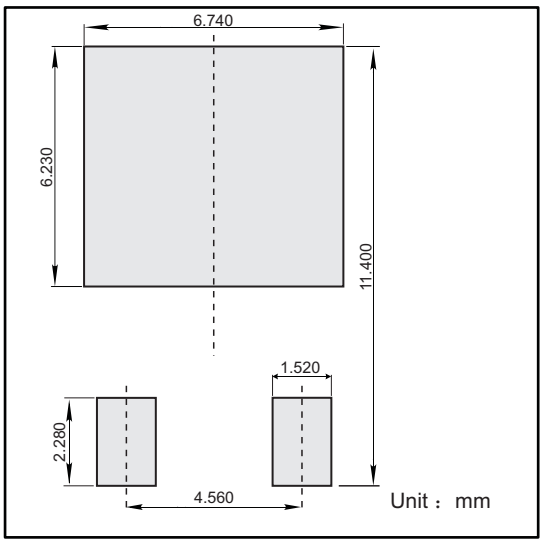
Plastic surface mounted package; 3 leads TO-252



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	34	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					

The recommended mounting pad size



Marking

Type number	Marking code
SF1001DYC	SF1001DY
SF1002DYC	SF1002DY
SF1003DYC	SF1003DY
SF1004DYC	SF1004DY
SF1005DYC	SF1005DY
SF1006DYC	SF1006DY

Important Notice and Disclaimer

Jingdao Microelectronics reserves the right to make changes to this document and its products and specifications at any time without notice.
Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Jingdao Microelectronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does Jingdao Microelectronics assume any liability for application assistance or customer product design.

Jingdao Microelectronics does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Jingdao Microelectronics.

Jingdao Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of Jingdao Microelectronics.