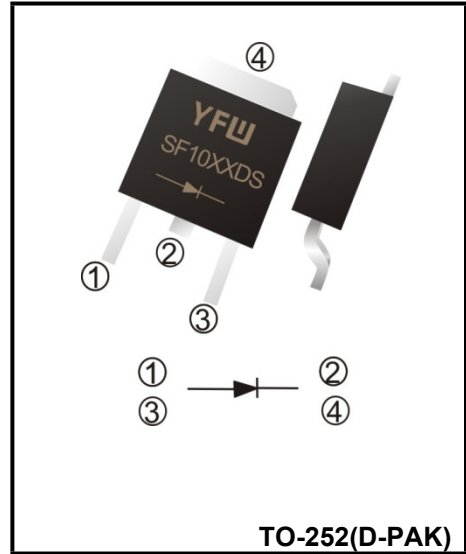


**Surface Mount Superfast Recovery Rectifier**

**Reverse Voltage - 100 to 600 V**

**Forward Current - 10 A**



**FEATURES**

- ◆ Glass Passivated Chip Junction
- ◆ High current capability
- ◆ Low forward voltage drop
- ◆ Low power loss, high efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- ◆ Case: TO-252(D-PAK)
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.32g / 0.011oz

**Absolute Maximum Ratings and characteristics**

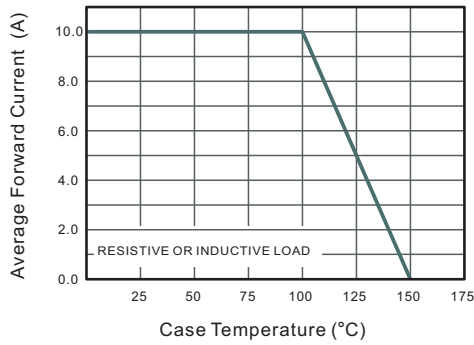
Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	SF1001DS	SF1002DS	SF1003DS	SF1004DS	SF1005DS	SF1006DS	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 at $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	10						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load(JEDEC method)	$I_{FSM}$	170						A
Maximum Instantaneous Forward Voltage at 10 A	$V_F$	0.95		1.25		1.65		V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$			1		300		$\mu\text{A}$
Typical Junction Capacitance at $V_R=4\text{V}, f=1\text{MHZ}$	$C_j$			45				pF
Maximum Reverse Recovery Time <sup>(1)</sup>	$T_{rr}$			35				nS
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JC}$			15				$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$			-55 ~ +150				$^\circ\text{C}$

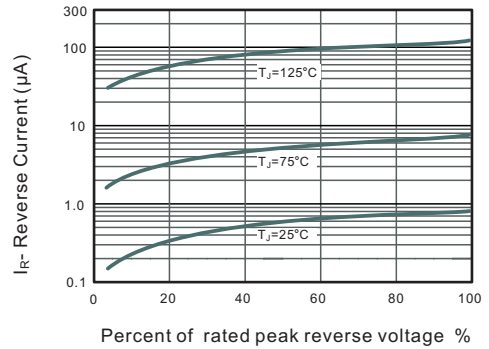
(1) Measured with  $I_F=0.5\text{A}, I_R=1\text{A}, I_{tr}=0.25\text{A}$

(2) P.C.B. mounted with 10cmX10cmX1mm copper pad areas.

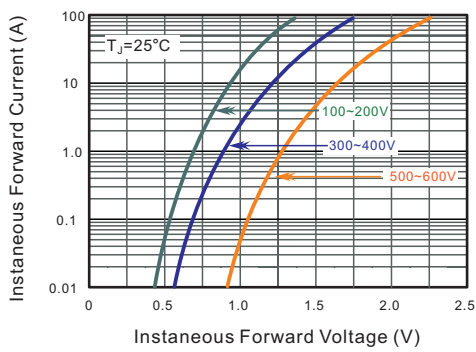
**Fig.1 Maximum Average Forward Current Rating**



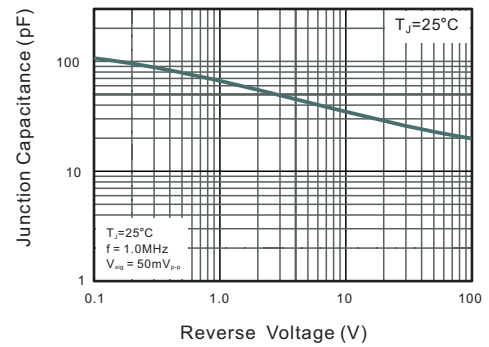
**Fig.2 Typical Reverse Characteristics**



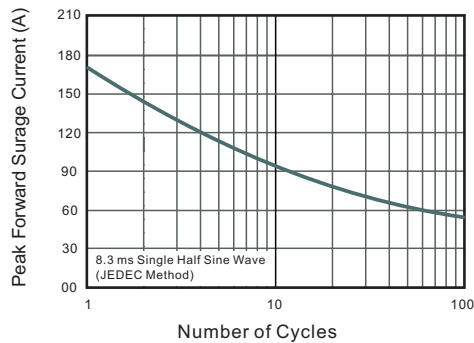
**Fig.4 Typical Forward Characteristics**



**Fig.4 Typical Junction Capacitance**

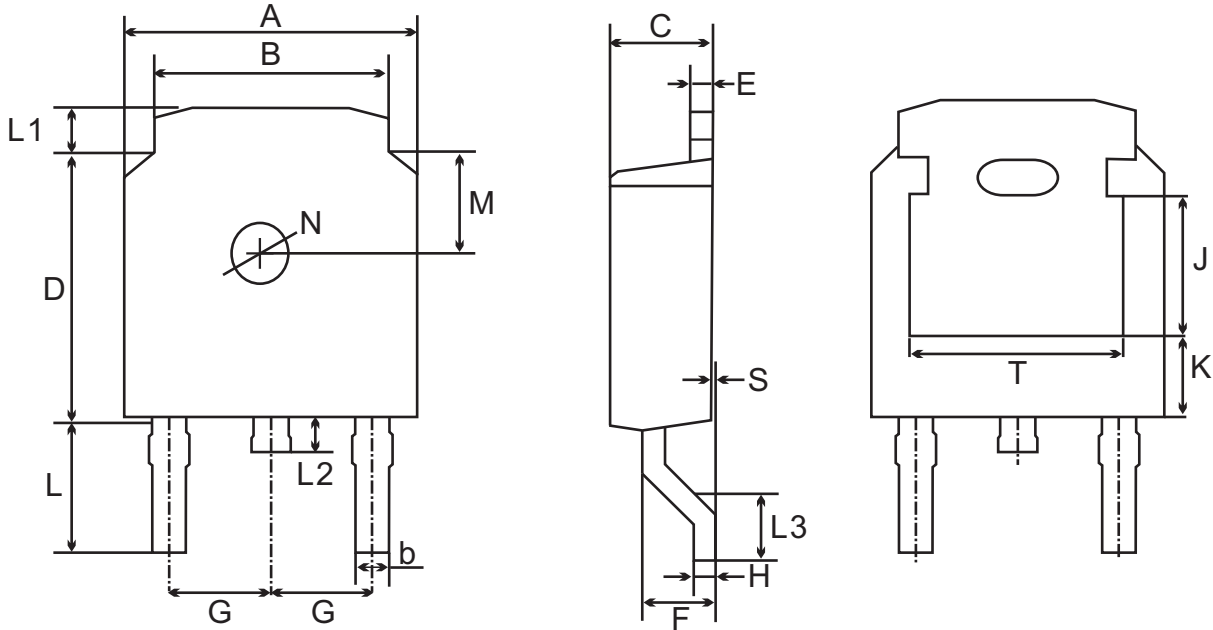


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



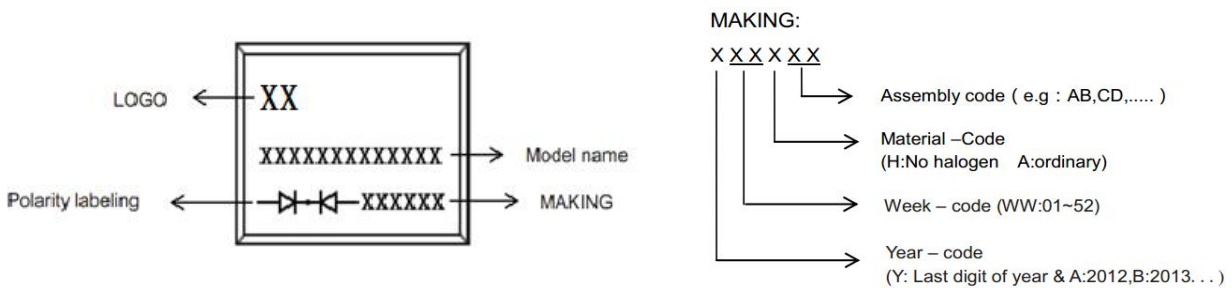
**Package Outline**

**TO-252(D-PAK)**



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	0.8	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	1.80	4.83
	min	6.3	5.1	0.3	2.1	5.9	0.4	1.3		0.45	2.7	0.8	0.6	1.40	0.0			ref.	ref.	ref.
mil	max	264	217	31	98	248	24	71	90 TYPICAL	22	122	47	39	69	4	71 TYPICAL	51 TYPICAL	124	71	190
	min	248	201	12	83	232	16	51		18	106	31	24	55	0			ref.	ref.	ref.

**Marking on the body**



**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
TO-252(D-PAK)	Tape/Reel,13"reel	2500	EIA-481-1