



DSF1A THRU DSF1J

Surface Mount Superfast Rectifiers

Reverse Voltage – 50 to 600 V

Forward Current – 1 A

FEATURES

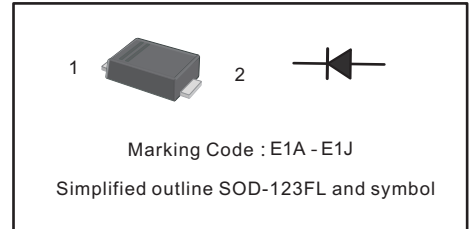
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	DSF1A	DSF1B	DSF1C	DSF1D	DSF1F	DSF1G	DSF1J	Units	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V	
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V	
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V	
Maximum Average Forward Rectified Current at $T_c = 25^\circ\text{C}$	$I_{F(AV)}$	1							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A	
Maximum Forward Voltage @ 1A	V_F	1.0			1.25		1.65		V	
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$	I_R	5					100			μA
Typical Junction Capacitance at $V=4\text{V}$, $f=1\text{MHz}$	C_j	15							pF	
Maximum Reverse Recovery Time ¹⁾	t_{rr}	35							ns	
Typical Thermal Resistance ²⁾	R_{JA}	85							$^\circ\text{C}/\text{W}$	
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ 150							$^\circ\text{C}$	

¹⁾ Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $t_r = 0.25\mu\text{s}$.

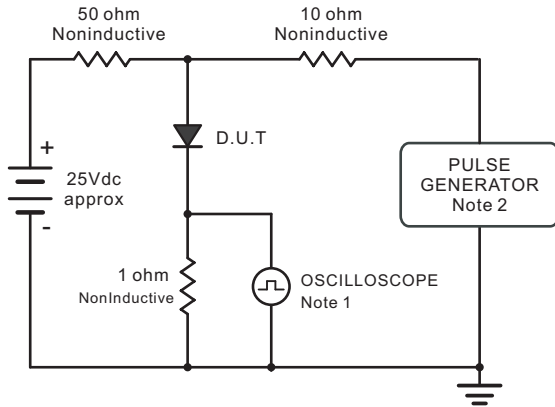
²⁾ P.C.B. mounted with 20" X 0.0625" X 5mm copper pad areas.



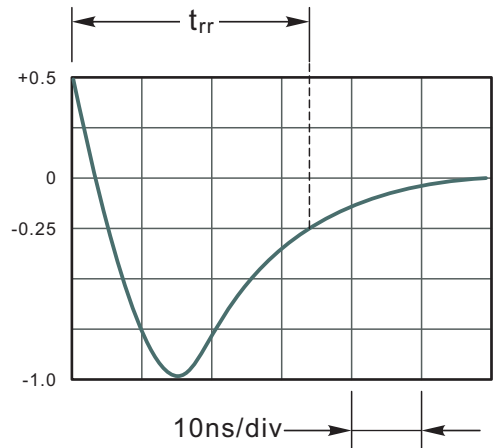
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Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

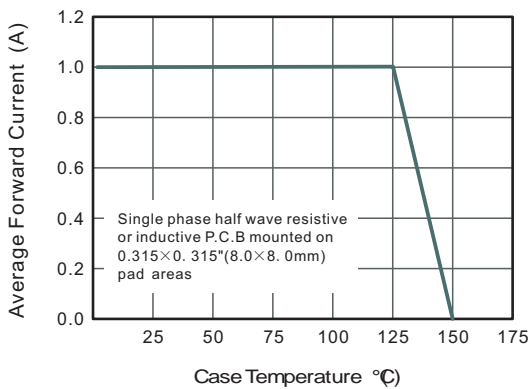


Fig.3 Typical Reverse Characteristics

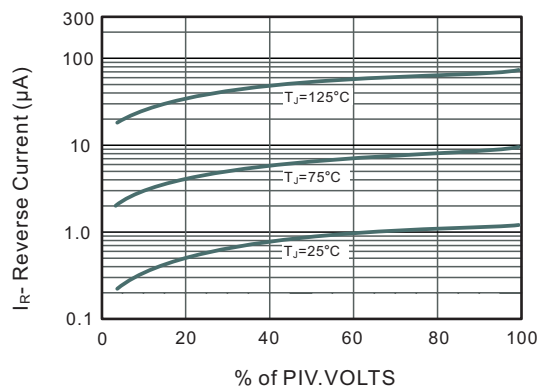


Fig.4 Typical Forward Characteristics

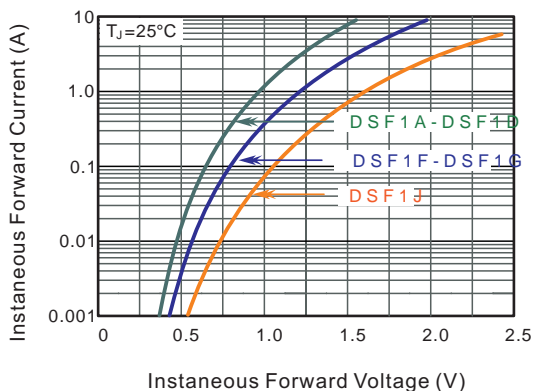
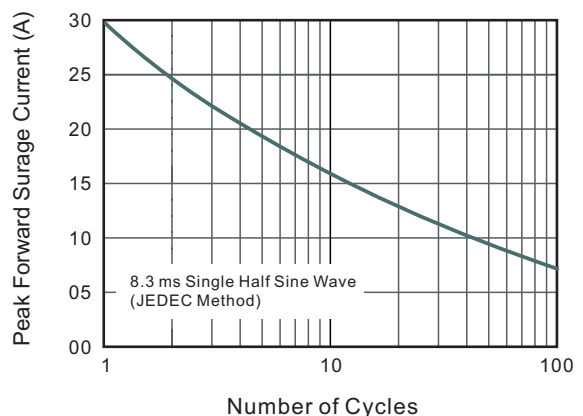


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



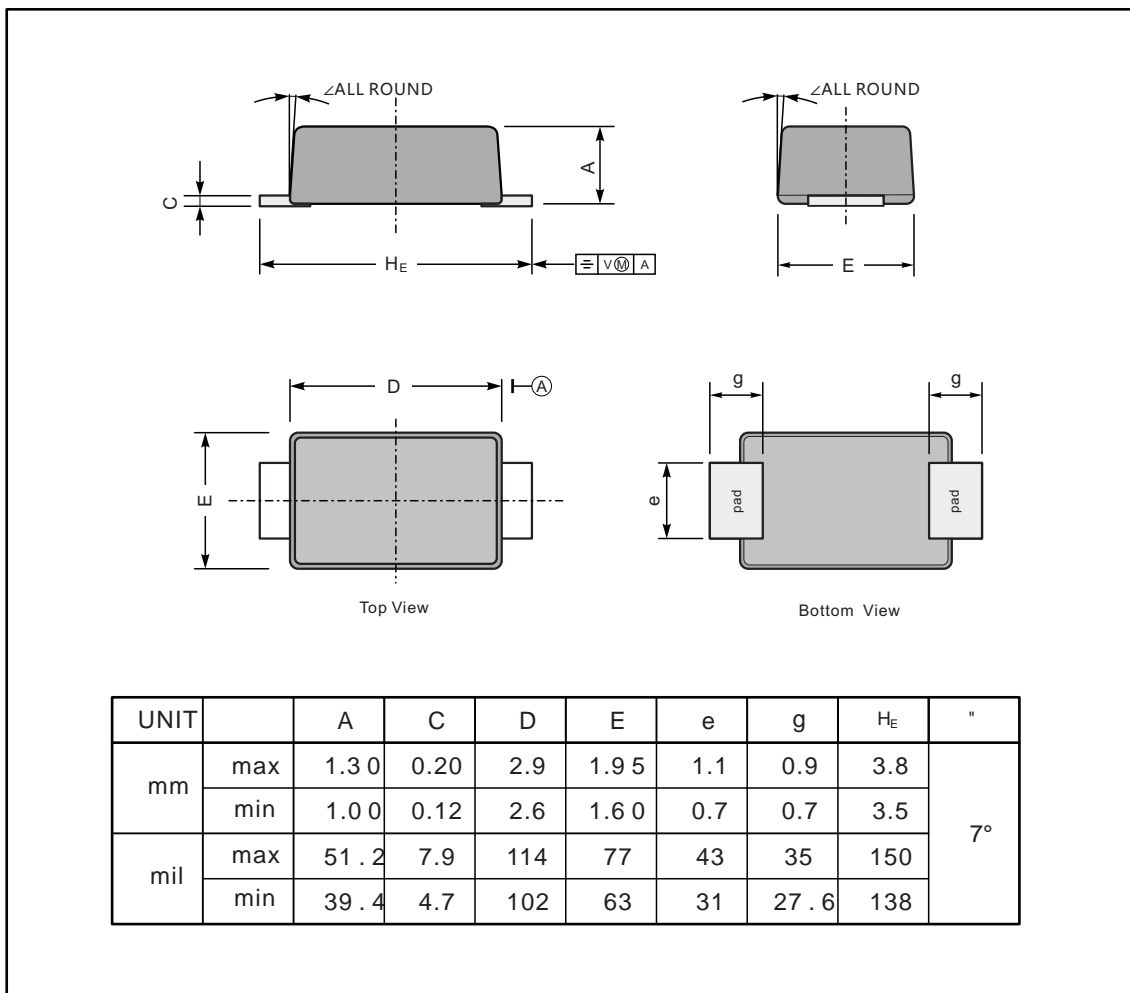
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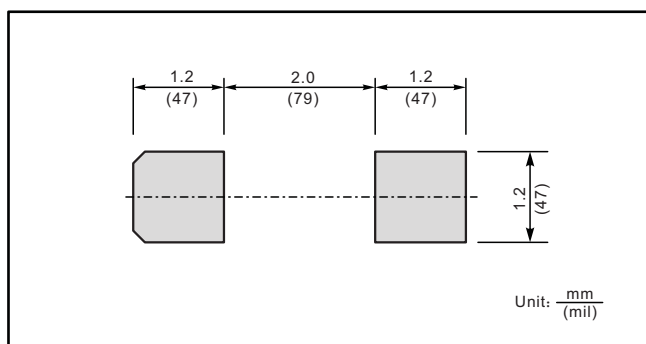
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size



Marking

Type number	Marking code
DSF1A	E1A
DSF1B	E1B
DSF1C	E1C
DSF1D	E1D
DSF1F	E1F
DSF1G	E1G
DSF1J	E1J