



# DSF0.5A THRU DSF0.5J

## Surface Mount Superfast Rectifiers

Reverse Voltage – 50 to 600 V

Forward Current –0.5A

### FEATURES

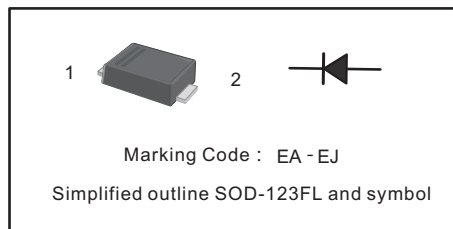
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

### 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	DSF0.5A	DSF0.5B	DSF0.5C	DSF0.5D	DSF0.5F	DSF0.5G	DSF0.5J	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 $T_L = 100\text{ }^\circ\text{C}$	$I_{F(AV)}$	0.5							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	20							A	
Maximum Forward Voltage at 0.5A	$V_F$	1.0				1.25		1.65	V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5				100			$\mu\text{A}$	
Typical Junction Capacitance at $V_R=4\text{V}$ , $f=1\text{MHz}$	$C_j$	10								pF
Maximum Reverse Recovery Time at $I_F=0.5\text{A}$ , $I_R=1\text{A}$ , $I_{rr}=0.25\text{A}$	$t_{rr}$	35								ns
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$	

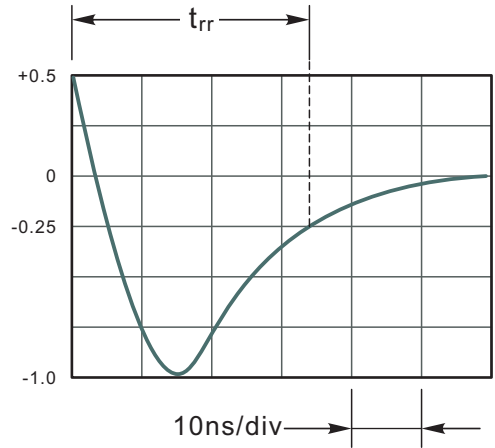
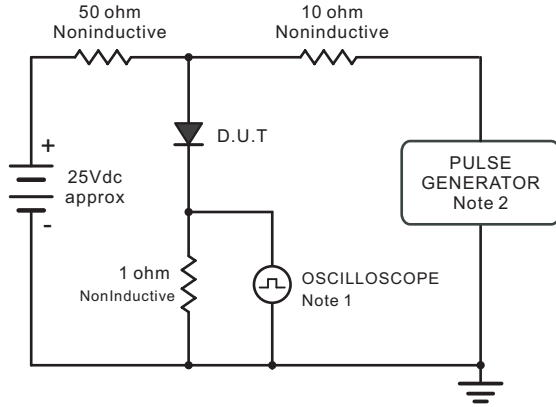


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## Surface Mount Superfast Rectifiers

### 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 Forward Current Derating Curve

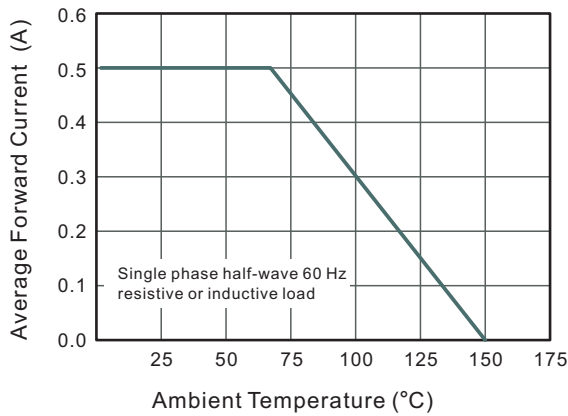


Fig.3 Typical Reverse Characteristics

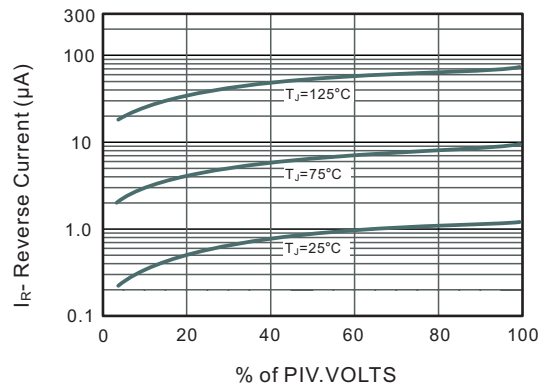


Fig.4 Typical Forward Characteristics

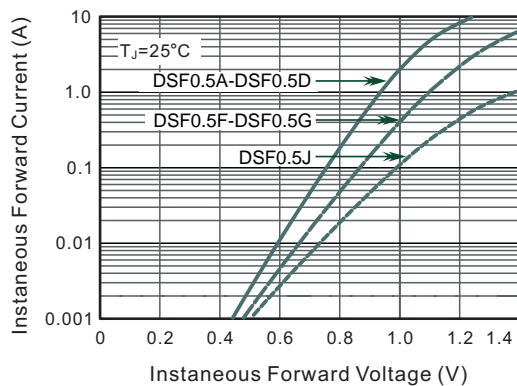
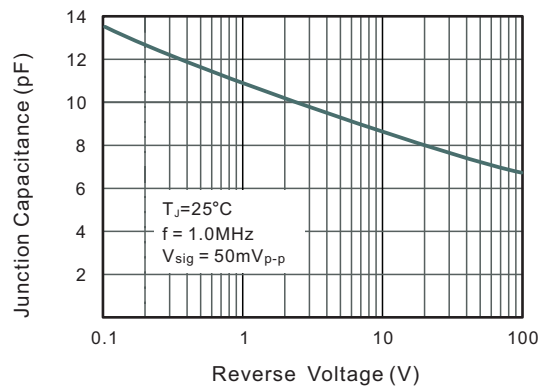


Fig.5 Typical Junction Capacitance



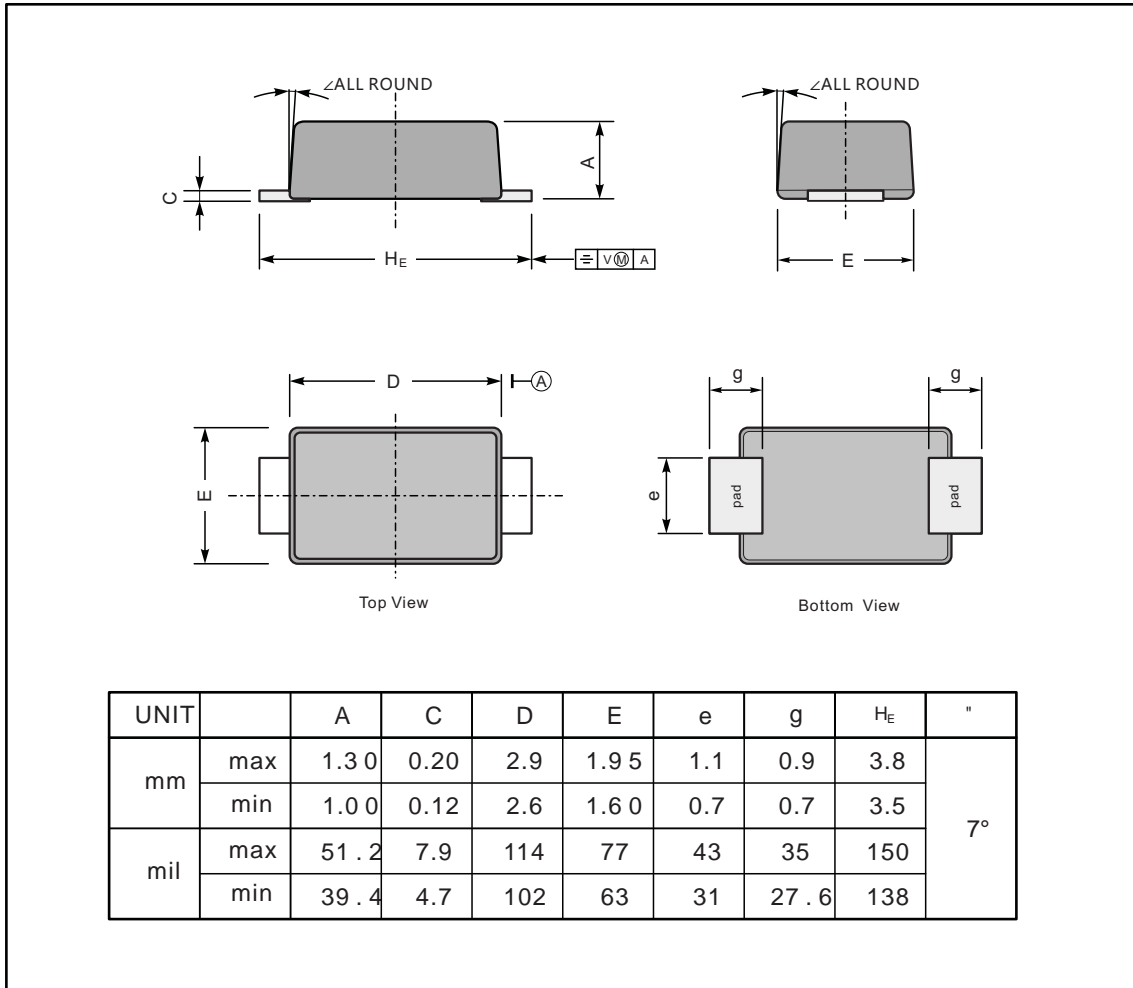
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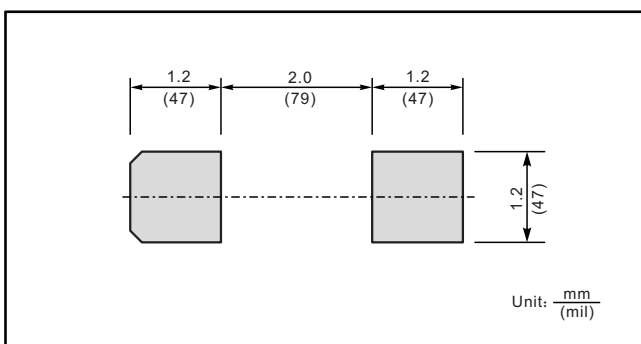
### PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



### The recommended mounting pad size



### Marking

Type number	Marking code
DSF0.5A	EA
DSF0.5B	EB
DSF0.5C	EC
DSF0.5D	ED
DSF0.5F	EF
DSF0.5G	EG
DSF0.5J	EJ