



# DSF1A THRU DSF1J

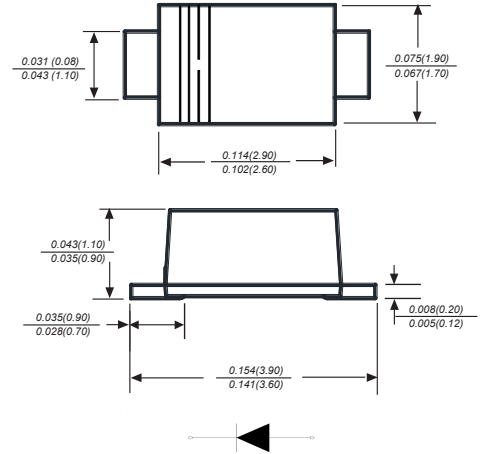
Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mounted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

SOD-123FL



Dimensions in inches and (millimeters)

### Mechanical Data

Case: JEDEC UOD-123FL molded plastic body

Terminals: Solderable per MIL-STD-750, Method 2026A

Polarity: Polarity symbol marking on body

Mounting Position: Any

Weight: 0.0067 ounce, 0.02 grams

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	DSF1A	DSF1B	DSF1C	DSF1D	DSF1E	DSF1G	DSF1J	UNITS
Marking Code		MDD E1A	MDD E1B	MDD E1C	MDD E1D	MDD E1E	MDD E1G	MDD E1J	
Maximum repetitive peak reverse voltage	$V_{RMM}$	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 TL (see fig. 1)	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25							A
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.95			1.25		1.7		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							$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_J$	10							pF
Maximum Reverse Recovery Time (NOTE 2)	$t_{rr}$	35							ns
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	85							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +125							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

**Note:** 1. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

3. The typical data above is for reference only.



## Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

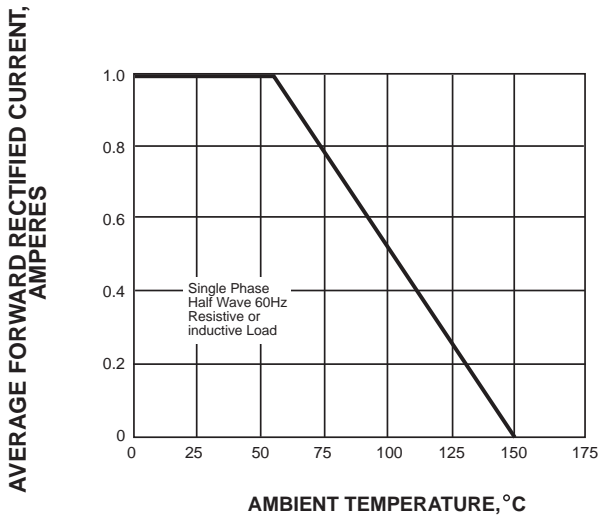


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

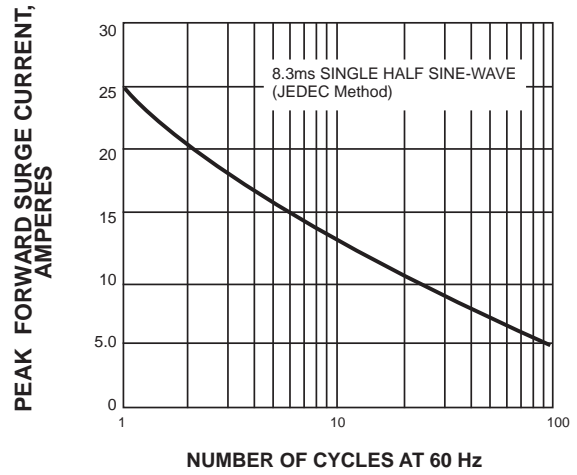


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

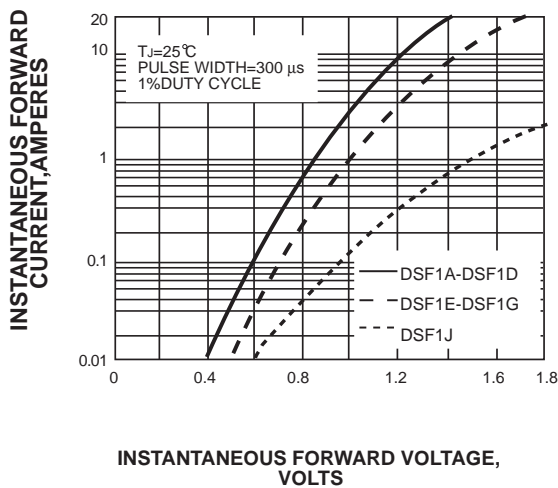


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

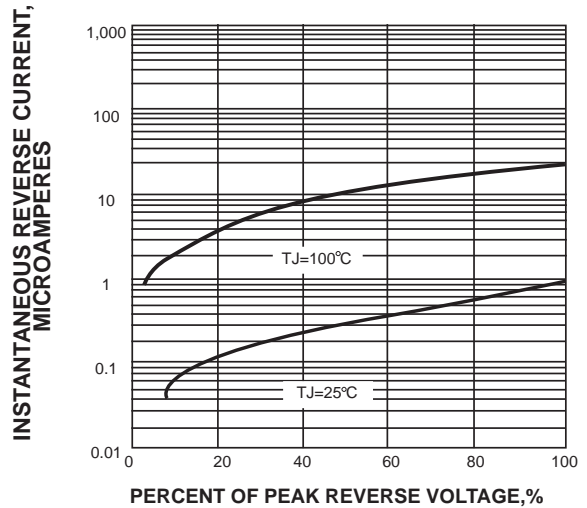


FIG. 5-TYPICAL JUNCTION CAPACITANCE

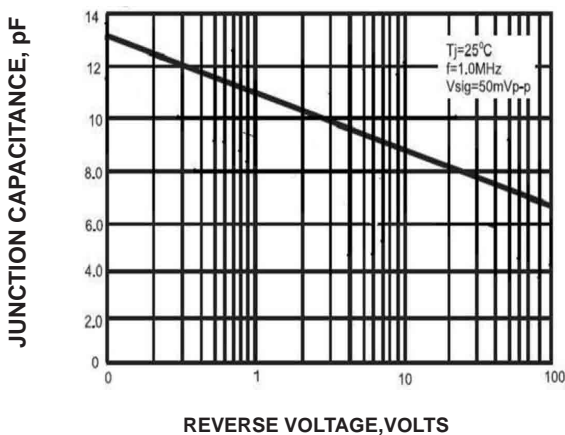
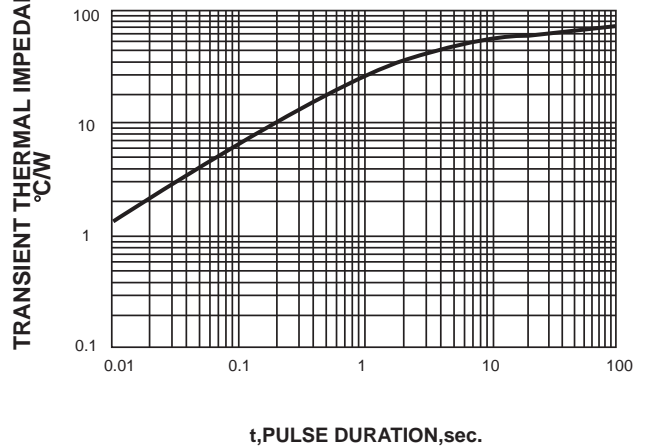


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.



# DSF1A THRU DSF1J

Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

## Packing information



unit:mm

Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	50.0
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173

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