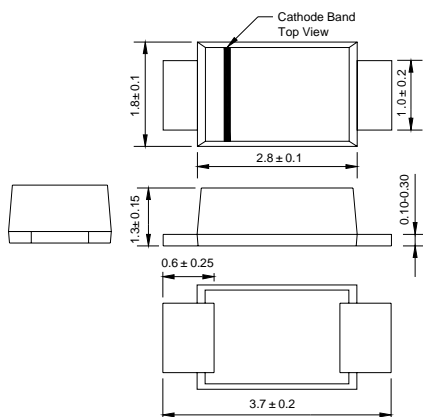


# DSF1A THRU DSF1J

**SURFACE MOUNT SUPER FAST RECTIFIER**  
Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

## SOD-123FL



## 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

## MECHANICAL DATA

**Case:** JEDEC SOD-123FL molded plastic body over passivated chip  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.0007 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%.

MDD Catalog Number	SYMBOLS	DSF1A E1A	DSF1B E1B	DSF1C E1C	DSF1D E1D	DSF1E E1E	DSF1G E1G	DSF1J E1J	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.95			1.25		1.7		Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0				100.0			$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35				ns			
Typical junction capacitance (NOTE 2)	$C_J$	10				pF			
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	85				K/W			
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

**Note:** 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .  
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
3. PCB mounted on 0.2\*0.2" (5.0\*5.0mm) copper pad area.

# RATINGS AND CHARACTERISTIC CURVES DSF1A THRU DSF1J

FIG. 1- FORWARD CURRENT DERATING CURVE

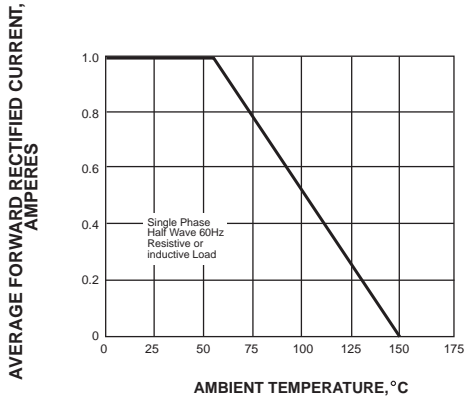


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

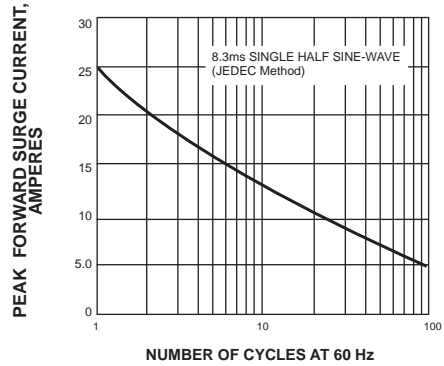


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

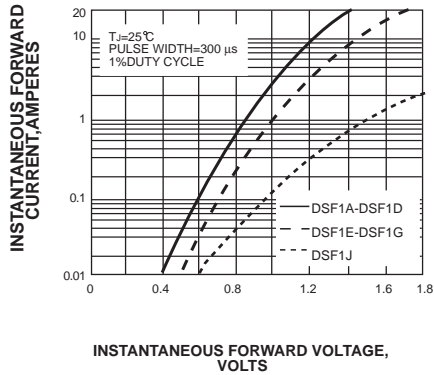


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

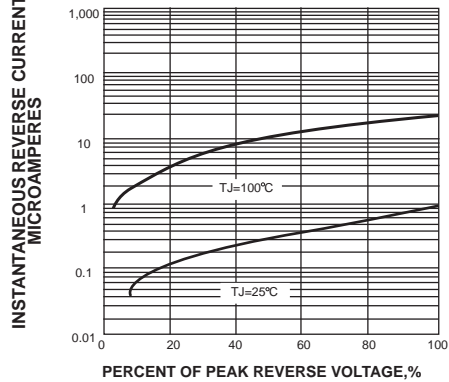


FIG. 5-TYPICAL JUNCTION CAPACITANCE

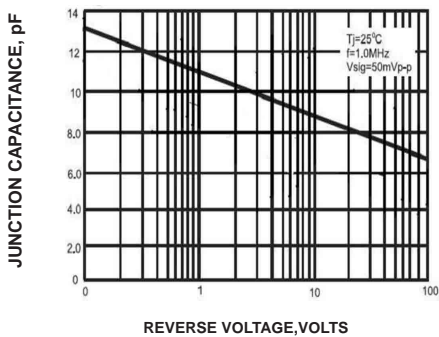


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

