



# DSF0.5A~DSF0.5G Surface Mount Superfast Rectifiers

## Major Ratings and Characteristics

$I_{F(AV)}$	0.5 A
$V_{RRM}$	50 V to 400 V
$I_{FSM}$	15 A
$I_R$	5 $\mu$ A
$V_F$	0.95V, 1.25V
$T_j \text{ max.}$	150 °C

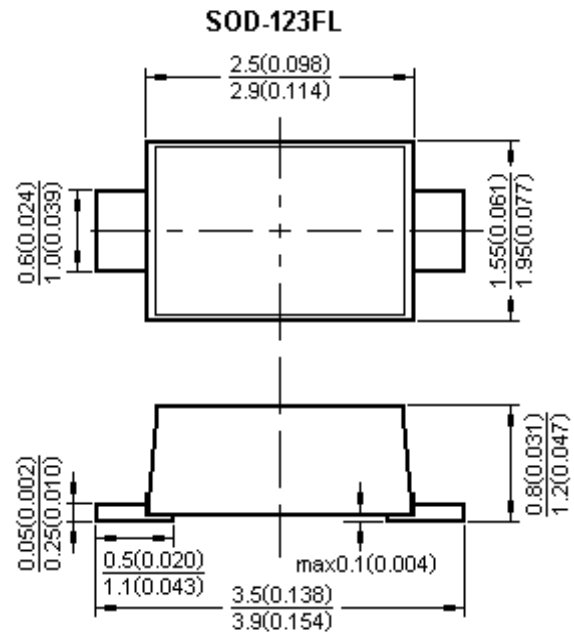


## Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC

## Mechanical Date

- **Case:** JEDEC SOD-123FL molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end
- **Weight:** 0.017gram



Dimensions in millimeters and (inches)

## Maximum Ratings & Thermal Characteristics & Electrical Characteristics

( $T_A = 25\text{ °C}$  unless otherwise noted)

	DSF-	Symbol	0.5A	0.5B	0.5C	0.5D	0.5F	0.5G	UNIT
Maximum repetitive peak reverse voltage		$V_{RRM}$	50	100	150	200	300	400	V
Maximum RMS voltage		$V_{RMS}$	35	70	105	140	210	280	V
Maximum DC blocking voltage		$V_{DC}$	50	100	150	200	300	400	V
Maximum average forward rectified current		$I_{F(AV)}$	0.5						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		$I_{FSM}$	15						A
Maximum instantaneous forward voltage at 0.5A		$V_F$	0.95			1.25			V
Maximum DC reverse current at Rated DC blocking voltage	$T_A = 25\text{ °C}$ $T_A = 100\text{ °C}$	$I_R$	5.0			100			$\mu$ A
Maximum reverse recovery time at $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$		$t_{rr}$	35						nS
Typical thermal resistance		$R_{\theta JA}$	150						°C/W
Operating junction and storage temperature range		$T_J, T_{STG}$	-55 to +150						°C

Note1: Mounted on FR-4 P.C.B. With 0.9x1.5 mm copper pad areas ( $\approx 35\text{ }\mu\text{m}$  thick)



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

Fig.1 Forward Current Derating Curve

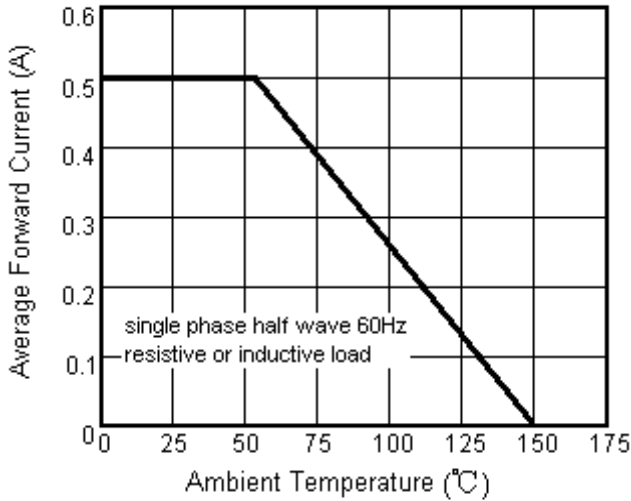


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

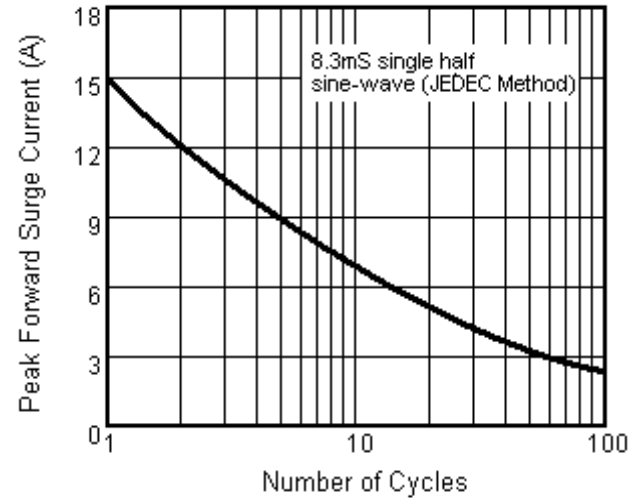


Fig.3 Typical Instantaneous Forward Characteristics

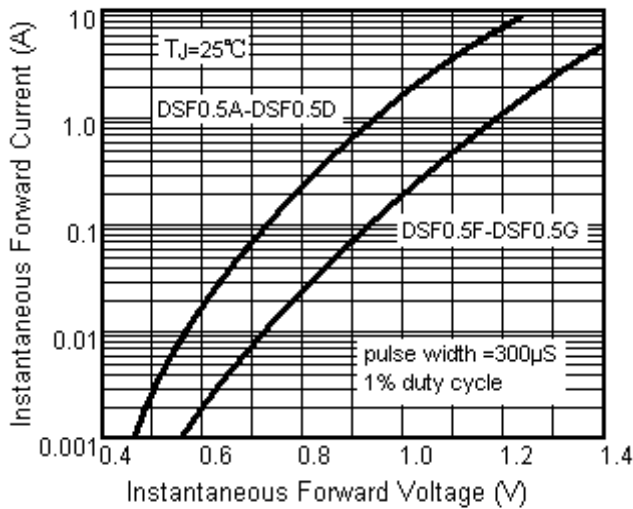


Fig.4 Typical Reverse Characteristics

