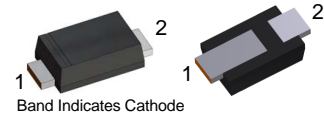


# Surface Mount Fast Recovery Rectifiers

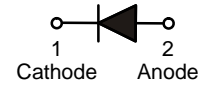
## RS1JFP - RS1MFP

### Features

- Low Power Loss, High Efficiency
- Larger Cathode Pad for Improved Power Dissipation
- Ultra Thin Profile – Package Height <1.0 mm
- High Surge Capacity
- Low Forward Voltage: 1.3 V Maximum
- UL Flammability 94V-0 Classification
- MSL 1 per J-STD-020
- RoHS Compliant / Green Molding Compound
- Industrial Device Qualified per AEC-Q101 Standards  
 \* See Authorized Use Policy



**SOD-123EP**  
**CASE 425AC**



### MARKING DIAGRAM



xLS = Specific Device Code (x = J, K, M)  
 Z = Assembly Plant Code  
 Y = 1-Digit Weekly Date Code

### ORDERING INFORMATION

Device	Package	Shipping
RS1JFP	SOD-123EP	3000 / Tape & Reel
RS1KFP	SOD-123EP	3000 / Tape & Reel
RS1MFP	SOD-123EP	3000 / Tape & Reel

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, [BRD8011/D](#).

# RS1JFP – RS1MFP

## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value			Unit
		RS1JFP	RS1KFP	RS1MFP	
$V_{RRM}$	Repetitive Peak Reverse Voltage	600	800	1000	V
$V_{RMS}$	RMS Reverse Voltage	420	560	700	V
$V_R$	DC Blocking Voltage	600	800	1000	V
$I_{F(AV)}$	Average Forward Rectified Current	1.2			A
$I_{FSM}$	Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	50			A
$T_J$	Operating Junction Temperature Range	-55 to +150			$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150			$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## THERMAL CHARACTERISTICS (Note 1) ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$\Psi_{JL}$	Typical Thermal Characteristics, Junction-to-Lead (Note 2)	12	$^\circ\text{C/W}$
$R_{\theta JA}$	Typical Thermal Resistance, Junction-to-Ambient	140	$^\circ\text{C/W}$

1. Per JESD51-3 recommended thermal test board. Device mounted on FR-4 PCB, board size = 76.2 mm x 114.3 mm.
2. Thermocouple soldered at cathode lead.

## ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_F$	Instantaneous Forward Voltage (Note 3)	$I_F = 1.2\text{ A}$			1.3	V
$I_R$	Reverse Current at Rated $V_R$	$T_J = 25\text{ }^\circ\text{C}$			5	$\mu\text{A}$
		$T_J = 125\text{ }^\circ\text{C}$			150	
$C_J$	Junction Capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$		18		pF
$T_{rr}$	Reverse Recovery Time	$I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_{rr} = 0.25\text{ A}$			300	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

3. Pulse test with  $PW = 300\text{ }\mu\text{s}$ , 1% duty cycle.

# RS1JFP – RS1MFP

## TYPICAL PERFORMANCE CHARACTERISTICS

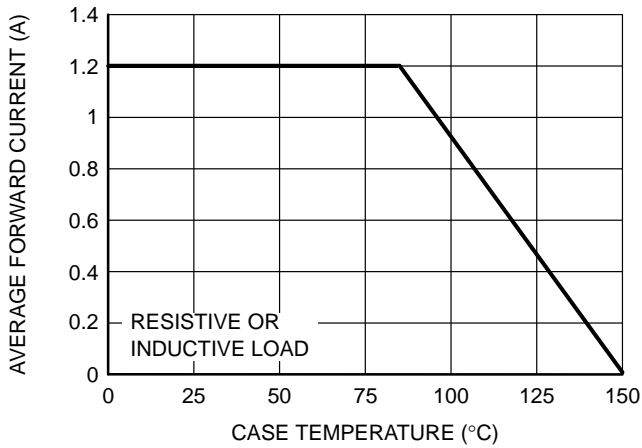


Figure 1. Maximum Forward Current Derating Voltage

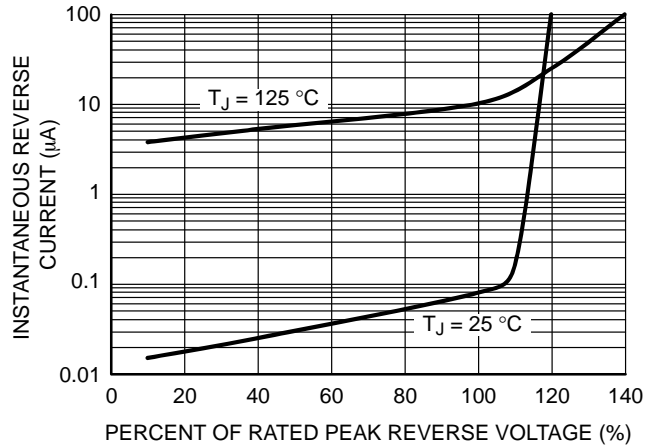


Figure 2. Typical Reverse Characteristics

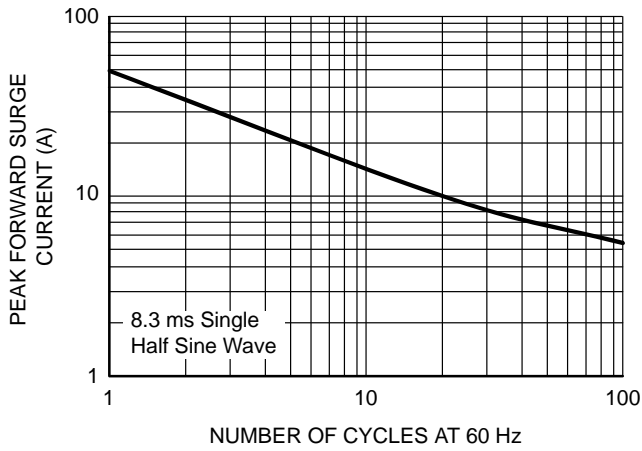


Figure 3. Maximum Non-Repetitive Forward Surge Current

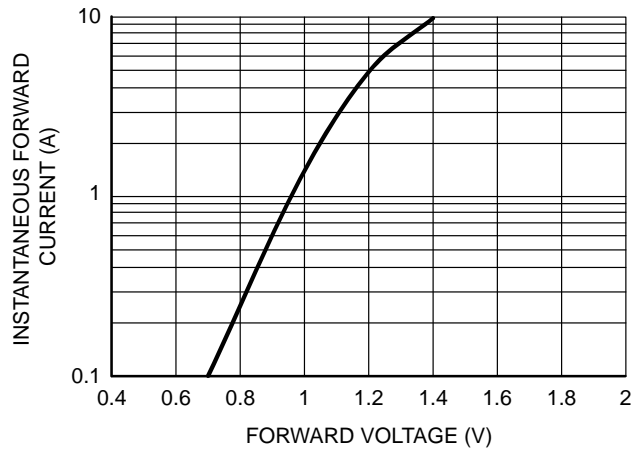


Figure 4. Typical Instantaneous Forward Characteristics

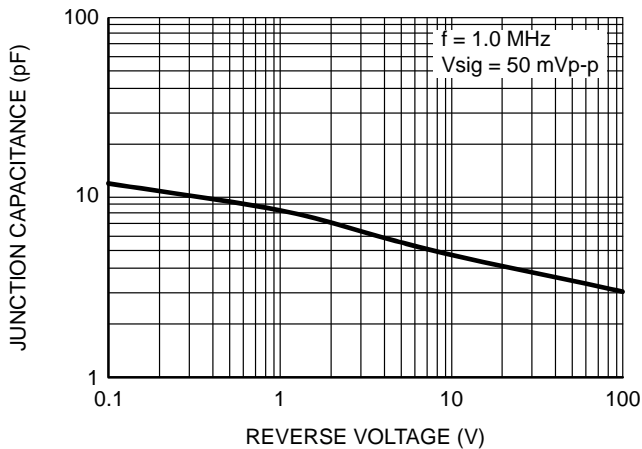


Figure 5. Typical Junction Capacitance

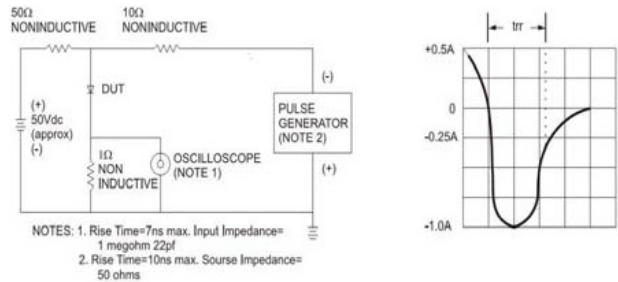


Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram

# RS1JFP – RS1MFP

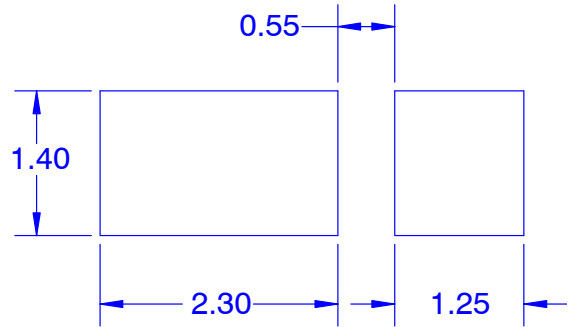
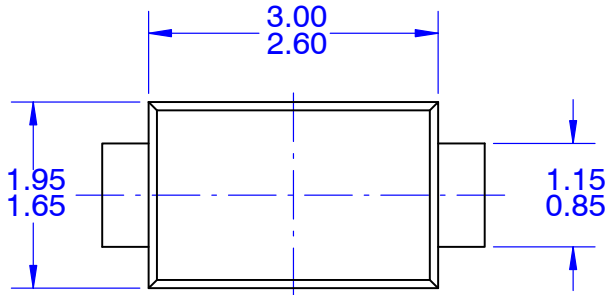
## REVISION HISTORY

Revision	Description of Changes	Date
2	Converted the document to <b>onsemi</b> format.	5/21/2026

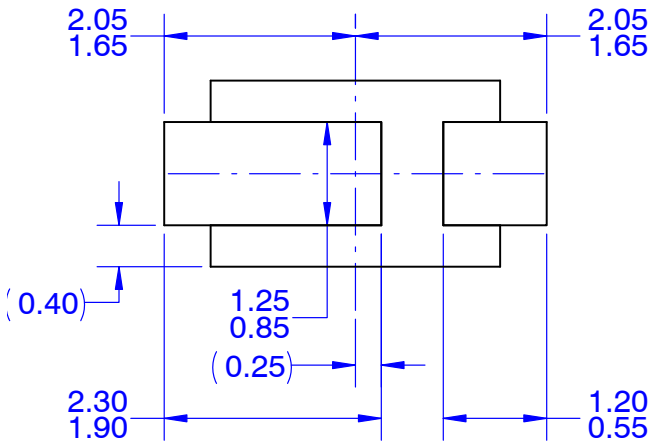
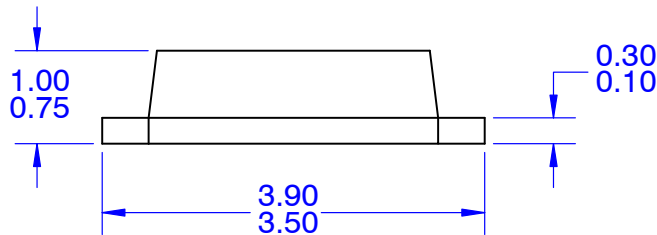
This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.

**SOD-123EP**  
CASE 425AC  
ISSUE O

DATE 31 AUG 2016



LAND PATTERN RECOMMENDATION  
LONG PAD IS CATHODE



NOTES:

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- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.

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