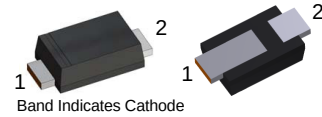


Surface Mount Fast Recovery Rectifiers

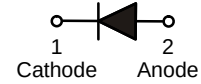
RS1JFP - RS1MFP

Features

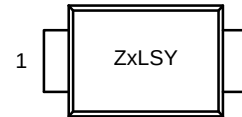
- Low Power Loss, High Efficiency
- Larger Cathode Pad for Improved Power Dissipation
- Ultra Thin Profile – Package Height <1.0 mm
- High Surge Capacity
- Low Forward Voltage: 1.3 V Maximum
- UL Flammability 94V-0 Classification
- MSL 1 per J-STD-020
- RoHS Compliant / Green Molding Compound
- Industrial 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 ($T_A = 25^\circ\text{C}$ 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) ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
Ψ_{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 ($T_A = 25^\circ\text{C}$ 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	$T_J = 25^\circ\text{C}$			5	μA
		$T_J = 125^\circ\text{C}$			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.



TYPICAL PERFORMANCE CHARACTERISTICS

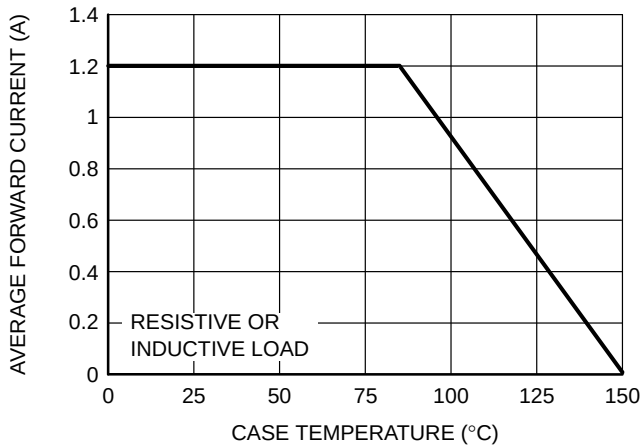


Figure 1. Maximum Forward Current Derating Voltage

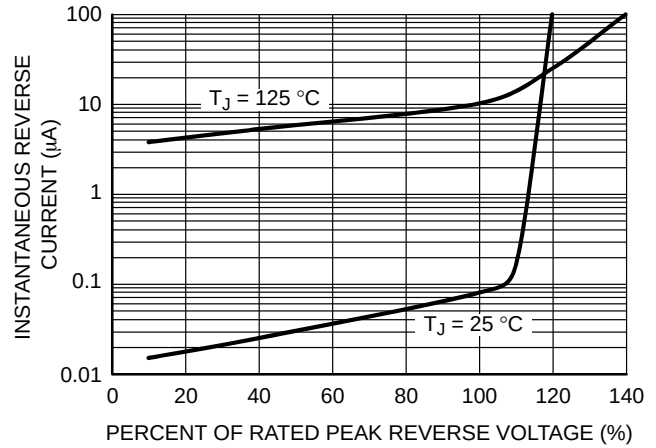


Figure 2. Typical Reverse Characteristics

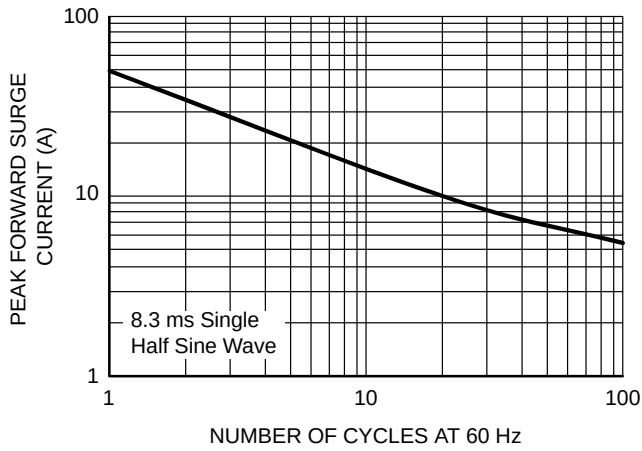


Figure 3. Maximum Non-Repetitive Forward Surge Current

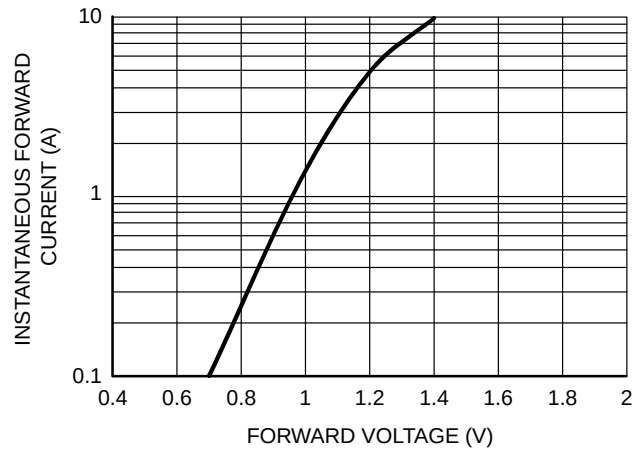


Figure 4. Typical Instantaneous Forward Characteristics

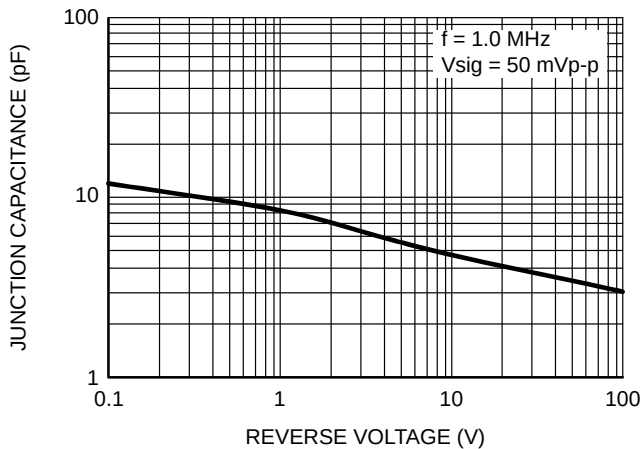


Figure 5. Typical Junction Capacitance

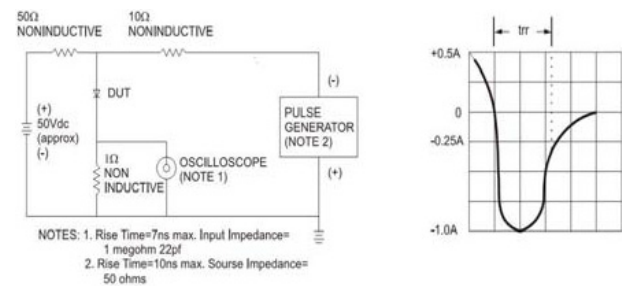


Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram

RS1JFP – RS1MFP

REVISION HISTORY

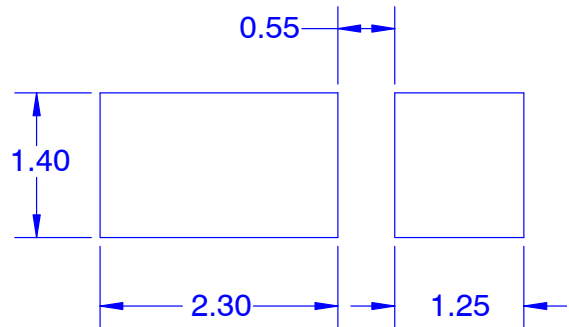
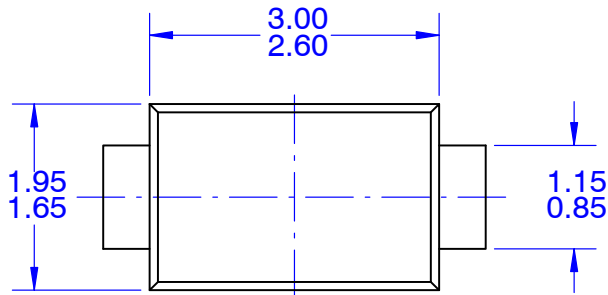
Revision	Description of Changes	Date
2	Converted the document to onsemi format.	5/21/2026

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.

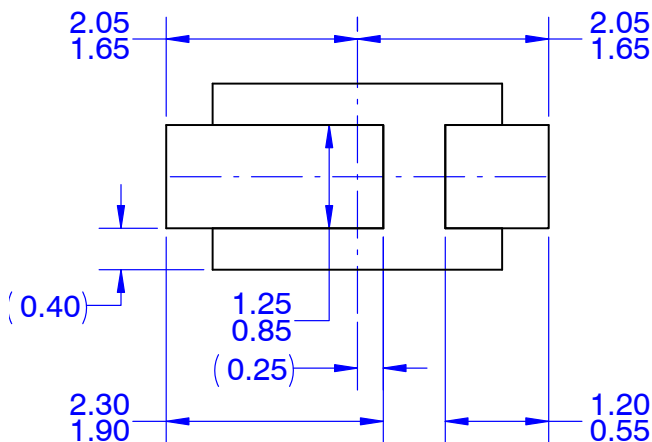
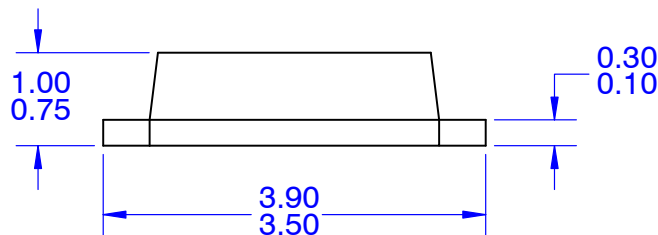


SOD-123EP
CASE 425AC
ISSUE O

DATE 31 AUG 2016



LAND PATTERN RECOMMENDATION
LONG PAD IS CATHODE



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