



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

**SSR2010J and SSR2015J  
 SSR2010M and SSR2015M  
 SSR2010Z and SSR2015Z**

**Designer's Data Sheet**

**Part Number / Ordering Information <sup>1/</sup>**

**SSR20 15 J**

**Screening<sup>2/</sup>**  
 \_\_\_ = None  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Lead Bend Option**  
 \_\_\_ = Straight Leads  
 UB = Up Bend  
 DB = Down Bend

**Package**  
 J = TO-257  
 M = TO-254  
 Z = TO-254Z

**Voltage**  
 10 = 100 V  
 15 = 150 V

**20 AMP  
 100 - 150 VOLTS  
 LOW LEAKAGE  
 SCHOTTKY RECTIFIER**

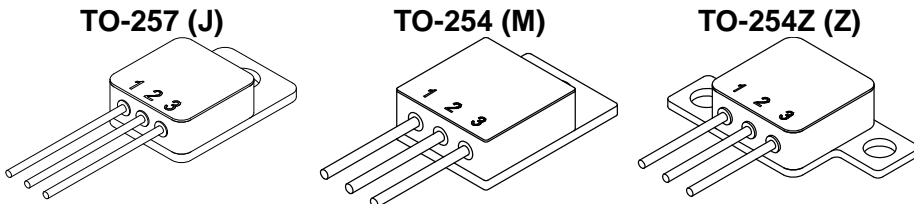
**FEATURES:**

- PIV: 150 Volts
- Average Output Current: 20 Amps
- Very Low Reverse Leakage Current
- Low Forward Voltage Drop
- Guard Ring for Overvoltage Protection
- Isolated Hermetically Sealed Package
- Custom Lead Forming Available
- Ultrasonic Aluminum Wire Bonds
- 175°C Operating Junction Temperature
- TX, TXV, and Space Level Screening Available - Consult Factory

<b>MAXIMUM RATINGS<sup>3/</sup></b>		<b>Symbol</b>	<b>Value</b>	<b>Unit</b>
<b>Peak Repetitive Reverse Voltage and DC Blocking Voltage</b>	<b>SSR2010</b> <b>SSR2015</b>	$V_{RRM}$ $V_{RWM}$ $V_R$	100 150	<b>Volts</b>
<b>Average Rectified Forward Current<sup>4/</sup></b> (Resistive load, 60 Hz, sine wave, $T_A = 25^\circ\text{C}$ )		$I_o$	20	<b>Amps</b>
<b>Peak Surge Current<sup>4/</sup></b> (8.3 ms pulse, half sine wave, superimposed on $I_o$ , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	175	<b>Amps</b>
<b>Operating and Storage Temperature</b>		$T_{OP}$ & $T_{stg}$	-55 to +175	<b>°C</b>
<b>Maximum Thermal Resistance<sup>4/</sup></b> (Junction to case)		$R_{\theta JC}$	2.0	<b>°C/W</b>

**NOTES:**

- 1/ For ordering information, price, operating curves, and availability – contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ All electrical characteristics @25°C unless otherwise specified.
- 4/ Pins 2 and 3 connected together



**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RS0087K**

**DOC**



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Electrical Characteristics		Symbol	Min	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1 A_{DC}$ , 300 - 500 $\mu$ sec pulse)	$T_A = -55^\circ C$	$V_{F1}$	0.66	-	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F2}$	0.56	0.61	
	$T_A = 125^\circ C$	$V_{F3}$	0.42	0.47	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 5 A_{DC}$ , 300 - 500 $\mu$ sec pulse)	$T_A = -55^\circ C$	$V_{F4}$	0.79	-	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F5}$	0.71	0.79	
	$T_A = 125^\circ C$	$V_{F6}$	0.56	0.64	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 10 A_{DC}$ , 300 - 500 $\mu$ sec pulse)	$T_A = -55^\circ C$	$V_{F7}$	0.92	-	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F8}$	0.82	0.90	
	$T_A = 125^\circ C$	$V_{F9}$	0.67	0.74	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 20 A_{DC}$ , 300 - 500 $\mu$ sec pulse)	$T_A = -55^\circ C$	$V_{F10}$	1.05	-	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F11}$	0.93	1.00	
	$T_A = 125^\circ C$	$V_{F12}$	0.79	0.87	
<b>Reverse Leakage Current</b> ( $T_A = 25^\circ C$ , 300 $\mu$ sec pulse minimum)	$V_R = 100 V$	$I_{R1}$	0.2	5	$\mu A$
	$V_R = 150 V$		5.0	50	
<b>Reverse Leakage Current</b> ( $T_A = +125^\circ C$ , 300 $\mu$ sec pulse minimum)	$V_R = 100 V$	$I_{R2}$	150	750	$\mu A$
	$V_R = 150 V$		500	2500	
<b>Reverse Leakage Current</b> ( $T_A = +150^\circ C$ , 300 $\mu$ sec pulse minimum)	$V_R = 100 V$	$I_{R3}$	0.75	-	mA
	$V_R = 150 V$		2.50		
<b>Junction Capacitance</b> ( $f = 1 MHz$ , $T_A = 25^\circ C$ )	$V_R = 5 V$	$C_J$	460	-	pF
	$V_R = 10 V$		335	400	

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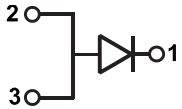
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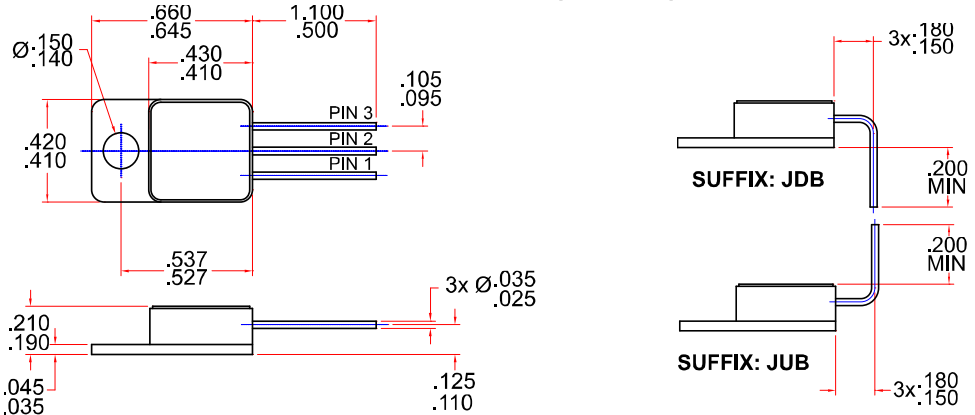
**PIN OUT:**  
**Rectifier Configuration**

**PIN 1: CATHODE**  
**PIN 2: ANODE**  
**PIN 3: ANODE**

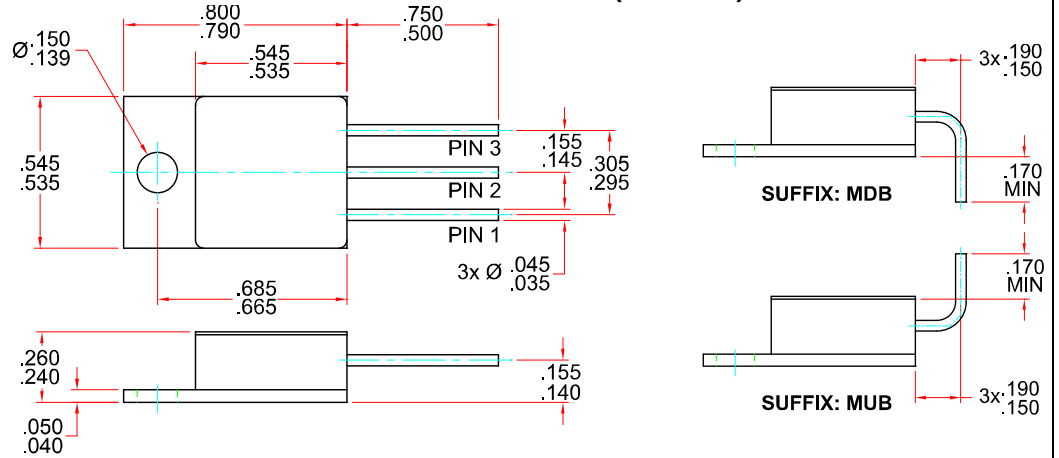


NOTE: pins 2 and 3 must be externally connected together for optimal performance

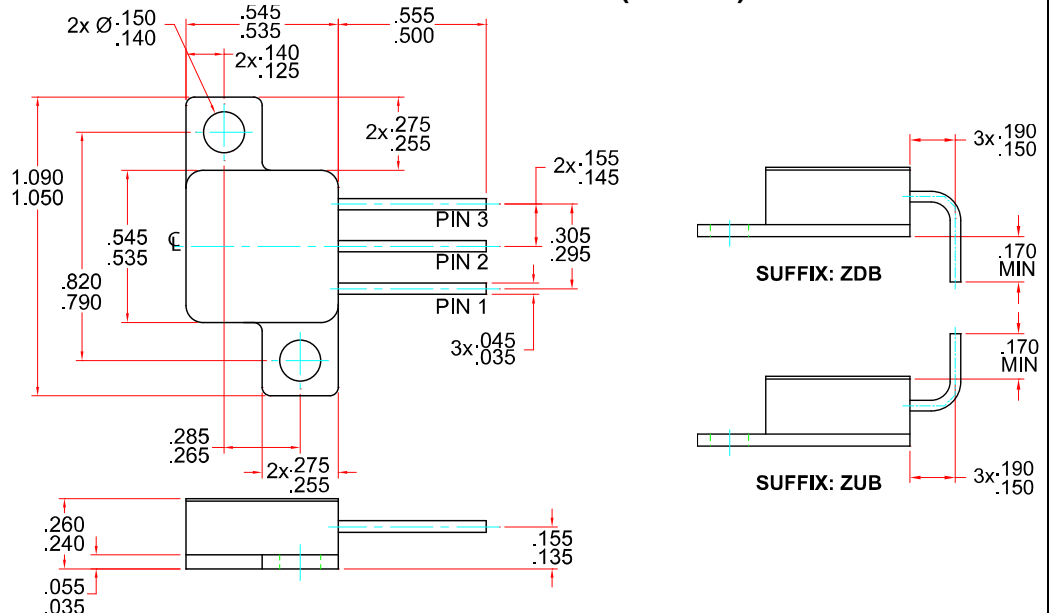
**CASE OUTLINE: TO-257 (Suffix J)**



**CASE OUTLINE: TO-254 (Suffix M)**



**CASE OUTLINE: TO-254Z (Suffix Z)**



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