



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
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**SSR2008M, SSR2008Z  
 SSR2009M, SSR2009Z  
 SSR2010M, SSR2010Z**

**20 AMPS  
 100 VOLTS  
 SCHOTTKY  
 RECTIFIER**

**Designer's Data Sheet**

**Part Number/Ordering Information <sup>1/</sup>**  
**SSR20**

**Screening <sup>2/</sup>**  
 — = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Lead Options**  
 — = Straight Leads,  
 DB = Bent Down  
 UB = Bent Up

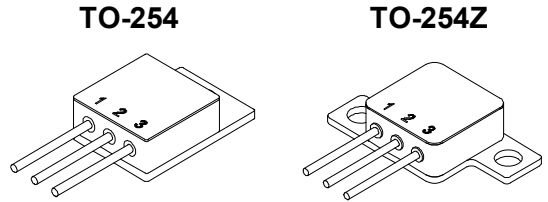
**Package**  
 M = TO-254  
 Z = TO-254Z

**Voltage / Family**  
 08 = 80V  
 09 = 90V  
 10 = 100V

- FEATURES:**
- PIV: 100 Volts
  - Low Reverse Leakage Current
  - Low Forward Voltage Drop
  - Guard Ring for Overvoltage Protection
  - Isolated Hermetically Sealed Package
  - Available in Glass or Ceramic Seal Packages
  - Custom Lead Forming Available
  - Eutectic Die Attach
  - 175°C Operating Junction Temperature
  - TX, TXV, and Space Level Screening Available

<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>SSR2008M &amp; Z</b>	<b>V<sub>RRM</sub></b>	80	<b>Volts</b>
	<b>SSR2009M &amp; Z</b>	<b>V<sub>RWM</sub></b>	90	
	<b>SSR2010M &amp; Z</b>	<b>V<sub>R</sub></b>	100	
<b>Average Rectified Forward Current <sup>1/4/</sup></b> (Resistive Load, 60 Hz, Sine Wave, T <sub>C</sub> = 25°C)		<b>I<sub>o</sub></b>	20	<b>Amps</b>
<b>Peak Surge Current <sup>4/</sup></b> (8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> = 25°C)		<b>I<sub>FSM</sub></b>	300	<b>Amps</b>
<b>Operating and Storage Temperature</b>		<b>T<sub>OP</sub> &amp; T<sub>stg</sub></b>	-65 to +175	<b>°C</b>
<b>Maximum Thermal Resistance<sup>4/</sup></b> (Junction to Case)		<b>R<sub>θJC</sub></b>	1.2	<b>°C/W</b>

**NOTE:**  
<sup>1/</sup> Derate linearly at 1A/°C for T<sub>C</sub> > 155°C  
<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.  
<sup>3/</sup> All electrical characteristics @25°C, unless otherwise specified  
<sup>4/</sup> Pins 2 and 3 externally connected together



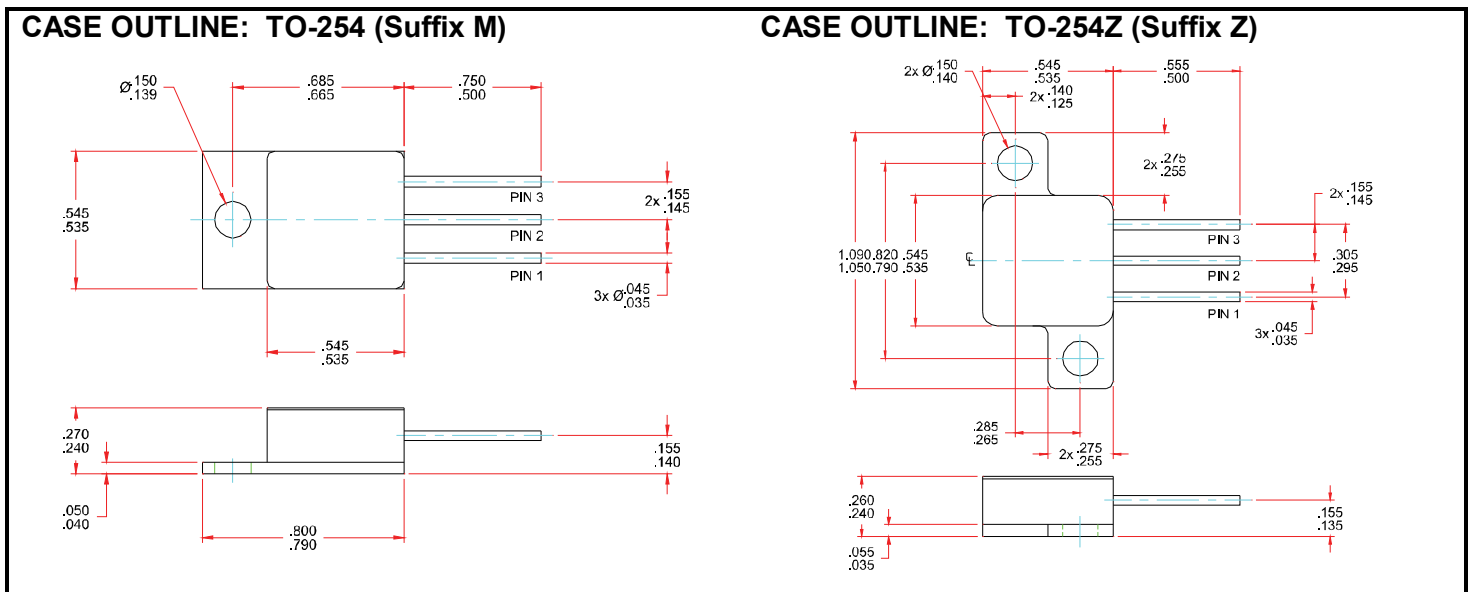


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ELECTRICAL CHARACTERISTICS <sup>5/</sup> (per leg)		Symbol	Max	Unit
Instantaneous Forward Voltage Drop (300 - 500µs Pulse)	$I_F = 10\text{ A}$	$V_{F1}$	0.75	Volts
	$I_F = 15\text{ A}$	$V_{F2}$	0.82	
	$I_F = 20\text{ A}$	$V_{F3}$	0.85	
Instantaneous Forward Voltage Drop ( $T_A = -55^\circ\text{C}$ , 300 - 500µs Pulse)	$I_F = 10\text{ A}$	$V_{F4}$	0.85	Volts
Reverse Leakage Current (Rated $V_R$ , 300µs pulse minimum)	$T_A = 25^\circ\text{C}$	$I_{R1}$	200	µA
	$T_C = 100^\circ\text{C}$	$I_{R2}$	10	mA
Junction Capacitance ( $V_R = 10\text{ V}$ , $f = 1\text{ MHz}$ , $T_A = 25^\circ\text{C}$ )		$C_J$	800	pF



**Available in the following configurations:**

**TO-254:** SSR2008M, SSR2008MUB, SSR2008MDB, SSR2009M, SSR2009MUB, SSR2009MDB, SSR2010M, SSR2010MUB, SSR2010MDB

**TO-254Z:** SSR2008Z, SSR2008ZUB, SSR2008ZDB, SSR2009Z, SSR2009ZUB, SSR2009ZDB, SSR2010Z, SSR2010ZUB, SSR2010ZDB

PIN ASSIGNMENT

FUNCTION	PIN 1	PIN 2	PIN 3
Rectifier <sup>5/</sup>	Cathode	Anode	Anode

**NOTE:** <sup>5/</sup> Pins 2 and 3 externally connected for best performance.