



**Solid State Devices, Inc.**

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**SSR20C120CTM and  
 SSR20C120CTJ Series**

**20 A / 1200 V  
 Schottky Silicon Carbide  
 Centertap Rectifier**

**Designer's Data Sheet**

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

**SSR20C**

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

**Lead Bend Options**  
 — = Straight Leads  
 DB = Down Bend  
 UB = Up Bend

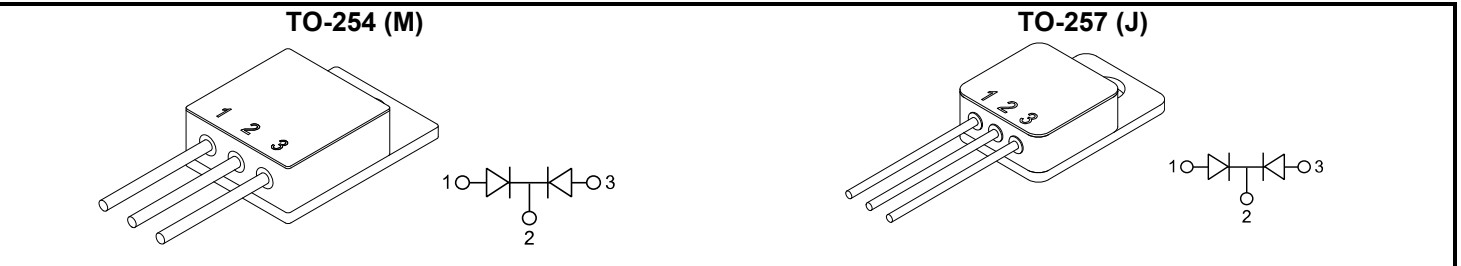
**Package**  
 M = TO-254  
 J = TO-257

**Configuration**  
 CT = Centertap

**Voltage**  
 080 = 800 V  
 100 = 1000 V  
 120 = 1200 V

- FEATURES:**
- 1200 Volt Silicon Carbide Schottky Rectifier
  - Average Output Current: 20 Amps
  - No Reverse Recovery
  - No Forward Recovery
  - No Switching Time Change Over Temperature
  - Small Package Size
  - TO-257: 3.2 gr (typ); TO-254: 6.3 gr (typ)
  - TX, TXV, and Space Level Screening Available. Consult Factory

<b>MAXIMUM RATINGS</b> <sup>3/</sup>		<b>Symbol</b>	<b>Value</b>	<b>Units</b>
<b>Peak Repetitive and Peak Reverse Voltage</b>	SSR20C080CT	$V_{RRM}$ $V_R$	800	<b>Volts</b>
	SSR20C100CT		1000	
	SSR20C120CT		1200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz, Sine Wave)	Per Leg Total	$I_o$	10	<b>Amps</b>
			20	
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$ , per leg)		$I_{FSM}$	50	<b>Amps</b>
<b>Operating &amp; Storage Temperature</b>		$T_{OP} \& T_{stg}$	-55 to +250	<b>°C</b>
<b>Junction Temperature</b>		$T_J$	-55 to +250	<b>°C</b>
<b>Maximum Thermal Resistance</b> (Junction to Case)		$R_{\theta JC}$	1.5	<b>°C/W</b>



- Notes:**
- 1/ For ordering information, price, and availability, contact factory.
  - 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
  - 3/ Per leg. Unless otherwise specified, all electrical characteristics @25°C.

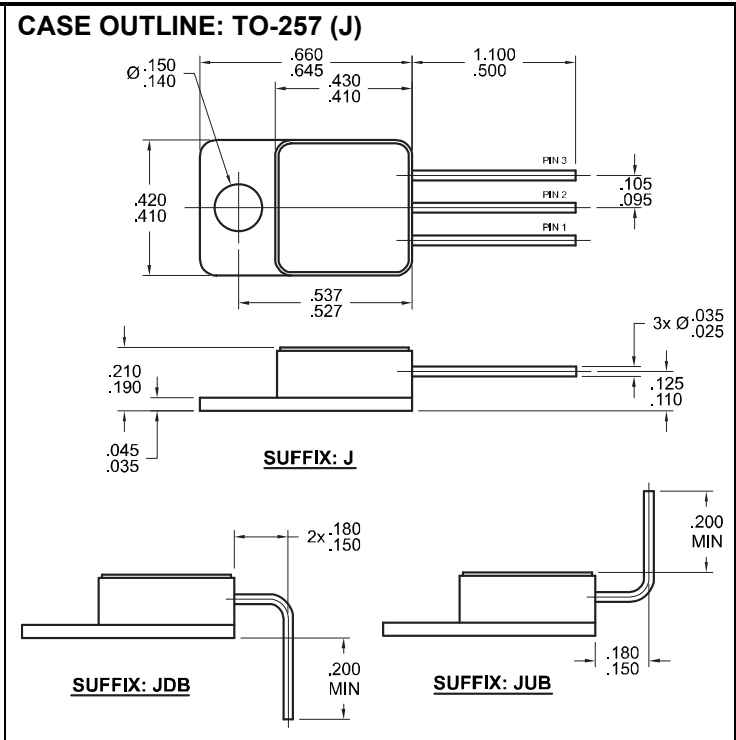
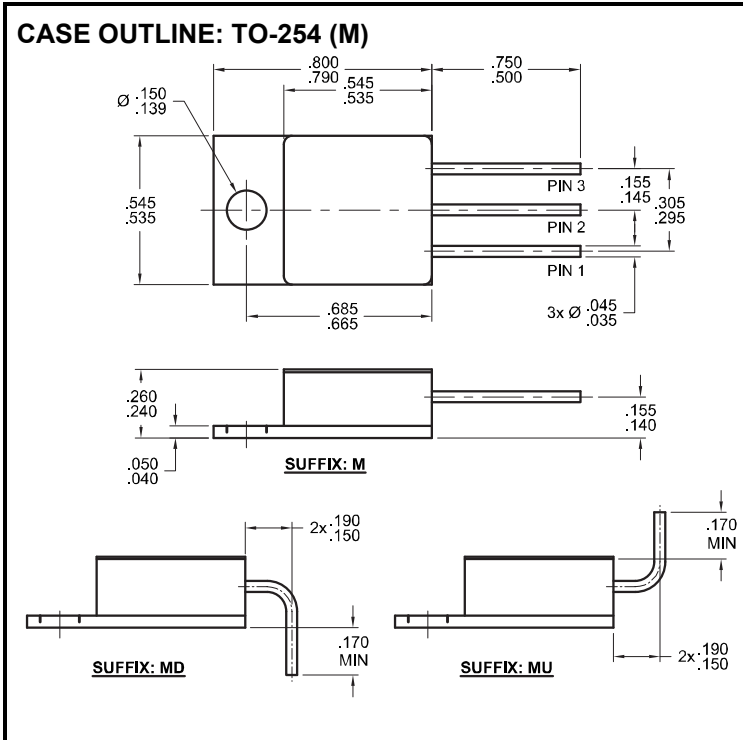


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# SSR20C120CTM and SSR20C120CTJ Series

ELECTRICAL CHARACTERISTICS <sup>3/</sup>		Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> =25°C, 300 - 500 μsec pulse)	I <sub>F</sub> = 2.0 A	V <sub>F1</sub>	—	1.06	1.20	V <sub>DC</sub>
	I <sub>F</sub> = 5.0 A	V <sub>F2</sub>	—	1.25	1.50	
	I <sub>F</sub> = 10 A	V <sub>F3</sub>	—	1.53	1.80	
<b>Instantaneous Forward Voltage Drop</b> (300 - 500 μsec pulse)	T <sub>A</sub> = -55°C, I <sub>F</sub> = 5 A	V <sub>F4</sub>	—	1.25	1.60	V <sub>DC</sub>
	T <sub>A</sub> = 150 °C, I <sub>F</sub> = 5 A	V <sub>F5</sub>	—	1.45	1.80	
<b>Reverse Leakage Current</b> (Rated V <sub>R</sub> , T <sub>A</sub> = 25°C, 300 μsec pulse minimum)		I <sub>R1</sub>	—	10	50	μA
<b>Reverse Leakage Current</b> (Rated V <sub>R</sub> , T <sub>A</sub> = 150°C, 300 μsec pulse minimum)		I <sub>R2</sub>	—	15	250	μA
<b>Junction Capacitance</b> (V <sub>R</sub> = 10V, f = 1MHz, T <sub>A</sub> = 25°C)		C <sub>J</sub>	—	375	450	pF



**Notes:** \*Pulse Test: Pulse Width = 300 μsec, Duty Cycle = 2%  
 1/ For ordering information, price, and availability, contact factory.  
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.  
 3/ Per leg. Unless otherwise specified, all electrical characteristics @ 25°C.

**PIN ASSIGNMENT**

Package	Pin 1	Pin 2	Pin 3 (Tab)
TO-254 (M)	Anode	Cathode	Anode
TO-257 (J)	Anode	Cathode	Anode

**Available Part Numbers:**  
 SSR20C080CTM, SSR20C080CTMDB, SSR20C080CTMUB  
 SSR20C100CTM, SSR20C100CTMDB, SSR20C100CTMUB  
 SSR20C120CTM, SSR20C120CTMDB, SSR20C120CTMUB  
 SSR20C080CTJ, SSR20C080CTJDB, SSR20C080CTJUB  
 SSR20C100CTJ, SSR20C100CTJDB, SSR20C100CTJUB  
 SSR20C120CTJ, SSR20C120CTJDB, SSR20C120CTJUB