



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

**SDR646CTM, Z, & J
 thru
 SDR647CTM, Z, & J**

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR64 **CT** **Screening** ^{2/} **Package** **Centertap** – Common Cathode **Voltage**

— = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

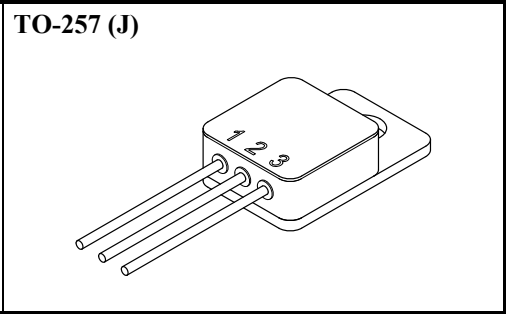
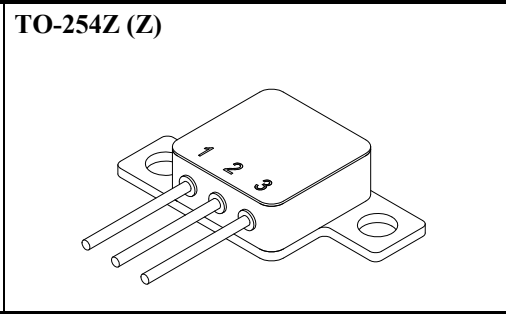
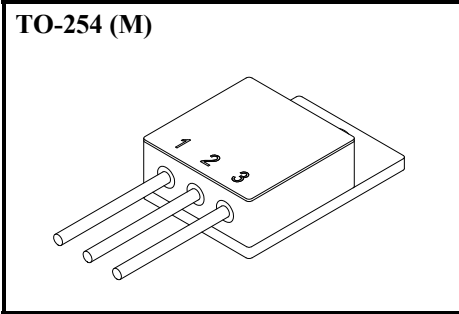
M = TO-254
 Z = TO-254Z
 J = TO-257

6 = 600 V
 7 = 700 V

**40 Amp
 ULTRAFAST
 CENTERTAP RECTIFIER
 600-700 Volts
 60 nsec**

- Features:**
- Ultrafast Recovery: 60nsec Maximum
 - High Surge Rating
 - Low Reverse Leakage Current
 - Low Junction Capacitance
 - Hermetically Sealed Package
 - Also Available in the following configurations:
 Common Anode: SDR646CAM, CAZ, & CAJ
 SDR647CAM, CAZ, & CAJ
 - TX, TXV and Space Level Screening Available ^{2/}

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse Voltage	SDR646 SDR647 V_{RRM} V_{RWM} V_R	600 700	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_C = 25^\circ C$) ^{3/}	I_O	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$) ^{3/}	I_{FSM}	400	Amps
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +200	$^\circ C$
Maximum Total Thermal Resistance	Junction to Case ^{3/} Junction to Case ^{4/} $R_{\theta JC}$	2.0 3.5	$^\circ C/W$



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

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Electrical Characteristic		Symbol	Min	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μsec Pulse)	$I_F = 10\text{A}$	V_{F1}	—	1.28	V_{DC}
	$I_F = 20\text{A}$	V_{F2}	—	1.50	
Instantaneous Forward Voltage Drop ($I_F = 10\text{A}$, 300 μsec Pulse)	$T_A = -55^\circ\text{C}$	V_{F3}	—	1.35	V_{DC}
	$T_A = 100^\circ\text{C}$	V_{F4}	—	1.17	
Reverse Leakage Current (80% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	—	50	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	—	5.0	mA
Reverse Recovery Time ($I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$, $T_A = 25^\circ\text{C}$)		t_{RR}	—	60	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	—	70	pF

NOTES:

- 1/ For Ordering Information, Price, and Availability Contact Factory.
- 2/ Screened to MIL-PRF-19500.
- 3/ Both Legs Tied Together.
- 4/ Per Leg.

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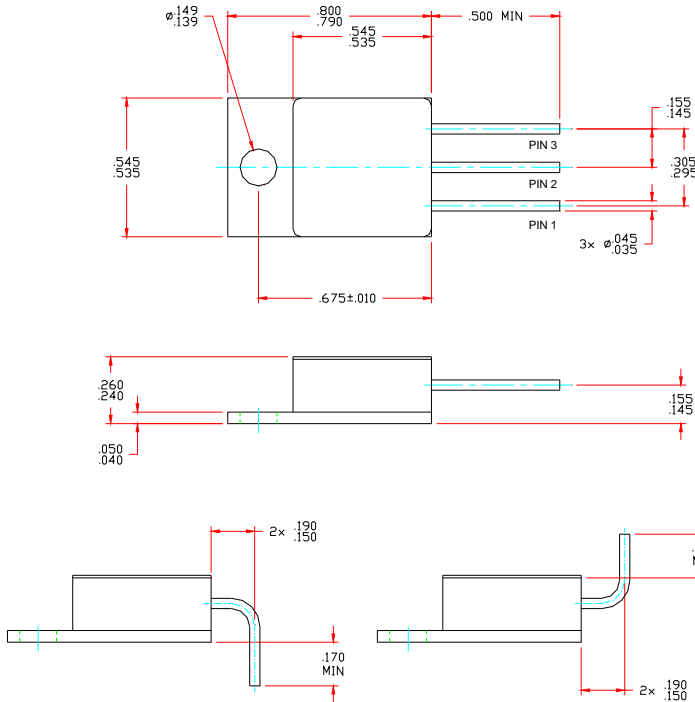
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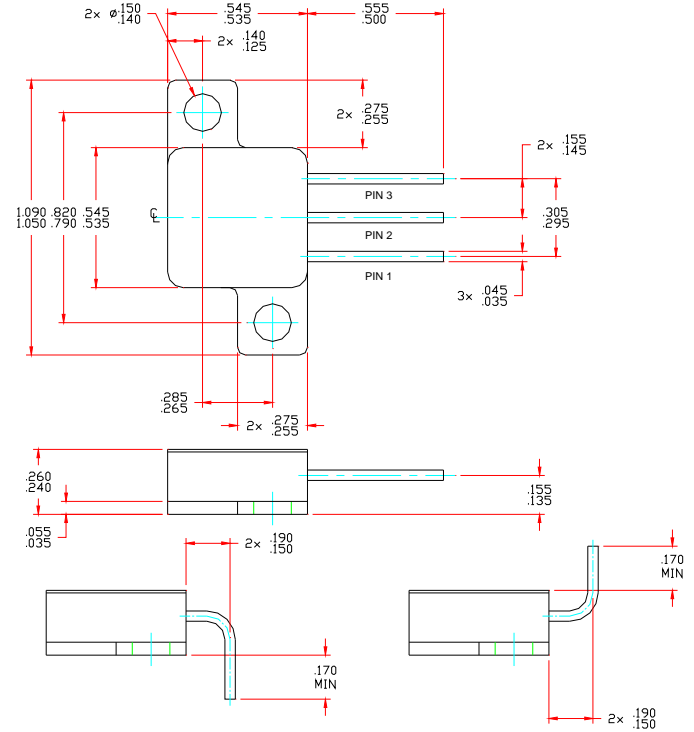
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Available Part Numbers: SDR646CTM, SDR646CTZ, SDR646CTJ SDR647CTM, SDR647CTZ, SDR647CTJ	PIN ASSIGNMENT			
	PACKAGE	Pin 1	Pin 2	Pin 3
	TO-254 (M)	Anode 1	Cathode	Anode 2
	TO-254Z (Z)	Anode 1	Cathode	Anode 2
TO-257 (J)	Anode 1	Cathode	Anode 2	

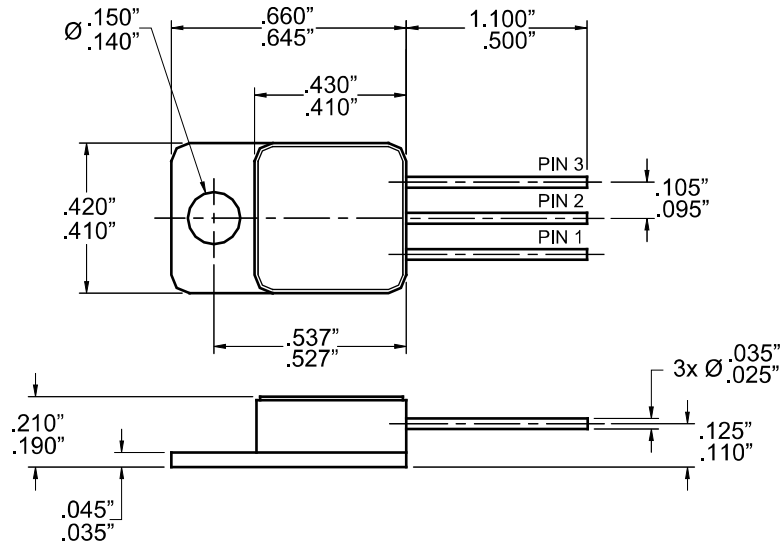
TO-254:



TO-254Z:



TO-257:



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