

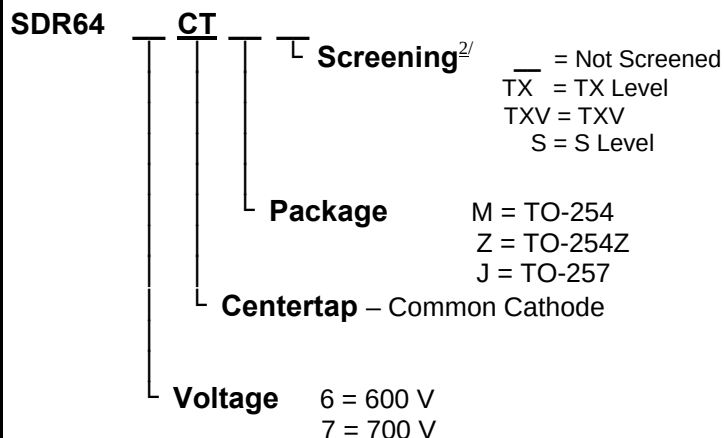


Solid State Devices, Inc.

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

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}



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

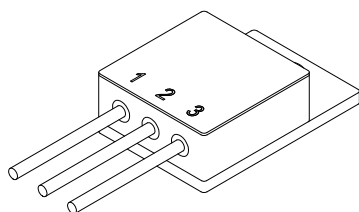
**40 Amp
ULTRAFAST
CENTERTAP RECTIFIER
600-700 Volts
60 nsec**

Features:

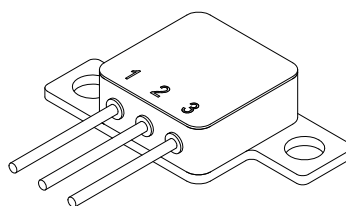
- Ultrafast Recovery: 60nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Also Available in the following configurations:
Common Anode: SDR646CAM, CAZ, & CAJ
SDR647CAM, CAZ, & CAJ
- TX, TXV and Space Level Screening Available ^{2/}

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, $T_C = 25^\circ\text{C}$) ^{3/}		I_O	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$) ^{3/}		I_{FSM}	400	Amps
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	$^\circ\text{C}$
Maximum Total Thermal Resistance	Junction to Case ^{3/} Junction to Case ^{4/}	$R_{\theta JC}$	2.0 3.5	$^\circ\text{C/W}$

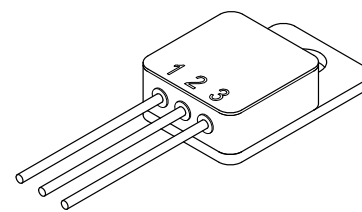
TO-254 (M)



TO-254Z (Z)



TO-257 (J)



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

DATA SHEET #: RU0089F

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

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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Available Part Numbers:

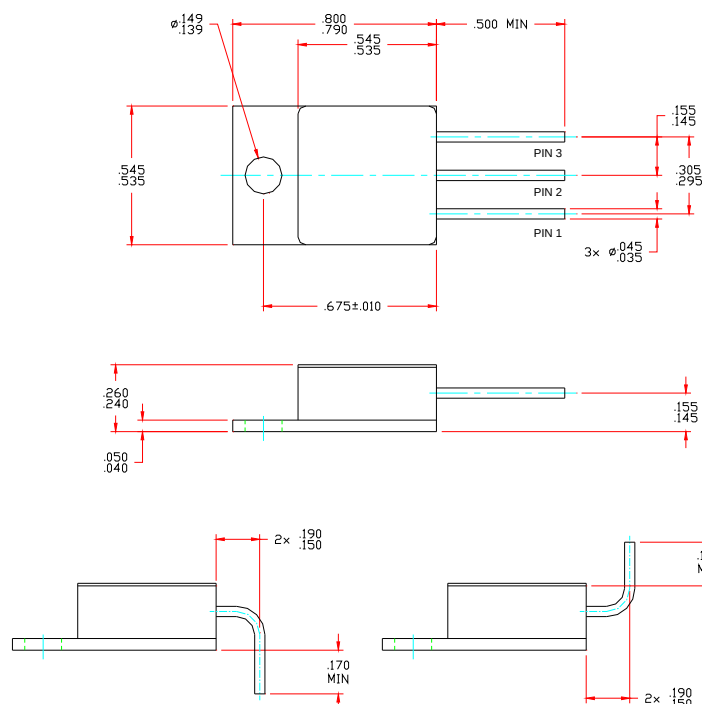
SDR646CTM, SDR646CTZ, SDR646CTJ

SDR647CTM, SDR647CTZ, SDR647CTJ

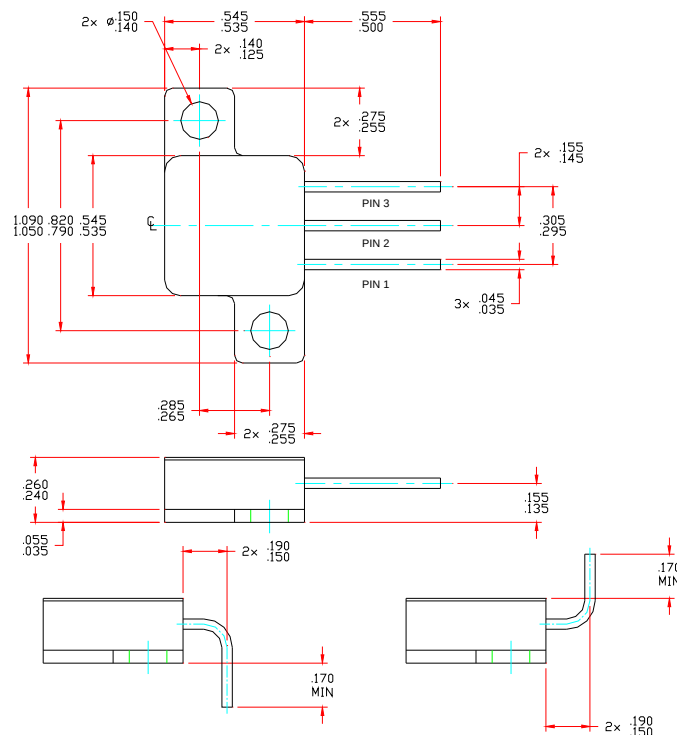
PIN ASSIGNMENT

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

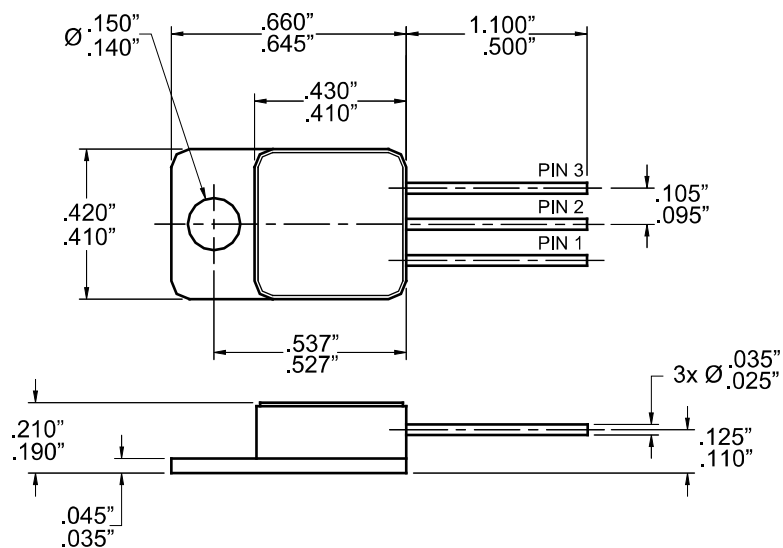
TO-254:



TO-254Z:



TO-257:



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