

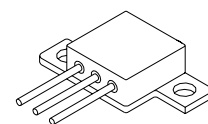
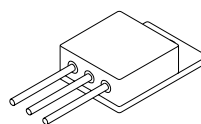
Designer's Data Sheet

**SDR646CTM & Z
thru
SDR647CTM & Z**

**40AMPS
600 - 700 VOLTS
60 nsec
ULTRA FAST
CENTERTAP RECTIFIER**

TO-254 (M)

TO-254Z (Z)



FEATURES:

- Ultra Fast Recovery: 60 nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach Available
- Ultrasonic Aluminum Wire Bonds
- Also Available in following configurations:
Common Anode: SDR646CAM & CAZ
SDR647CAM & CAZ
- TX, TXV and Space Level Screening Available

Maximum Ratings	SYMBOL	VALUE	UNITS
Peak Repetitive Reverse and DC Blocking Voltage SDR646CTM & Z SDR647CTM & Z	V_{RRM} V_{RWM} V_R	600 700	Volts
Average Rectified Forward Current. (Resistive load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$) <u>1/</u>	I_o	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$) <u>1/</u>	I_{FSM}	400	Amps
Operating and Storage Temperature	T_{OP} & T_{stg}	-65 TO +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case, <u>1/</u> Junction to Case, <u>2/</u>	$R_{\theta JC}$	2.0 3.5	$^\circ\text{C/W}$

NOTE:

- 1/ Both Legs Tied Together
- 2/ Per Leg.

SDR646CTM & Z thru SDR647CTM & Z

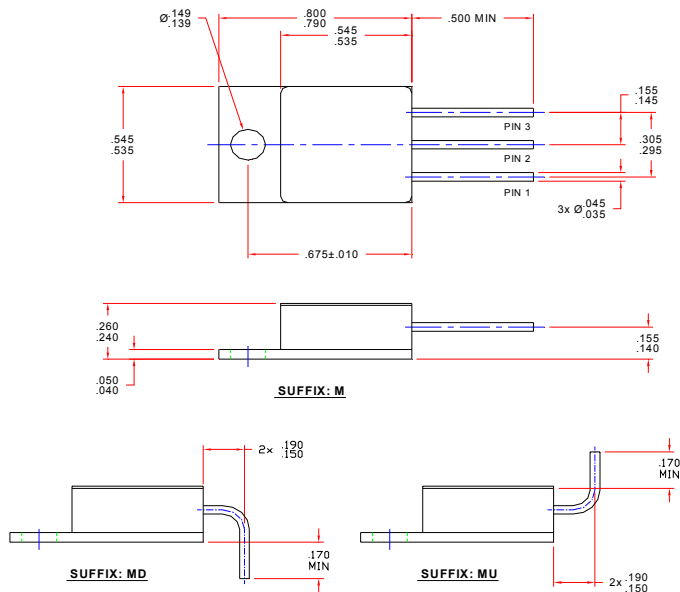


SOLID STATE DEVICES, INC.

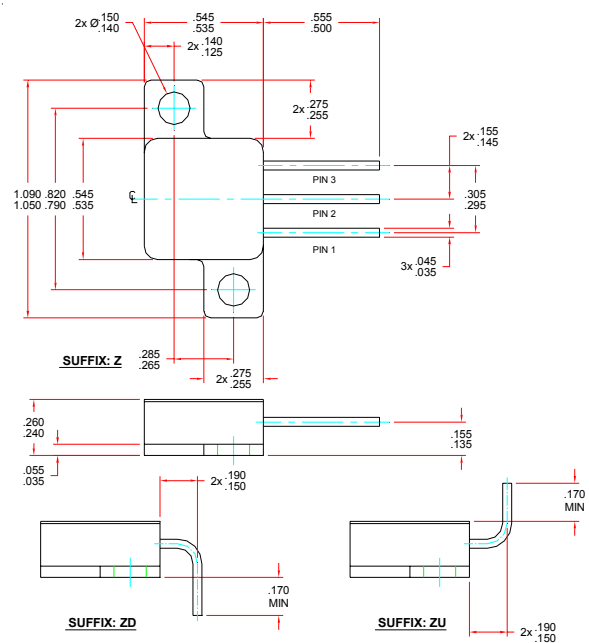
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

Electrical Characteristics (Per Leg)	SYMBOL	MINIMUM	MAXIMUM	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)	$T_A = 100^\circ\text{C}$ V_{F3}	—	1.17	V_{DC}
	$T_A = -55^\circ\text{C}$ V_{F4}	—	1.35	
Reverse Leakage Current (80% of Rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$ I_{R1}	—	50	μA
	$T_C = 100^\circ\text{C}$ I_{R2}	—	5.0	mA
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	C_J	—	70	pF
Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1.0\text{A}$, $I_{RR} = 250\text{mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	—	60	nsec

CASE OUTLINE: TO-254 (Suffix M)



CASE OUTLINE: TO-254Z (Suffix Z)



PIN ASSIGNMENT

CODE	FUNCTION	PIN 1	PIN 2	PIN 3
CT	Common Cathode	Anode	Cathode	Anode
CA	Common Anode	Cathode	Anode	Cathode