SOLID STATE DEVICES, INC.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

SDR646CTM & Z thru SDR647CTM & Z

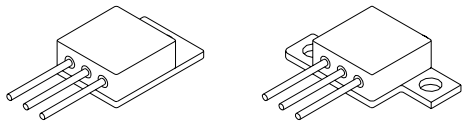
Designer's Data Sheet

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

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**

TO-254 (M) **TO-254Z (Z)**



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°C) 1/	**Io**	**40**	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A = 25°C) 1/	I_{FSM}	**400**	**Amps**
Operating and Storage Temperature	T_{OP} & Tstg	**-65 TO +200**	°C
Maximum Thermal Resistance Junction to Case, 1/ Junction to Case, 2/	$R_{\theta JC}$	 **2.0** **3.5**	°C/W

NOTE:

1/ Both Legs Tied Together

2/ Per Leg.

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

DATA SHEET #: RU0089E

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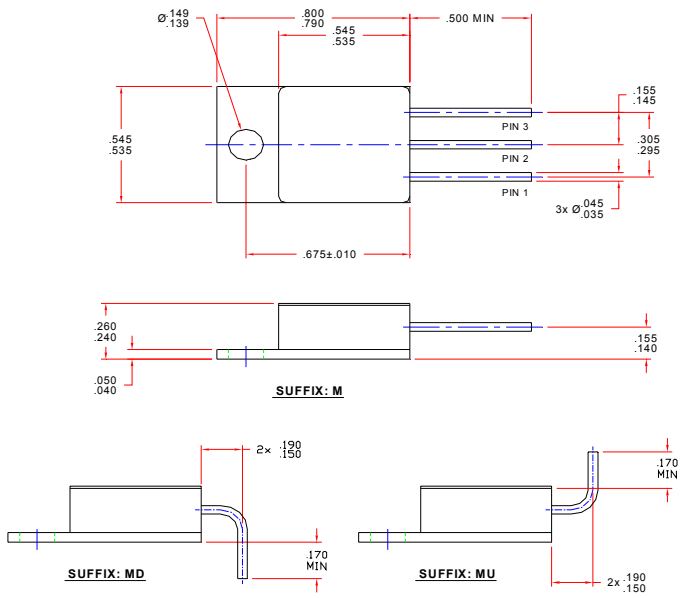
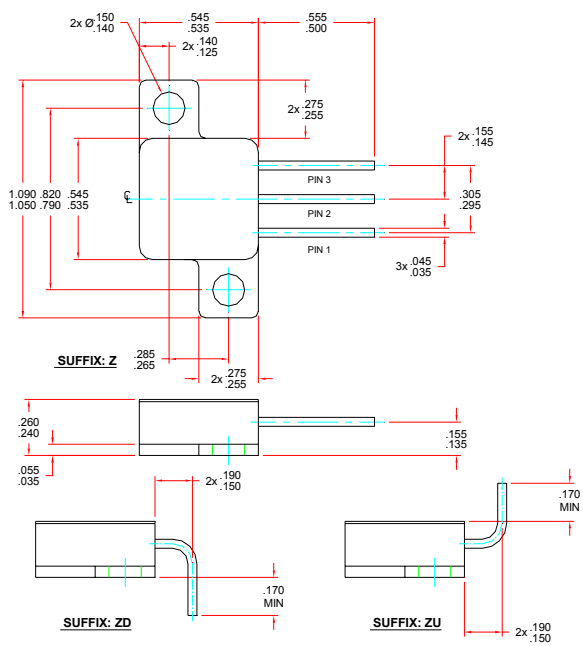
Electrical Characteristics (Per Leg)	SYMBOL	MINIMUM	MAXIMUM	UNITS
Instantaneous Forward Voltage Drop $I_F = 10A$ ($T_A = 25^oC$, 300µsec Pulse) $I_F = 20A$	V_{F1} V_{F2}	– –	1.28 1.50	V_{DC}
Instantaneous Forward Voltage Drop $T_A = 100^oC$ ($I_F = 10A$, 300µsec pulse) $T_A = -55^oC$	V_{F3} V_{F4}	–	1.17 1.35	V_{DC}
Reverse Leakage Current $T_A = 25^oC$ (80% of Rated V_R, 300µs pulse min.) $T_C = 100^oC$	I_{R1} I_{R2}	– –	50 5.0	µA mA
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^oC$, f = 1MHz)	C_J	–	70	pF
Reverse Recovery Time ($I_F = 500mA$, $I_R = 1.0A$, $I_{RR} = 250$ mA, $T_A = 25^oC$)	t_{RR}	–	60	nsec

CASE OUTLINE: TO-254 (Sufix M)



CASE OUTLINE: TO-254Z (Sufix Z)



PIN ASSIGNMENT

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