

SDR3006 series

30A 80nsec
400 to 600 V
Ultrafast Rectifier

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR30

Screening

Package

Configuration

Voltage

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

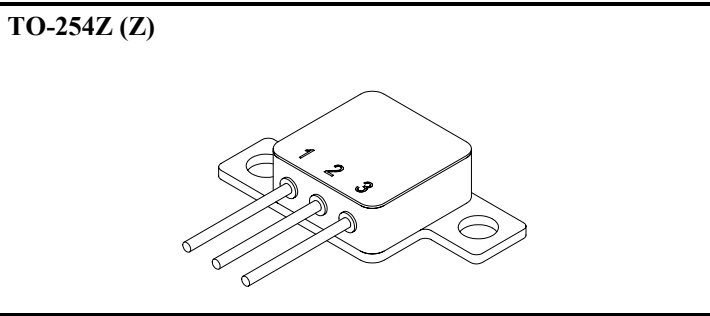
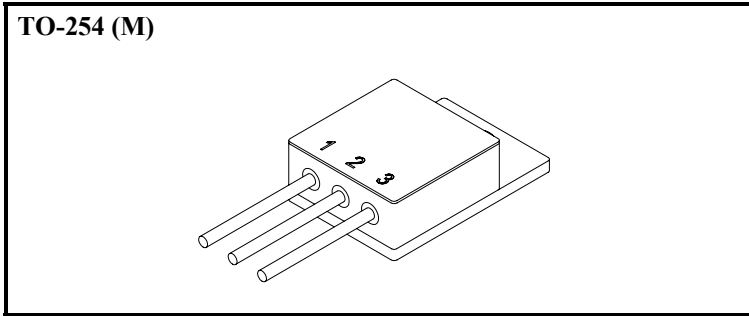
M = TO-254
Z = TO-254Z

n/a (ultrafast family)

04 = 400 V
05 = 500 V
06 = 600 V

- Features:**
- Ultrafast Recovery: 100nsec Maximum
 - High Surge Rating
 - Low Reverse Leakage Current
 - Low Junction Capacitance
 - Hermetically Sealed, Isolated Package providing enhanced thermal performance
 - Eutectic Die Attach
 - TX, TXV, and S Level Screening iaw MIL-PRF-19500 Available
 - hyperfast version available as SDR3006HF

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage	SDR3004 SDR3005 SDR3006	V_{RRM}	400 500 600	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_C = 100\text{ }^\circ\text{C}$)	Total	I_o	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25\text{ }^\circ\text{C}$)		I_{FSM}	500	Amps
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.2 (0.9 typ)	$^\circ\text{C/W}$



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

DATA SHEET #: RC0090A

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SDR3006 Series

Electrical Characteristic		Symbol	Min	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 15\text{A}$	V_{F1}	—	1.20	V_{DC}
	$I_F = 30\text{A}$	V_{F2}	—	1.40	
Instantaneous Forward Voltage Drop ($I_F = 15\text{A}$, 300 – 500 μsec Pulse)	$T_A = -55^\circ\text{C}$	V_{F3}	—	1.30	V_{DC}
	$T_A = 100^\circ\text{C}$	V_{F4}	—	1.10	
Reverse Leakage Current (100% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	—	25	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	—	2000	
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}	—	80 (typ 65)	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	—	120 (typ 85)	pF

NOTES:

1/ For Ordering Information, Price, and Availability Contact Factory.

Available Part Numbers:

SDR3004M, SDR3004Z

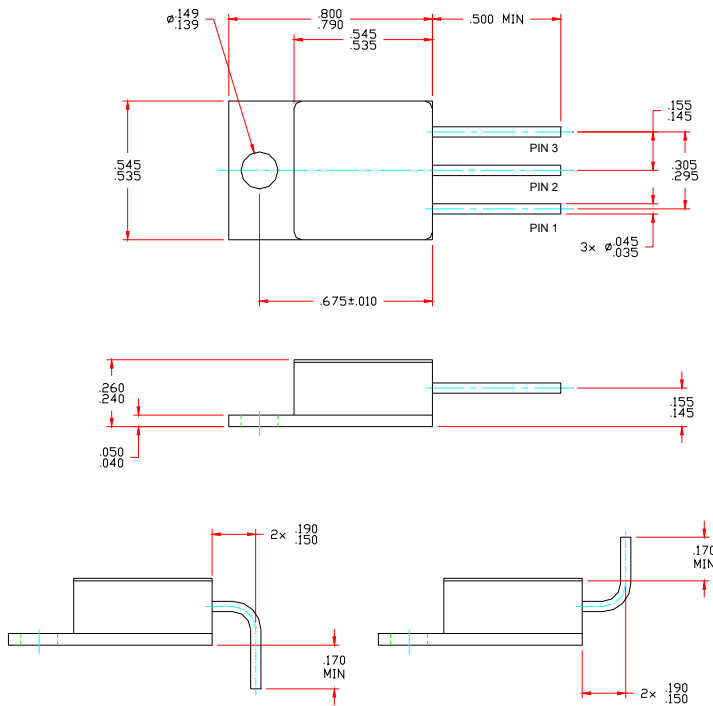
SDR3005M, SDR3005Z

SDR3006M, SDR3006Z

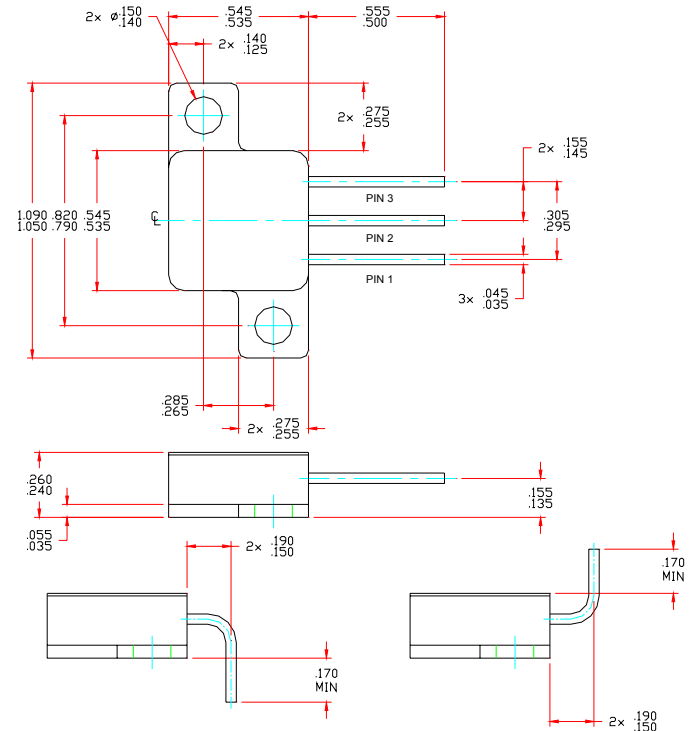
PIN ASSIGNMENT

PACKAGE	Pin 1	Pin 2	Pin 3
TO-254 (M)	Cathode	Anode	Anode
TO-254Z (Z)	Cathode	Anode	Anode

TO-254:



TO-254Z:



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