Solid State Devices, Inc.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SDR4006HF series

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SDR40 __ HF __ __

- **Screening**: __ = Not Screened; TX = TX Level; TXV = TXV; S = S Level
- **Package**: N = TO-258; P = TO-259
- **Configuration**: hyperfast family
- **Voltage**: 04 = 400 V; 05 = 500 V; 06 = 600 V

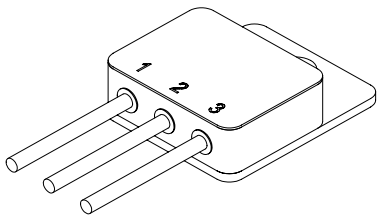
40A 35nsec
400 to 600 V
Hyper Fast Rectifier

Features:

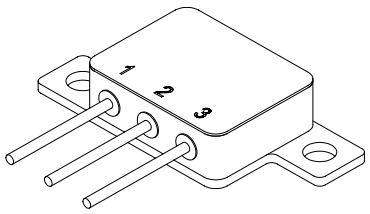
- **Hyper Fast Recovery: 35nsec Maximum**
- **High Surge Rating**
- **Low Reverse Leakage Current**
- **Low Junction Capacitance**
- **Hermetically Sealed, Isolated Package Providing Enhanced Thermal Performance**
- **Eutectic Die Attach**
- **TX, TXV, and Space Level Screening iaw MIL-PRF-19500 Available**

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage	**SDR4004HF** **SDR4005HF** **SDR4006HF**	V_{RRM}	400 500 600	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_C = 100 °C)	Total	Io	40	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A = 25 °C)		I_{FSM}	600	**Amps**
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	**ºC**
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.2 (0.8 typ)	**ºC/W**

TO-258 (N)



TO-259 (P)



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SDR4006HF Series

Electrical Characteristic		Symbol	Min	Max	Units
Instantaneous Forward Voltage Drop (T_A = 25ºC, 300 – 500 µsec Pulse)	I_F = 10 A I_F = 20 A I_F = 40 A	V_{F1} V_{F2} V_{F3}	—	1.35 1.50 1.75	V_{DC}
Instantaneous Forward Voltage Drop (I_F = 20A, 300 – 500 µsec Pulse)	T_A = -55 ºC T_A = 100 ºC	V_{F3} V_{F4}	—	1.65 1.32	V_{DC}
Reverse Leakage Current (100% of Rated V_R, 300 µs pulse min.)	T_A = 25 ºC T_A = 100 ºC	I_{R1} I_{R2}	— —	50 5,000	µA µA
Reverse Recovery Time (I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A, T_A = 25ºC)		t_{RR}	—	35	nsec
Junction Capacitance (V_R = 10V_{DC}, T_A = 25ºC, f = 1MHz)		C_J	—	80	pF

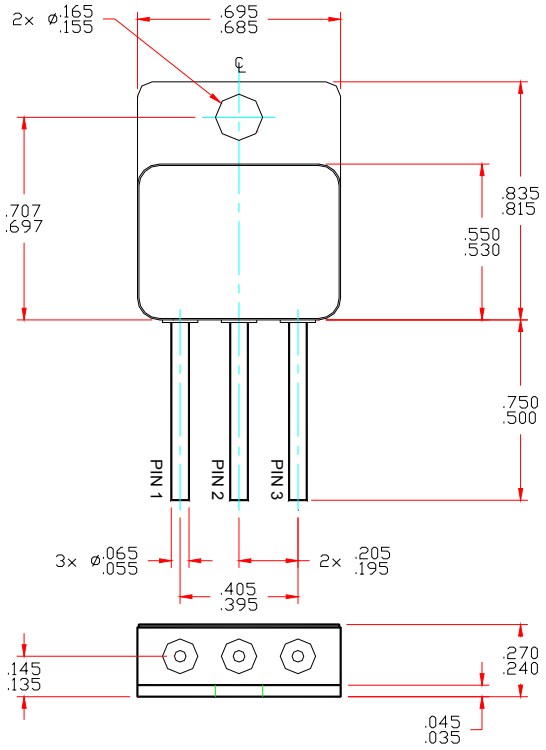
NOTES:

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

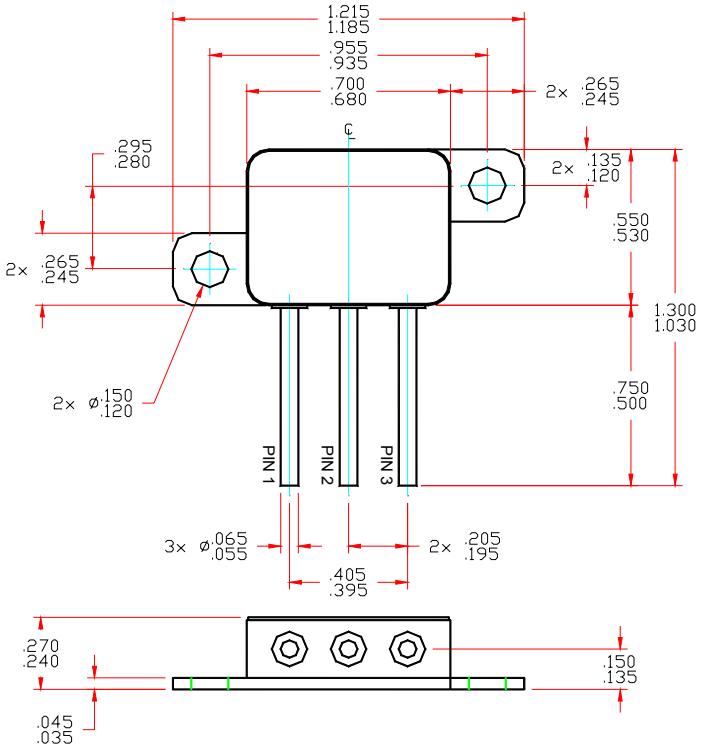
Available Part Numbers:
SDR4004HFN, SDR4004HFP
SDR4005HFN, SDR4005HFP
SDR4006HFN, SDR4006HFP

PIN ASSIGNMENT			
PACKAGE	**Pin 1**	**Pin 2**	**Pin 3**
TO-258 (N)	Cathode	Anode	Anode
TO-259 (P)	Cathode	Anode	Anode

TO-258:



TO-259:



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	DATA SHEET #: RC0092A	DOC