



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

40A 35nsec
400 to 600 V
Hyper Fast Rectifier

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR40 **HF**

└─ Screening = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

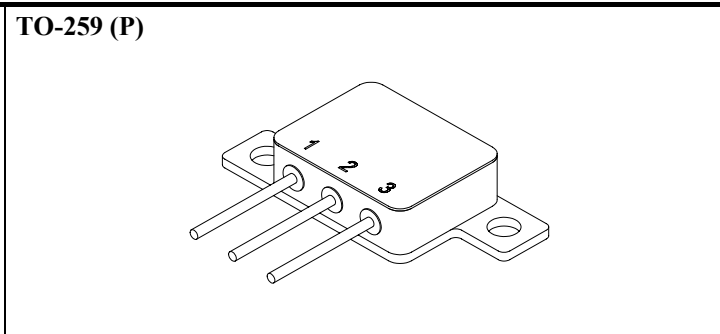
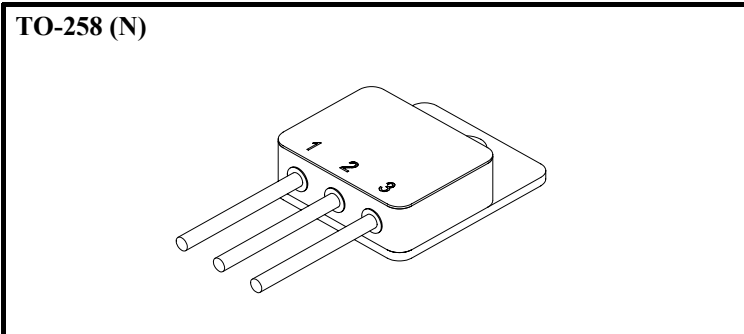
└─ Package N = TO-258
 P = TO-259

└─ Configuration hyperfast family

└─ Voltage 04 = 400 V
 05 = 500 V
 06 = 600 V

- 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	V _{RRM}	400	Volts
	SDR4005HF		500	
	SDR4006HF		600	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T _C = 100 °C)	Total	I _O	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	°C
Maximum Total Thermal Resistance Junction to Case		R _{θJC}	1.2 (0.8 typ)	°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 #: RC0092A

DOC



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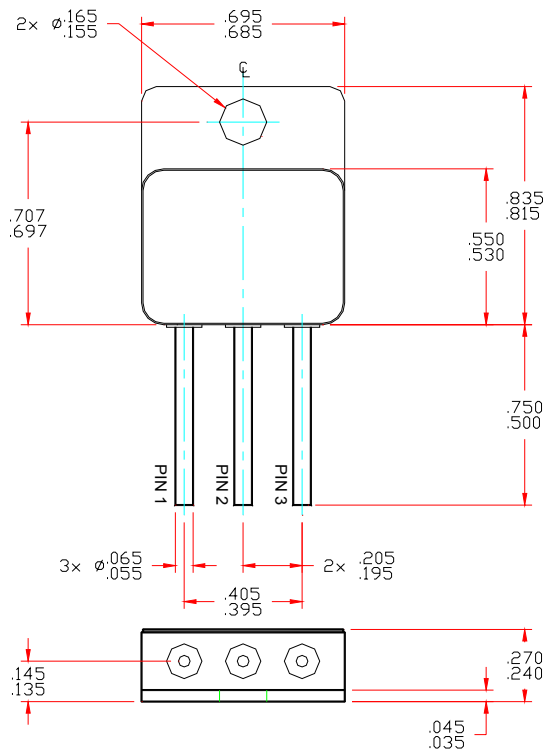
SDR4006HF Series

Electrical Characteristic		Symbol	Min	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 10\text{ A}$	V_{F1}		1.35	V_{DC}
	$I_F = 20\text{ A}$	V_{F2}	—	1.50	
	$I_F = 40\text{ A}$	V_{F3}		1.75	
Instantaneous Forward Voltage Drop ($I_F = 20\text{ A}$, 300 – 500 μsec Pulse)	$T_A = -55^\circ\text{C}$	V_{F3}	—	1.65	V_{DC}
	$T_A = 100^\circ\text{C}$	V_{F4}		1.32	
Reverse Leakage Current (100% 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}	—	5,000	μA
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}	—	35	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)		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:

