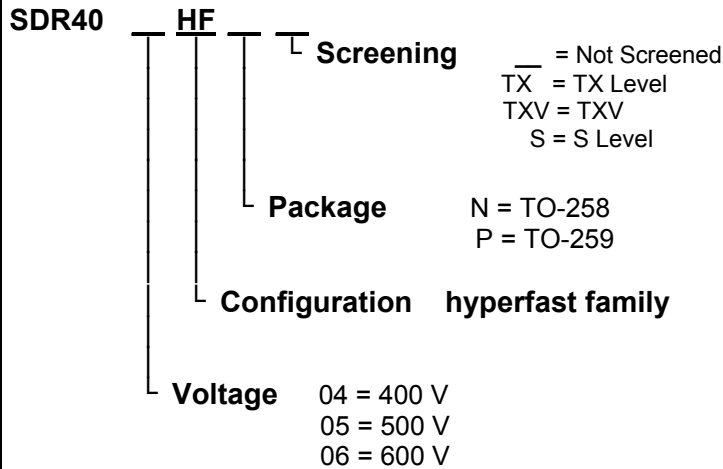


# SDR4006HF series

**40A 35nsec**  
**400 to 600 V**  
**Hyper Fast Rectifier**

## DESIGNER'S DATA SHEET

### Part Number / Ordering Information <sup>1/</sup>

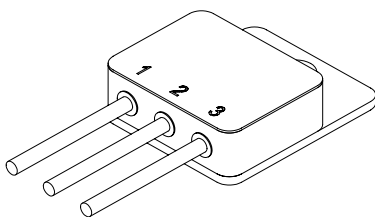


### Features:

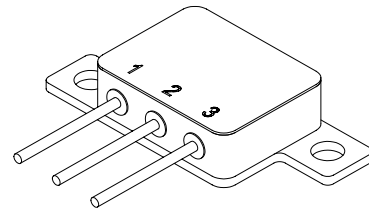
- Hyper Fast Recovery: 35nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed, Isolated Package Providing Enhanced Thermal Performance
- Eutectic Die Attach
- TX, TXV, and Space Level Screening iaw MIL-PRF-19500 Available

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, $T_C = 100\text{ }^\circ\text{C}$ )	Total	$I_o$	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25\text{ }^\circ\text{C}$ )		$I_{FSM}$	600	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 (0.8 typ)	$^\circ\text{C/W}$

TO-258 (N)



TO-259 (P)



**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 $\mu\text{sec}$ 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 $\mu\text{sec}$ 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 $\mu\text{s}$ pulse min.)	$T_A = 25^\circ\text{C}$	$I_{R1}$	—	50	$\mu\text{A}$
	$T_A = 100^\circ\text{C}$	$I_{R2}$	—	5,000	$\mu\text{A}$
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

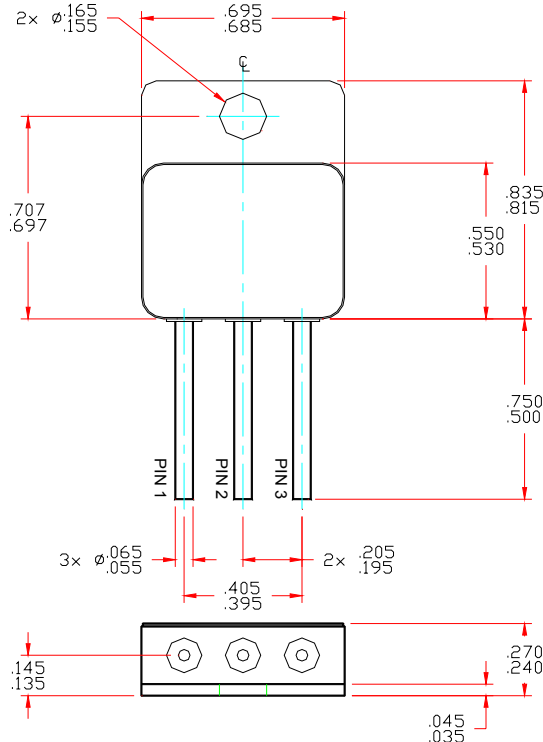
SDR4005HFN, SDR4005HFP

SDR4006HFN, SDR4006HFP

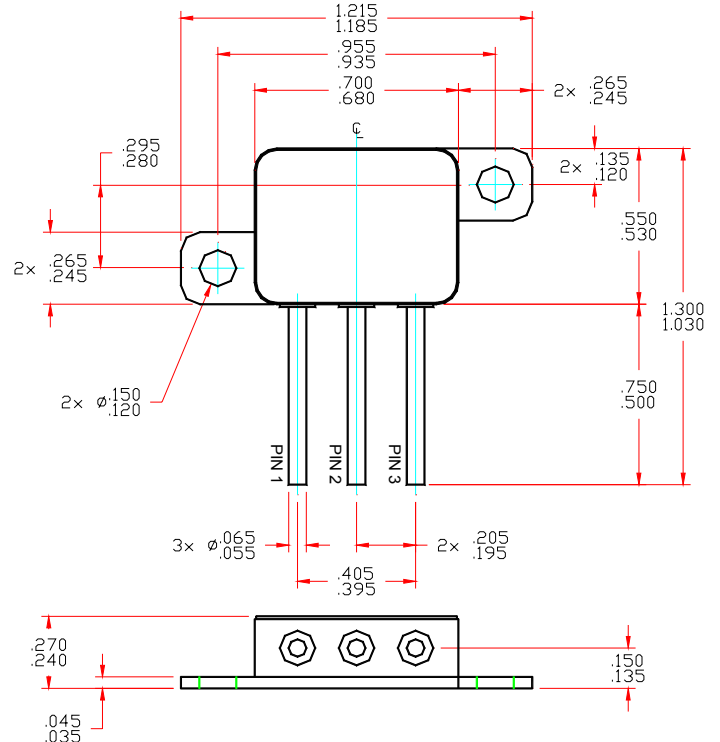
**PIN ASSIGNMENT**

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

TO-258:



TO-259:



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