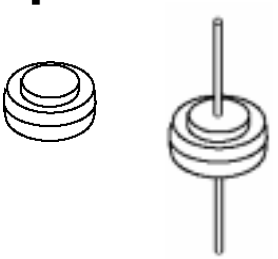
Semiconductor

Data Sheet

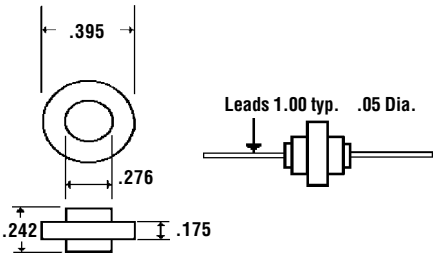
70 Amp PLASTIC SILICON AUTOMOTIVE RECTIFIERS

FR7001 . . . 7004 Series

Description



Mechanical Dimensions

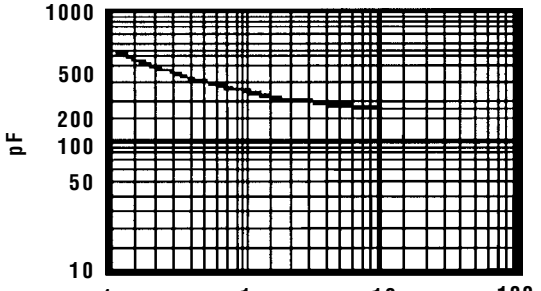


Features

- **LOW COST**
- **HIGH SURGE CAPABILITY**
- **GLASS PASSIVATED DIE**
- **LOW LEAKAGE CURRENT**
- **HIGH TEMPERATURE CAPABILITY**
- **MEETS UL SPECIFICATION 94V-0**

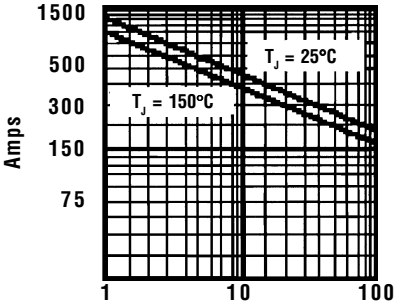
Electrical Characteristics @ 25°C.	***FR7001 . . . 7004 Series***				**Units**
Maximum Ratings	**FR7001**	**FR7002**	**FR7003**	**FR7004**	
Peak Repetitive Reverse Voltage...V_{RRM}	100	200	300	400	Volts
RMS Reverse Voltage...$V_{R(rms)}$	70	140	210	280	Volts
DC Blocking Voltage...V_{DC}	100	200	300	400	Volts
Average Forward Rectified Current...$I_{F(av)}$ Single Phase Resistive Load, 60 HZ, T_C = 150°C	..... 70				Amps
Non-Repetitive Peak Forward Surge Current...I_{FSM} Surge supplied @ Rated Load Conditions, ½ Sine Wave, Single Phase, 60 HZ	..... 800				Amps
Forward Voltage @ 80A...V_F *(Note 4)*	..... 1.02				Volts
DC Reverse Current...I_R @ Rated DC Blocking Voltage, 150°C	..... 2.0 .... 750				µAmps µAmps
Typical Junction Capacitance...C_J *(Note 1)*	..... 500				pF
Typical Thermal Resistance...$R_{\theta JC}$ *(Note 2)*	..... 0.7				°C / W
Typical Reverse Recovery Time...t_{RR}	..... 3.0				µS
Operating & Storage Temperature Range...T_J, T_{STRG}	..... -50 to 175				°C

Typical Junction Capacitance

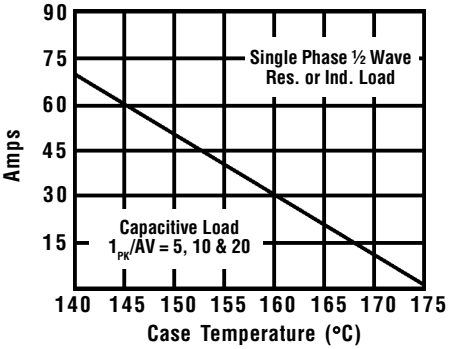


T_J = 25°C F = 1 MHZ V_{SIG} = 50 Vpp

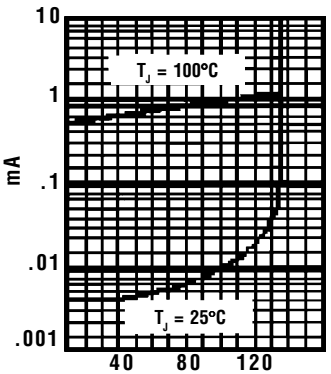
Non-Repetitive Peak Forward Surge Current



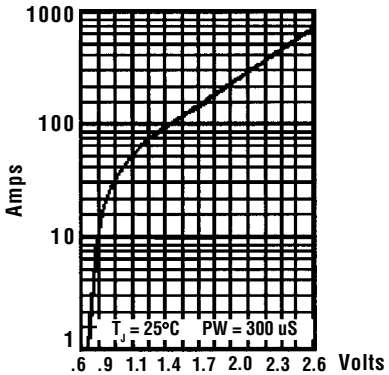
Forward Current Derating Curve



Typical Reverse Characteristics



Typical Instantaneous Forward Characteristics



Ratings at 25 Deg. C ambient temperature unless otherwise specified.

Single Phase Half Wave, 60 HZ Resistive or Inductive Load.

For Capacitive Load, Derate Current by 20%.

NOTES: 1. Measured @ 1 MHZ and applied reverse voltage of 4.0V.
2. Thermal Resistance Junction to Case, Jedec Method.
3. When Mounted to heat sink, from body.
4. Pulse Test: Pulse Width < = 300 μS, Duty Cycle 2%.