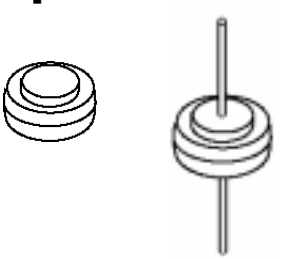
Semiconductor

Data Sheet

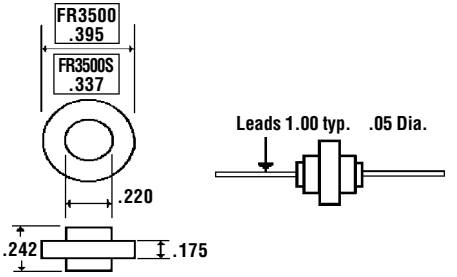
35 Amp PLASTIC SILICON AUTOMOTIVE RECTIFIERS

FR3501 . . . 3510 Series

Description



Mechanical Dimensions

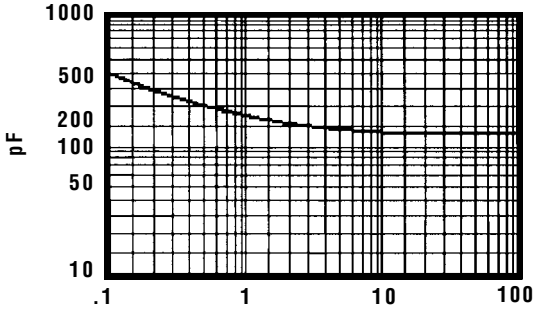


Features

- **LOW COST**
- **HIGH SURGE CAPABILITY**
- **DIFFUSED JUNCTION**
- **LOW LEAKAGE CURRENT**
- **HIGH TEMPERATURE CAPABILITY**
- **MEETS UL SPECIFICATION 94V-0**

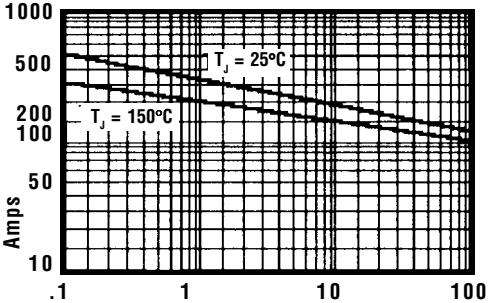
Electrical Characteristics @ 25°C.	***FR3501 . . . 3510 Series***							**Units**
Maximum Ratings	**FR3501**	**FR3502**	**FR3503**	**FR3504**	**FR3506**	**FR3508**	**FR3510**	
Peak Repetitive Reverse Voltage...V_{RRM}	100	200	300	400	600	800	1000	Volts
RMS Reverse Voltage...$V_{R(rms)}$	70	140	210	280	420	560	700	Volts
DC Blocking Voltage...V_{DC}	100	200	300	400	600	800	1000	Volts
Average Forward Rectified Current...$I_{F(av)}$ T_A = 55°C *(Note 3)*	..... 35							Amps
Non-Repetitive Peak Forward Surge Current...I_{FSM} @ Rated Current & Temp	..... 400							Amps
Forward Voltage @ 80A...V_F	< ..... 1.08 ..... >			< ..... 1.18 ..... >				Volts
DC Reverse Current...I_R	..... 2.0							µAmps
@ Rated DC Blocking Voltage, 150°C	..... 350							µAmps
Typical Junction Capacitance...C_J *(Note 1)*	..... 400							pF
Typical Thermal Resistance...$R_{\theta JC}$ *(Note 2)*	..... 1.0							°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

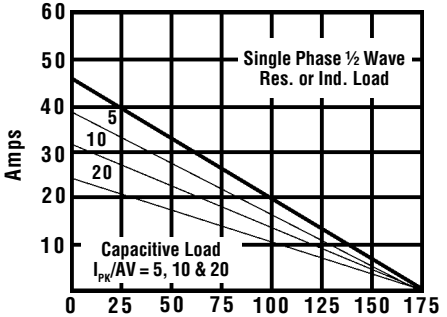


T_J = 25°C F = 1 MHZ V_{SIG} = 50 Vpp

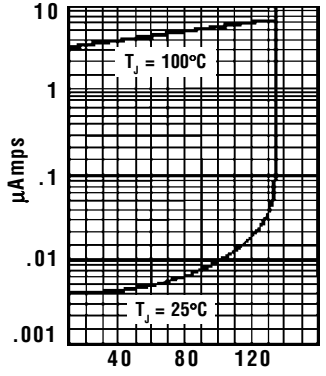
Non-Repetitive Peak Forward Surge Current



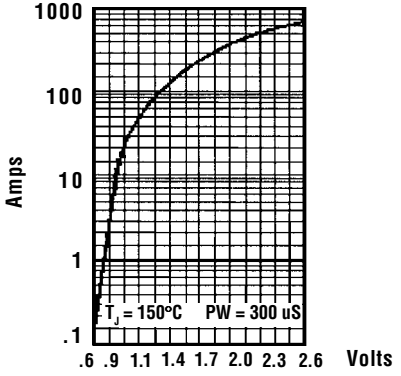
Forward Current Derating Curve



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 Ambient, Jedec Method.
3. When Mounted to heat sink, from body.