SYNSEMI SEMICONDUCTOR

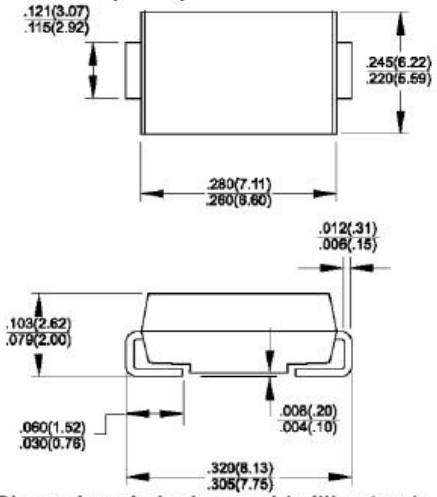
GR3A thru GR3M

3.0 Amps. Fast Recovery Surface Mount Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 3.0 Amperes

Features

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief, ideal for automated placement
- Plastic material used carries Underwriters Laboratory Classification 94V-O
- Fast switching for high efficiency
- High temperature soldering: 250°C/10 seconds at terminals

DO-214AB (SMC)



Dimensions in inches and (millimeters)

Mechanical Data

- Cases: Molded plastic
- Terminals: Solder plated
- Polarity: Indicated by cathode band
- Weight: 0.007 ounce, 0.21 gram

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Parameter	Symbols	GR3A	GR3B	GR3D	GR3G	GR3J	GR3K	GR3M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1 @T_L=75°C	$I_{(AV)}$	3.0							Amps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	100.0							Amps
Maximum instantaneous forward voltage @ 3.0A	V_F	1.3							Volts
Maximum DC reverse current @T_A=25°C at rated DC blocking voltage @T_A=125°C	I_R	10.0 250							uA
Maximum reverse recovery time (Note 1)	t_{rr}	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	75							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 15.0							°C/W
Operating temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.3" x 0.3" (8.0 x 8.0 mm) Copper Pad Areas.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

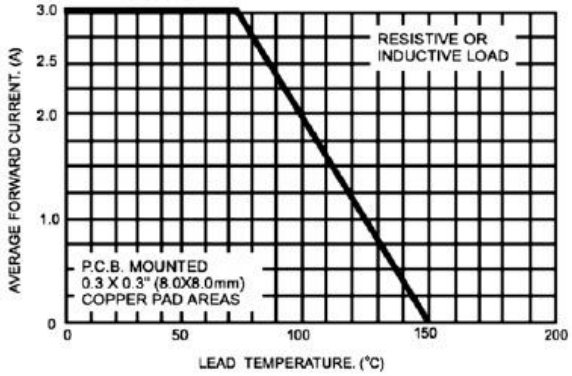

FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

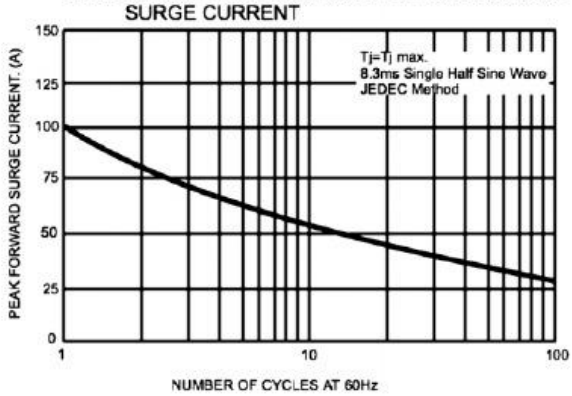

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

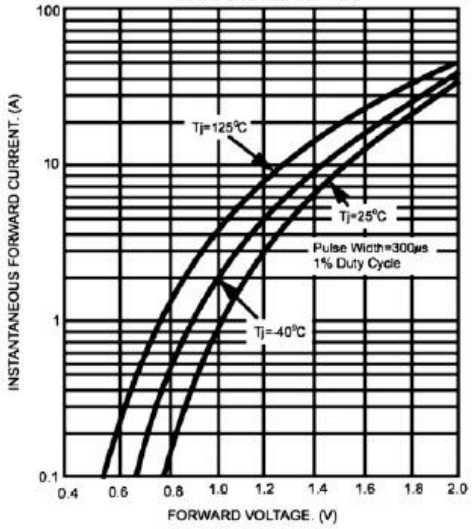

FIG.4- TYPICAL REVERSE CHARACTERISTICS

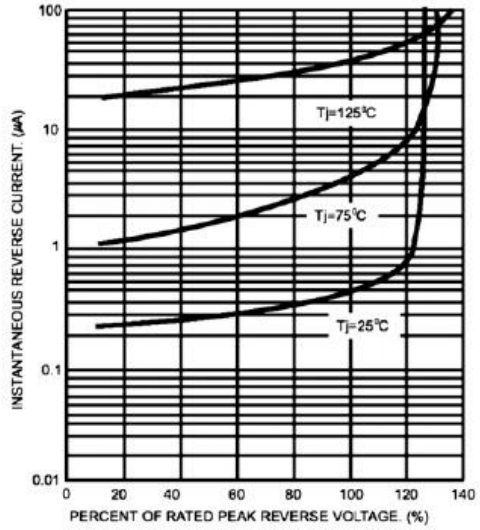

FIG.5- TYPICAL JUNCTION CAPACITANCE