



THE DATASHEET OF GR1D



Features

- Glass passivated Fast Recovery rectifiers
- For surface mounted application
- Low forward voltage drop
- High temperature soldering: 260°C/10 seconds at terminals
- Plastic material used carries underwriters laboratory classification 94V-0
- Halogen free



DO-214AC (SMA)

Typical Applications

- For use of fast switching rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig.1	I _(AV)	1.0							A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	30							A
Maximum Instantaneous Forward Voltage @ 1.0A	V _F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	5.0							uA
	T _A =125°C	50							
Maximum Reverse Recovery Time ¹	t _{rr}	150				250	500	nS	
Typical Junction Capacitance ²	C _J	7.6							pF
Operating Junction 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 1MHz and applied reverse voltage of 4.0V

Thermal Characteristics

Parameter	Symbol	GR1A thru GR1M	Unit
Typical Thermal Resistance ³	R _{θJA}	61	°C/W
	R _{θJC}	30	
	R _{θJL}	6	

Notes:

3. The thermal resistance from junction to ambient, case and lead, mounted on FR-4 P.C.B with 5×5mm copper pads.

Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

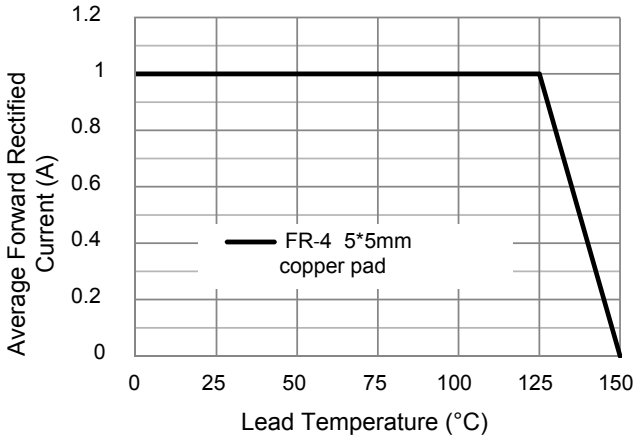


Figure 1. Forward Current Derating Curve

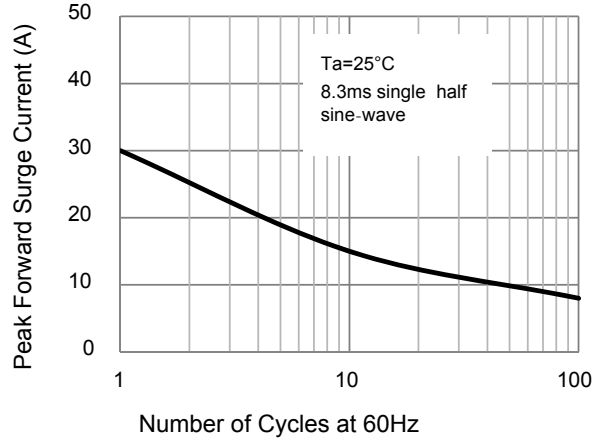


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

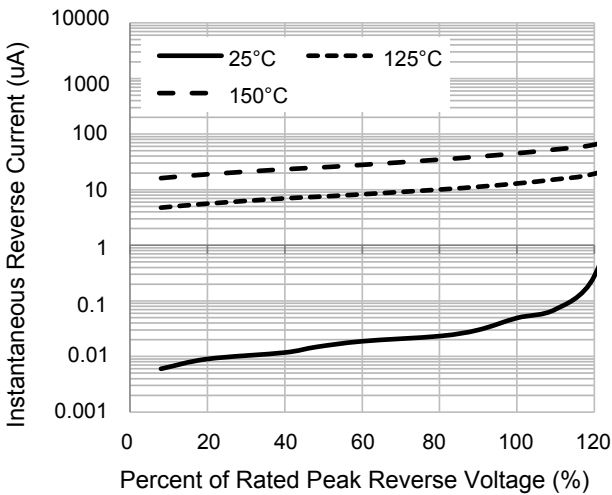


Figure 3. Typical Reverse Characteristics

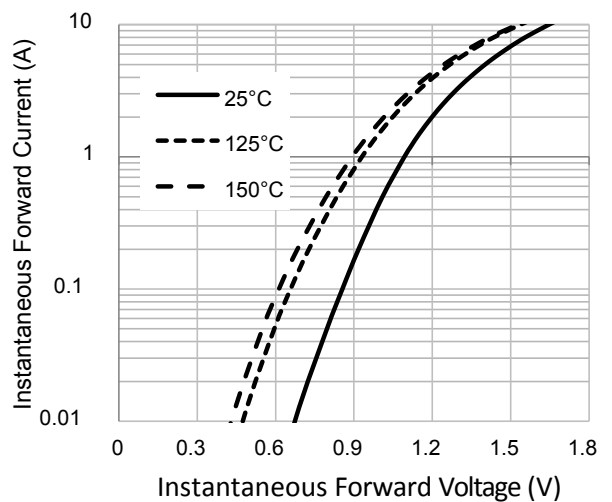


Figure 4. Typical Forward Characteristics

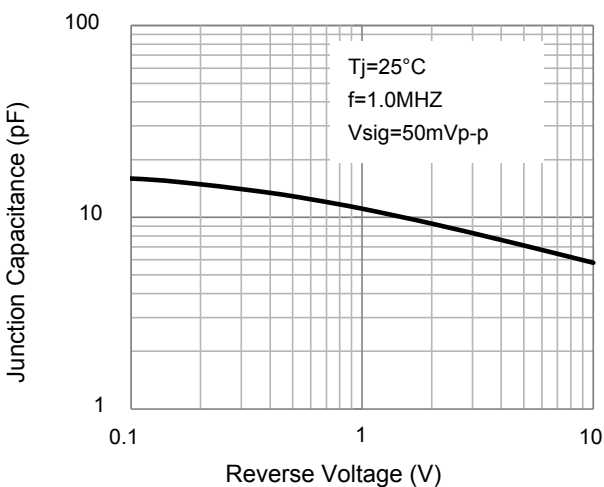


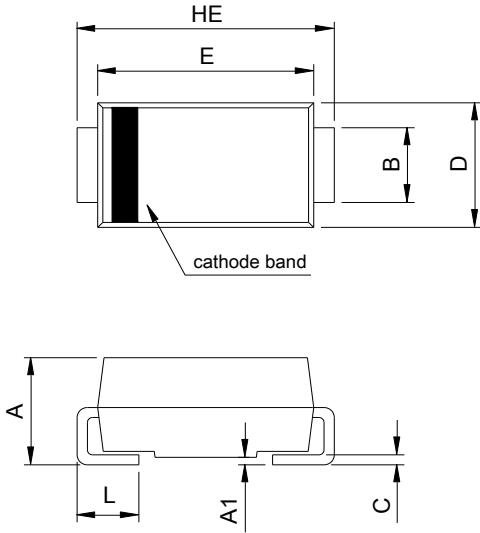
Figure 5. Typical Junction Capacitance

GR1A thru GR1M

Fast Recovery Rectifiers

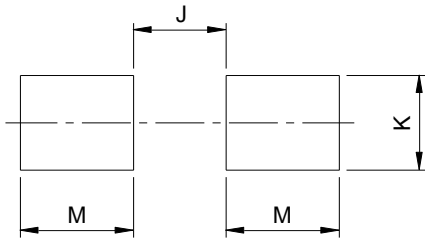
Reverse Voltage 50V to 1000V Forward Current 1.0 A

Package Outline Dimensions DO-214AC (SMA)



SMA (DO-214AC)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.90	2.30	0.075	0.091
A1	0.00	0.20	0.000	0.008
B	1.25	1.65	0.049	0.065
C	0.15	0.31	0.006	0.012
D	2.35	2.90	0.093	0.114
E	3.99	4.60	0.157	0.181
HE	4.80	5.30	0.189	0.209
L	0.76	1.52	0.030	0.060

Recommended Pad Layout



Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.20	-	0.087
K	1.72	-	0.068	-
M	2.00	-	0.079	-

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