# RGF1A - RGF1M

## SURFACE MOUNT FAST RECOVERY RECTIFIERS

## PRV : 50 - 1000 Volts
## Io : 1.0 Ampere

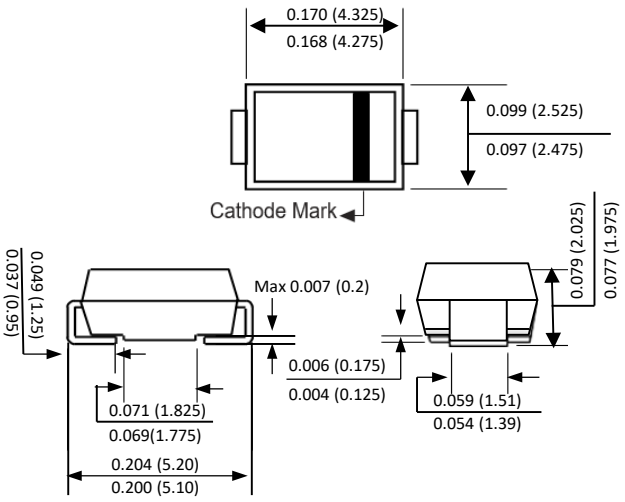
### FEATURES :

* Glass Passivate Junction Chip
* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Fast switching for high efficiency
* Pb / RoHS Free

### MECHANICAL DATA :

* Case : SMA Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Lead Formed for Surface Mount
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.21 gram

**SMA**




**Dimensions in inches and ( millimeters )**

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| RATING | SYMBOL | RGF1A | RGF1B | RGF1D | RGF1G | RGF1J | RGF1K | RGF1M | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent 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 Current $T_L$ = 125 °C | $I_{F(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30 | | | | | | | A |
| Maximum Peak Forward Voltage at $I_F$ = 1.0 A | $V_F$ | 1.3 | | | | | | | V |
| Maximum DC Reverse Current Ta = 25 °C | $I_R$ | 5 | | | | | | | μA |
| at Rated DC Blocking Voltage Ta = 125 °C | $I_{R(H)}$ | 100 | | | | | | | μA |
| Maximum Reverse Recovery Time (Note 1) | Trr | 150 | | | | 250 | 500 | | ns |
| Total Capacitance (Note 2) | $C_T$ | 8.5 | | | | | | | pf |
| Junction Temperature Range | $T_J$ | - 65 to + 175 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | - 65 to + 175 | | | | | | | °C |

**Notes :**

( 1 ) Reverse Recovery Test Conditions : IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A.

( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc



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## RATING AND CHARACTERISTIC CURVES ( RGF1A - RGF1M )

**FIG.1 - FORWARD CURRENT DERATING CURRENT**

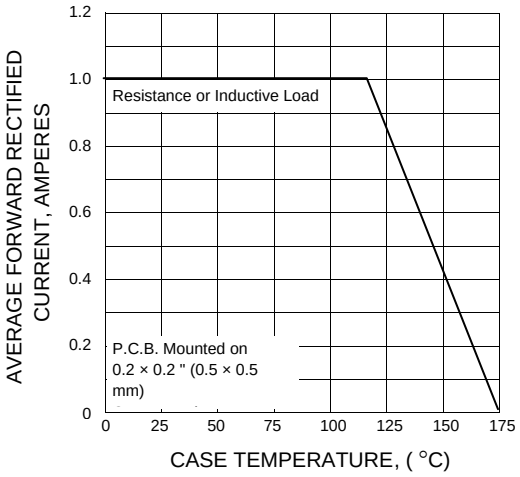



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**

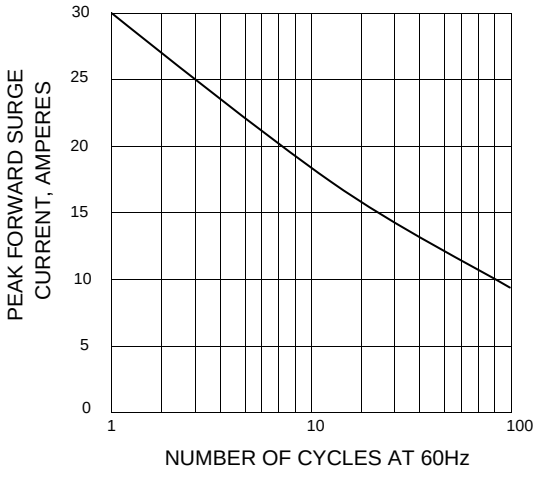



**FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG**

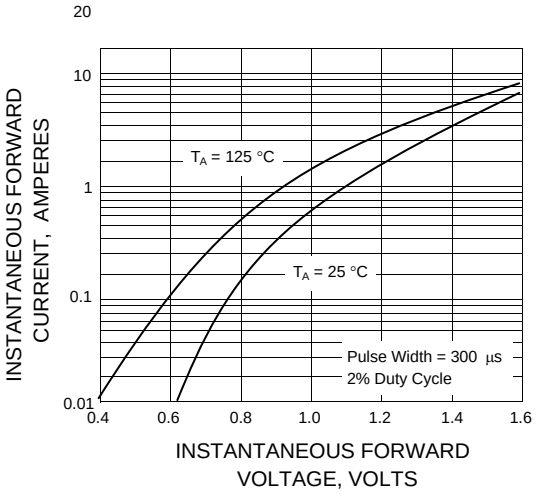



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG**

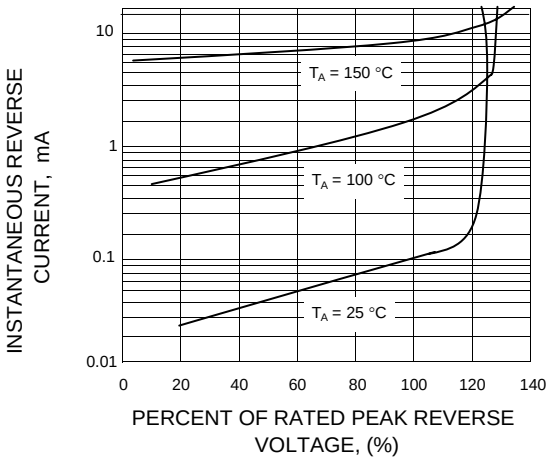
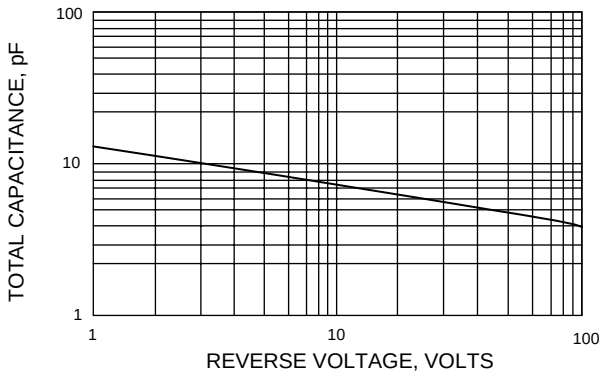



**FIG. 5 – TYPICAL JUNCTION CAPACITANCE PER LEG**



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