



Micro Commercial Components  
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## RGP10A THRU RG10M

### 1.0 Amp Glass Passivated Junction Fast Recovery Rectifiers 50 to 1000 Volts

#### Features

- High temperature metallurgically bonded construction
- Glass passivated cavity-free junction
- 1.0 ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway.
- Typical  $I_R$  less than 0.1uA
- Fast switching for high efficiency

#### Maximum Ratings

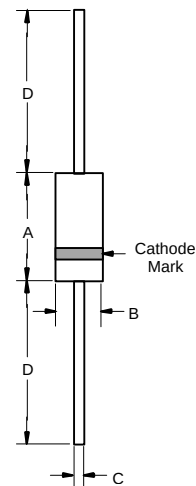
- Operating Temperature:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$
- Storage Temperature:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$
- Typical Thermal Resistance:  $55^\circ\text{C/W}$  Junction to Ambient

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------------------------------|---------------------|-----------------------------|
| RGP10A          | 50V                                    | 35V                 | 50V                         |
| RGP10B          | 100V                                   | 70V                 | 100V                        |
| RGP10D          | 200V                                   | 140V                | 200V                        |
| RGP10G          | 400V                                   | 280V                | 400V                        |
| RGP10J          | 600V                                   | 420V                | 600V                        |
| RGP10K          | 800V                                   | 560V                | 800V                        |
| RGP10M          | 1000V                                  | 700V                | 1000V                       |

#### Electrical Characteristics @ $25^\circ\text{C}$ Unless Otherwise Specified

|                                                                     |             |                         |                                                                                                   |
|---------------------------------------------------------------------|-------------|-------------------------|---------------------------------------------------------------------------------------------------|
| Maximum Average Forward Current                                     | $I_{F(AV)}$ | 1.0 A                   | $T_A = 55^\circ\text{C}$                                                                          |
| Peak Forward Surge Current                                          | $I_{FSM}$   | 30A                     | 8.3ms, half sine                                                                                  |
| Maximum Instantaneous Forward Voltage                               | $V_F$       | 1.3V                    | $I_{FM} = 1.0\text{A};$<br>$T_A = 25^\circ\text{C}$                                               |
| Maximum DC Reverse Current At Rated DC Blocking Voltage             | $I_R$       | 5.0uA<br>200uA          | $T_A = 25^\circ\text{C}$<br>$T_A = 150^\circ\text{C}$                                             |
| Typical Junction Capacitance                                        | $C_J$       | 15pF                    | Measured at<br>1.0MHz, $V_R = 4.0\text{V}$                                                        |
| Maximum Reverse Recovery Time<br>RGP10A-10G<br>RGP10J<br>RGP10K-10M | $T_{rr}$    | 150nS<br>250nS<br>500nS | $T_J = 25^\circ\text{C}$<br>$I_F = 0.5\text{A}$<br>$I_R = 1.0\text{A}$<br>$I_{RR} = 0.25\text{A}$ |

#### DO-41

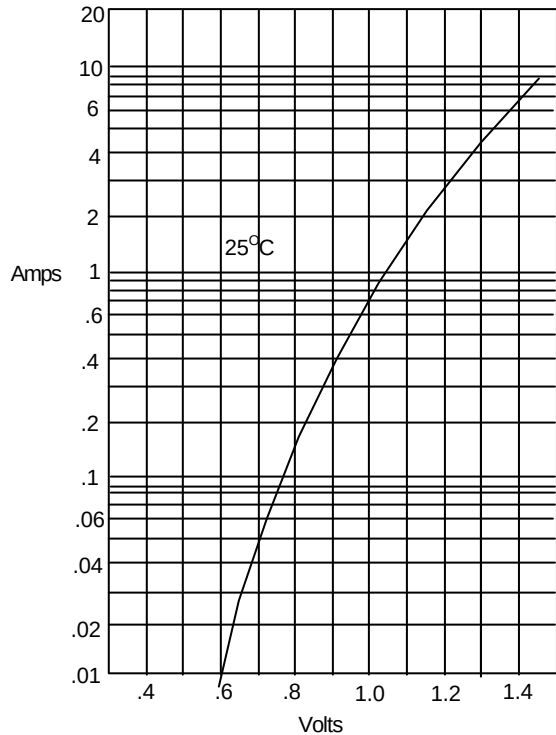


| DIMENSIONS |        |      |       |      |      |
|------------|--------|------|-------|------|------|
| DIM        | INCHES |      | MM    |      | NOTE |
|            | MIN    | MAX  | MIN   | MAX  |      |
| A          | .166   | .205 | 4.10  | 5.20 |      |
| B          | .080   | .107 | 2.00  | 2.70 |      |
| C          | .028   | .034 | .70   | .90  |      |
| D          | 1.000  | ---  | 25.40 | ---  |      |

# RGP10A thru RGP10M

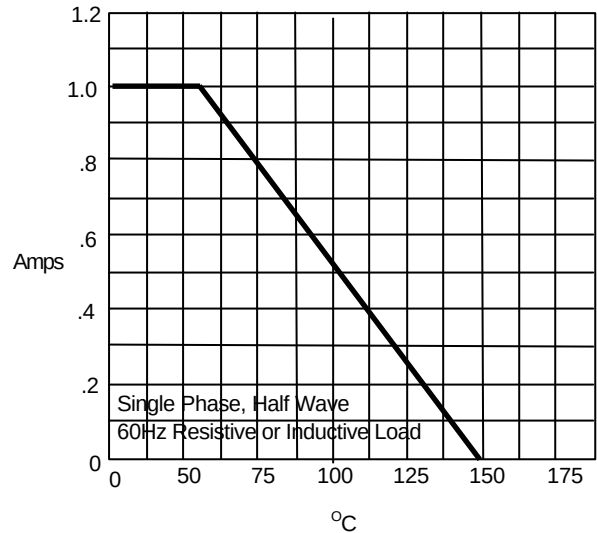


Figure 1  
Typical Forward Characteristics



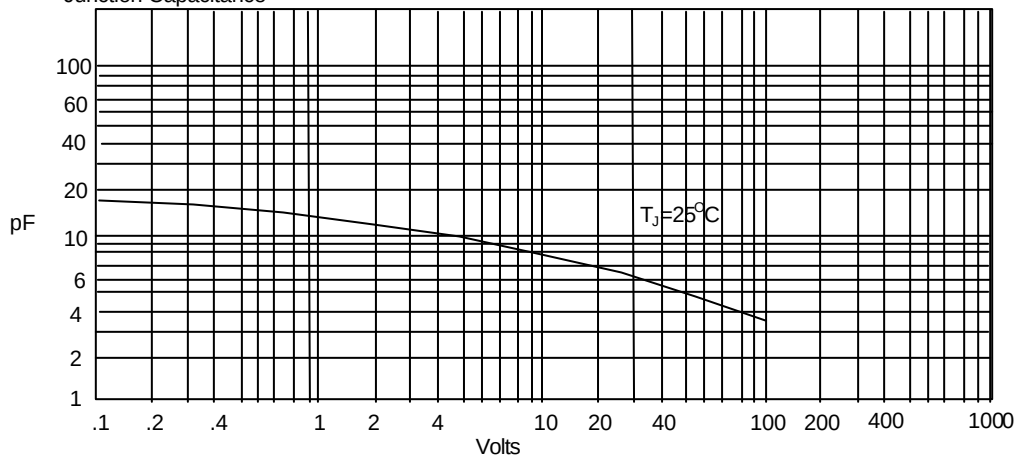
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



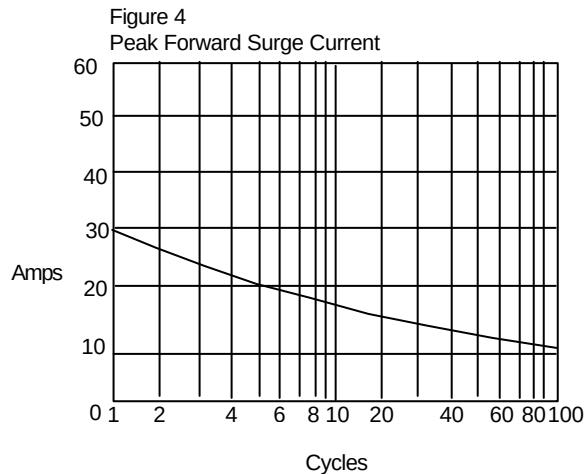
Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



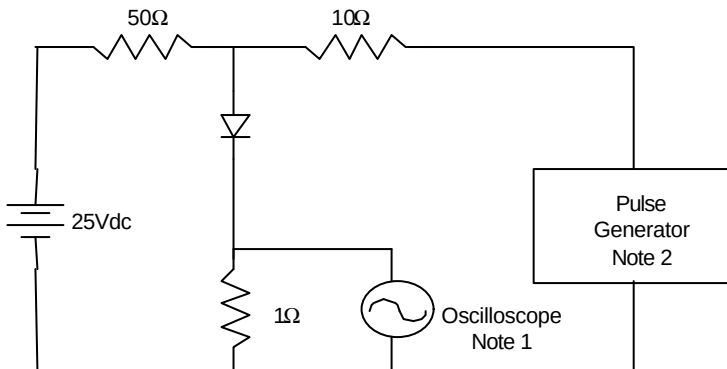
Junction Capacitance - pF versus  
Reverse Voltage - Volts

# RGP10A thru RGP10M



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram



Notes:

1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.  
Source impedance = 50 ohms
3. Resistors are non-inductive

