



# RGP10A thru RGP10M

Glass Passivated Junction Fast Switching Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

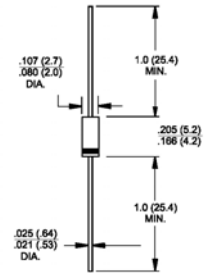
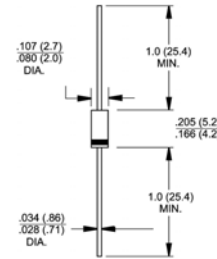
## Features

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Cavity-free glass passivated junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ For use in high frequency rectifier circuits
- ◆ Fast switching for high efficiency
- ◆ 1.0 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension



DO-204AL (DO-41)

A-405



Dimensions in inches and (millimeters)      Dimensions in inches and (millimeters)

Note: Lead diameter is 0.025(0.64)/0.021(0.53) for suffix "S" part numbers

## Mechanical Data

- ◆ Case: JEDEC DO-204AL(DO-41)/A-405 molded plastic over glass body
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting Position: Any
- ◆ Weight: DO-41 - 0.012 ounce, 0.335 gram  
A-405 - 0.008 ounce, 0.235 gram

## Maximum Ratings and Electrical Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

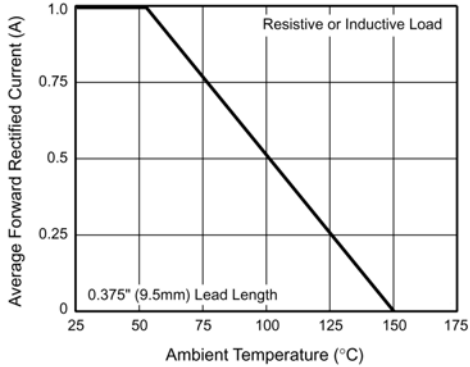
Parameter	Symbol	RGP 10A	RGP 10B	RGP 10D	RGP 10G	RGP 10J	RGP 10K	RGP 10M	Unit	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts	
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0							Amp	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps	
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{R(AV)}$	100							$\mu\text{A}$	
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3							Volts	
Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$ @ $T_A=150^\circ\text{C}$	$I_R$	5.0 200							$\mu\text{A}$	
Maximum reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $t_r=0.25\text{A}$	$t_{rr}$	150				250		500		nS
Typical junction capacitance at 4.0V, 1MHz	$C_J$	15.0							pF	
Typical thermal resistance (Note 1)	$R_{\theta JA}$	55.0							$^\circ\text{C}/\text{W}$	
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$	

Notes: 1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

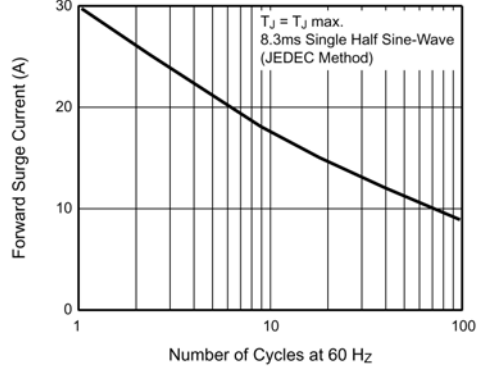
# RATINGS AND CHARACTERISTIC CURVES

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

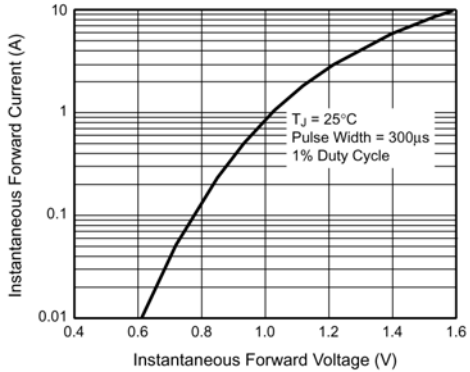
**Fig. 1 – Forward Current Derating Curve**



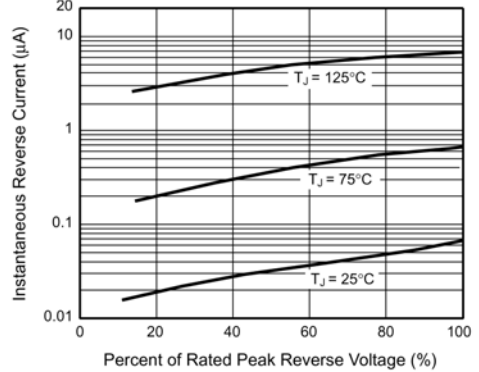
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



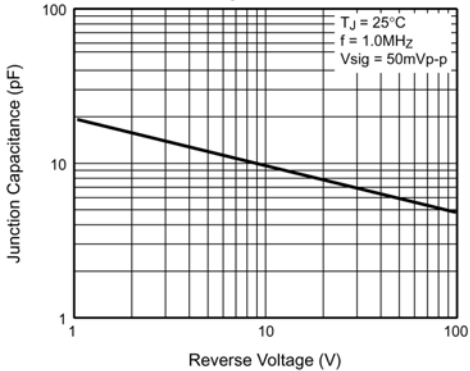
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

