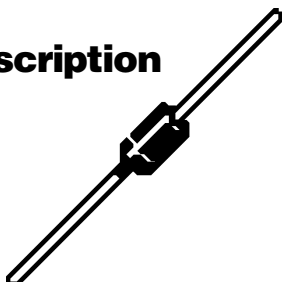


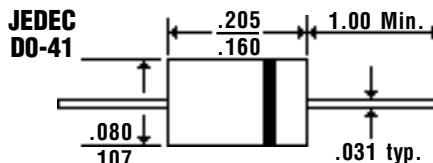
# 1.0 Amp FAST SWITCHING MEGARECTIFIERS

**1N4942GP...48GP Series**

## Description



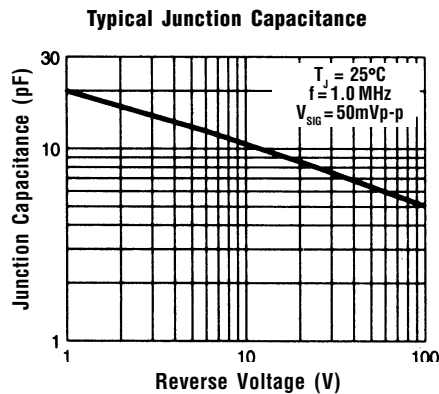
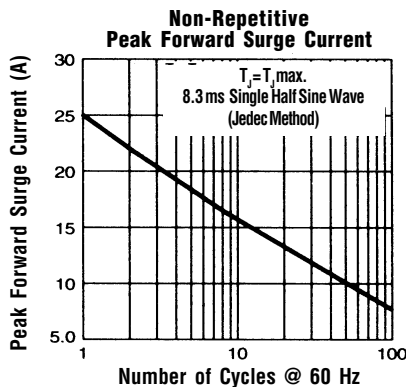
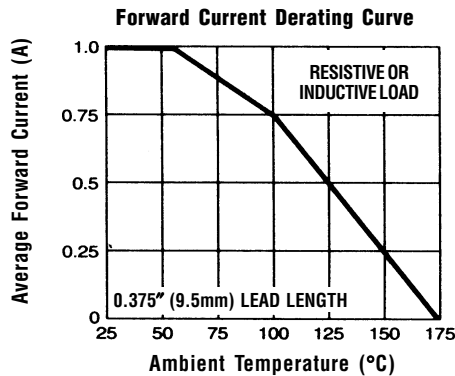
## Mechanical Dimensions



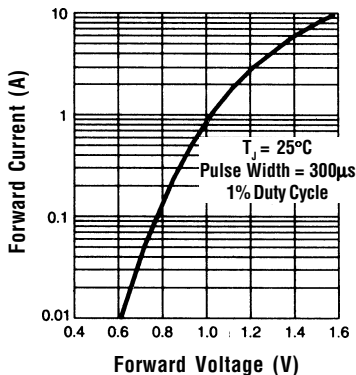
## Features

- **HIGH TEMPERATURE METALLURGICALLY BONDED CONSTRUCTION**
- **1.0 AMP OPERATION @  $T_A = 55^\circ\text{C}$ , WITH NO THERMAL RUNAWAY**
- **SINTERED GLASS CAVITY-FREE JUNCTION**
- **TYPICAL  $I_R < 0.1 \mu\text{Amp}$**

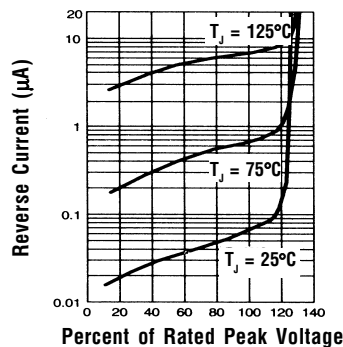
| <b>1N4942GP . . . 48GP Series</b>                                                                         |                                                       |                 |                 |                 |                 | <b>Units</b>       |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|--------------------|
| <b>Maximum Ratings</b>                                                                                    | <b>1N4942GP</b>                                       | <b>1N4944GP</b> | <b>1N4946GP</b> | <b>1N4947GP</b> | <b>1N4948GP</b> |                    |
| Peak Repetitive Reverse Voltage... $V_{RRM}$                                                              | 200                                                   | 400             | 600             | 800             | 1000            | Volts              |
| RMS Reverse Voltage... $V_{R(rms)}$                                                                       | 140                                                   | 280             | 420             | 560             | 700             | Volts              |
| DC Blocking Voltage... $V_{DC}$                                                                           | 200                                                   | 400             | 600             | 800             | 1000            | Volts              |
| Average Forward Rectified Current... $I_{F(av)}$<br>3/8" Lead Length @ $T_A = 55^\circ\text{C}$           | 1.0                                                   |                 |                 |                 |                 | Amps               |
| Non-Repetitive Peak Forward Surge Current... $I_{FSM}$<br>8.3ms, 1/2 Sine Wave Superimposed on Rated Load | 25                                                    |                 |                 |                 |                 | Amps               |
| Operating & Storage Temperature Range... $T_J, T_{STRG}$                                                  | -65 to 175                                            |                 |                 |                 |                 | $^\circ\text{C}$   |
| <b>Electrical Characteristics</b>                                                                         |                                                       |                 |                 |                 |                 |                    |
| Maximum Forward Voltage @ 1.0A... $V_F$                                                                   | 1.3                                                   |                 |                 |                 |                 | Volts              |
| Maximum DC Reverse Current... $I_R$<br>@ Rated DC Blocking Voltage                                        | $T_A = 25^\circ\text{C}$ 5.0                          |                 |                 |                 |                 | $\mu\text{Amps}$   |
|                                                                                                           | $T_A = 125^\circ\text{C}$ 100                         |                 |                 |                 |                 | $\mu\text{Amps}$   |
| Typical Junction Capacitance... $C_J$ (Note 1)                                                            | 15                                                    |                 |                 |                 |                 | pF                 |
| Typical Thermal Resistance... $R_{\theta JA}$ (Note 2)                                                    | 55                                                    |                 |                 |                 |                 | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time... $t_{RR}$ (Note 3)                                                        | < ..... 150 ..... > < ..... 250 ..... > < .. 500 .. > |                 |                 |                 |                 | ns                 |



**Typical Instantaneous Forward Characteristics**



**Typical Reverse Characteristics**



Ratings at  
25 Deg. C ambient  
temperature  
unless otherwise  
specified.

Single Phase Half  
Wave, 60 Hz  
Resistive or  
Inductive Load.

For Capacitive  
Load, Derate  
Current by 20%.

- NOTES:**
1. Measured @ 1 MHz and applied reverse voltage of 4.0V.
  2. Thermal Resistance from Junction to Ambient at 3/8" Lead Length, P.C. Board Mounted.
  3. Reverse Recovery Condition  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .