



Micro Commercial Components

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# 1N4942GP THRU 1N4948GP

## 1 Amp Glass Passivated Fast Recovery Rectifier 200 - 1000 Volts

### Features

- Low Leakage Current
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Fast Switching For High Efficiency
- Glass Passivated Junction

### Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 50°C/W Junction To Ambient

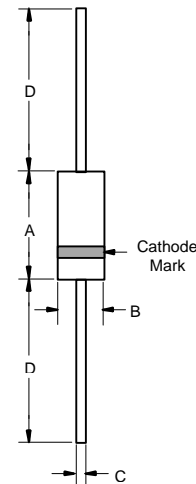
Microsemi Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
1N4942GP	1N4942GP	200V	140V	200V
1N4944GP	1N4944GP	400V	280V	400V
1N4946GP	1N4946GP	600V	420V	600V
1N4947GP	1N4947GP	800V	560V	800V
1N4948GP	1N4948GP	1000V	700V	1000V

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	25A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.3V	$I_{FM} = 1.0\text{A}; T_A = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0µA 200µA	$T_J = 25^\circ\text{C}$ $T_J = 150^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{rr}$	150ns	$I_F=0.5\text{A},$ $I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
1N4942-4944		250ns	
1N4946-4947 1N4948		500ns	
Typical Junction Capacitance	$C_J$	15pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

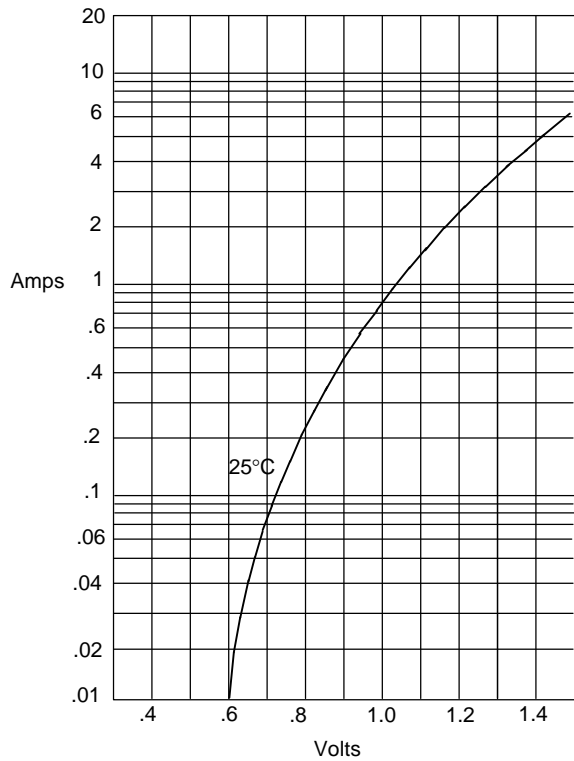
\*Pulse test: Pulse width 300 µsec, Duty cycle 2%

### DO-41



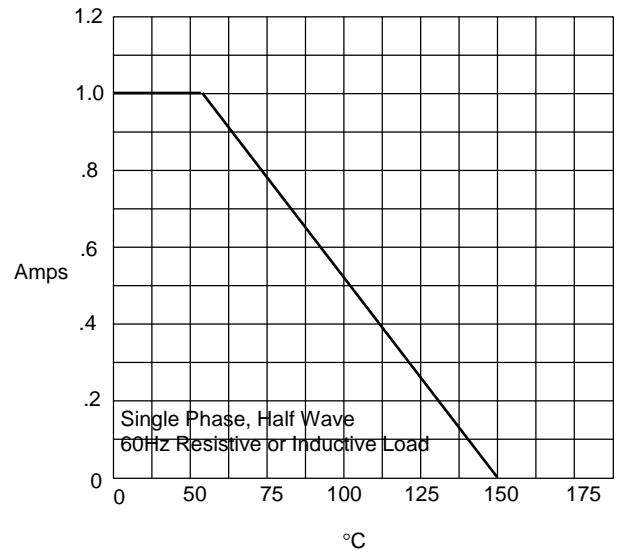
DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

Figure 1  
Typical Forward Characteristics



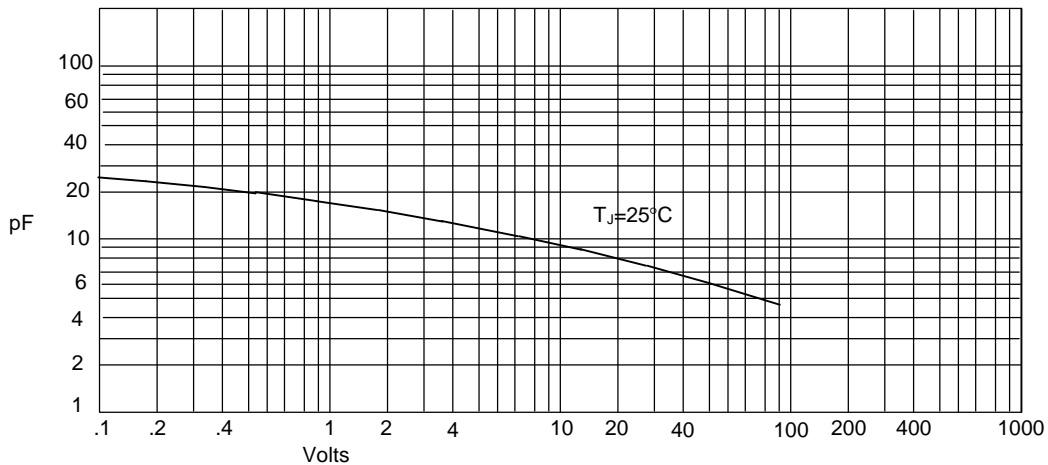
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



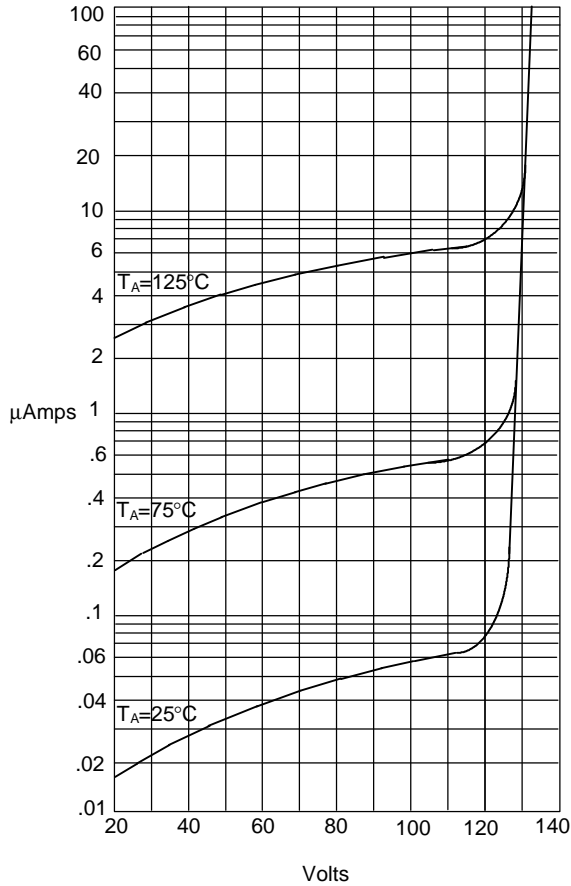
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



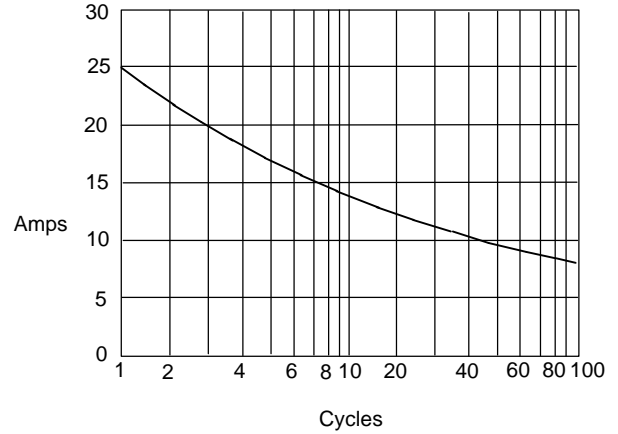
Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

Figure 4  
Typical Reverse Characteristics



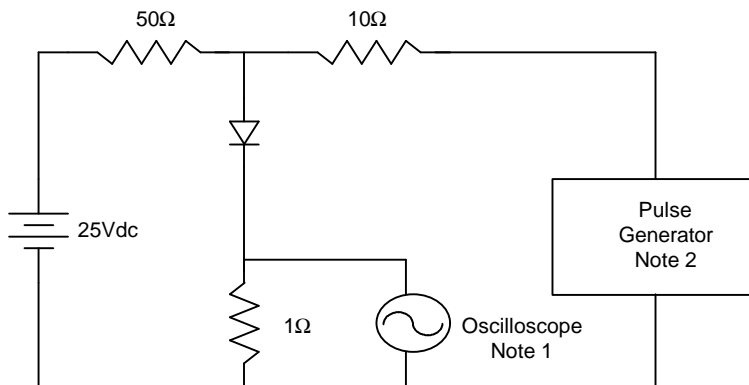
Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Non-Repetitive Peak Forward Surge Current

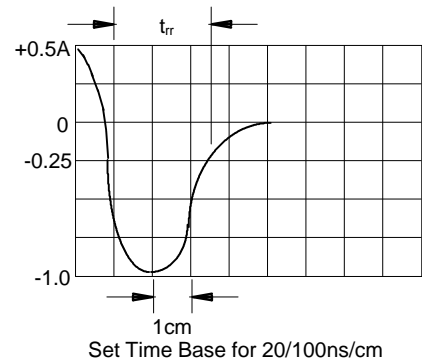


Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

Figure 6  
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





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