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FR1012GP THRU FR1020GP

1 Amp Glass Passivated Rectifier 1200 to 2000 Volts

Features

- Low Cost
- Low Leakage
- Low Forward Voltage Drop
- High Current Capability
- Fast Switching Speed For High Efficiency
- Glass Passivated Junction

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR1012GP	---	1200V	840V	1200V
FR1014GP	----	1400V	980V	1400V
FR1016GP	---	1600V	1120V	1600V
FR1018GP	---	1800V	1260V	1800V
FR1020GP	---	2000V	1400V	2000V

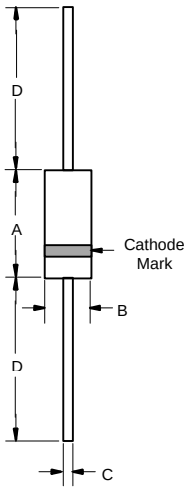
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1 A	T_A = 55°C
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.35V 1.50V	I_{FM} = 1.0A; T_A = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0μA 100μA	T_A = 25°C T_A = 100°C
Maximum Reverse Recovery Time FR1012-1016 FR1018-1020	T_{rr}	 300ns 500ns	 I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance	C_J	15pF	Measured at 1.0MHz, V_R=4.0V

*Pulse Test: Pulse Width 300μsec, Duty Cycle 1%

18-20

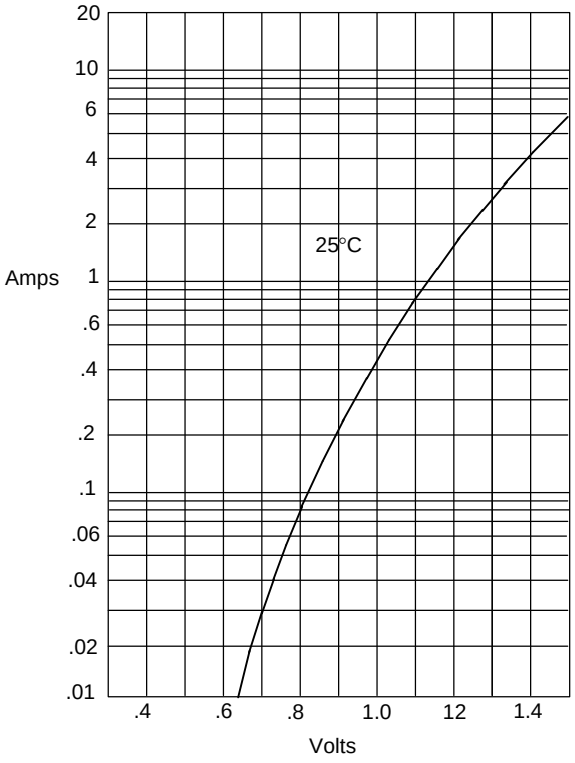
DO-41



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

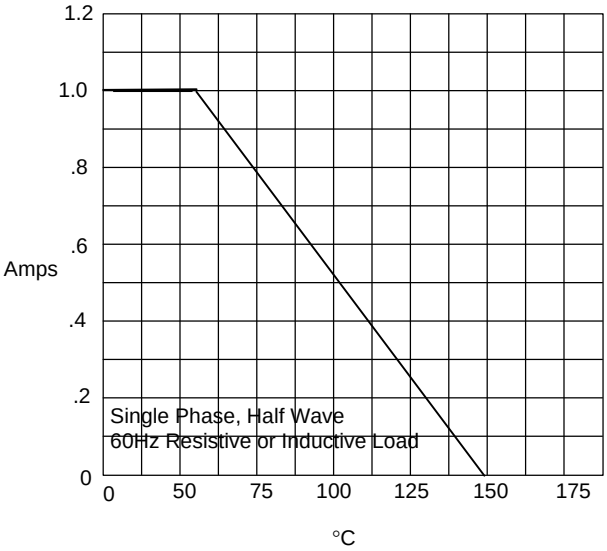
FR1012GP thru FR1020GP

Figure 1
Typical Forward Characteristics



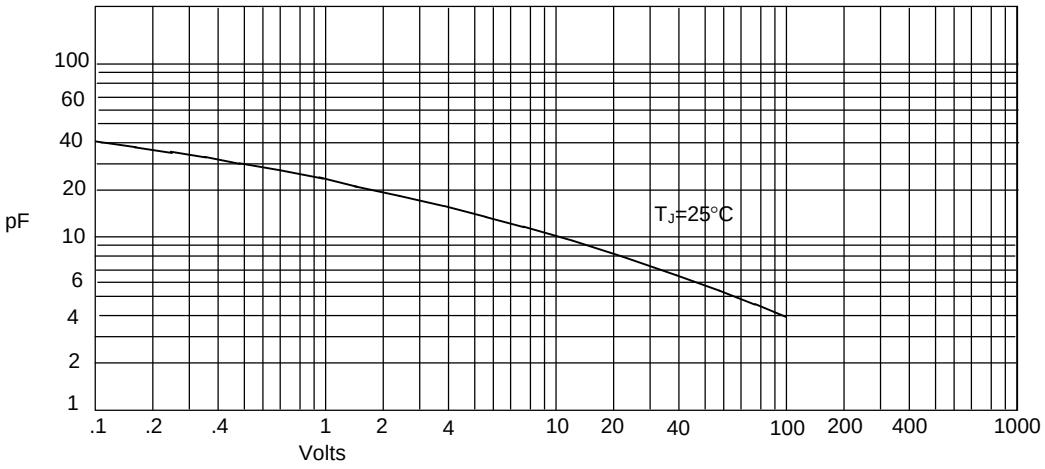
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



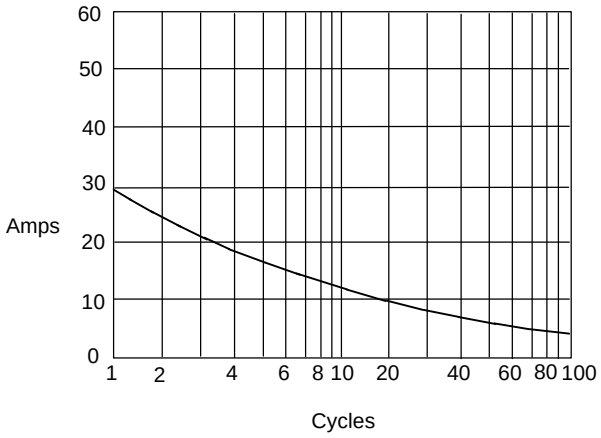
Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

Figure 3
Junction Capacitance



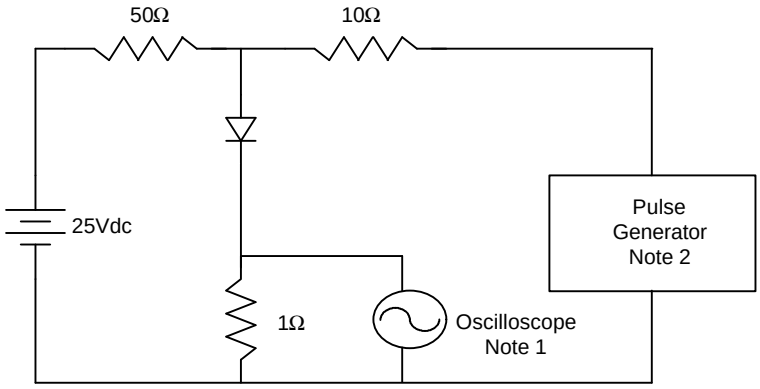
Junction Capacitance - pF *versus*
Reverse Voltage - Volts

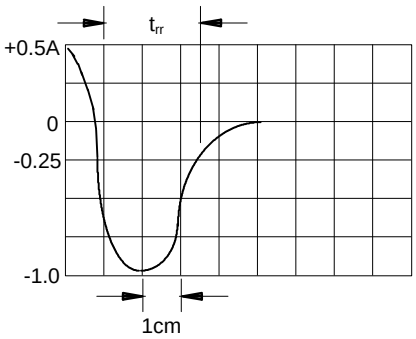
Figure 4
Peak Forward Surge Current



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

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

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