



# THE DATASHEET OF FR305GP-TP





Micro Commercial Components



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# FR301GP THRU FR307GP

## Features

- Halogen free available upon request by adding suffix "-HF"
- Low Forward Voltage Drop and High Current Capability
- Fast Switching Speed For High Efficiency
- Glass Passivated Junction
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

## Maximum Ratings

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

MCC Catalog Number	Device Marking	Maximum Reccurent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR301GP	FR301GP	50V	35V	50V
FR302GP	FR302GP	100V	70V	100V
FR303GP	FR303GP	200V	40V	200V
FR304GP	FR304GP	400V	280V	400V
FR305GP	FR305GP	600V	420V	600V
FR306GP	FR306GP	800V	560V	800V
FR307GP	FR307GP	1000V	700V	1000V

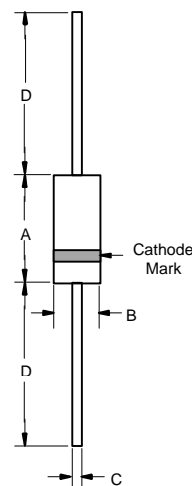
### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	150A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.3V	$I_{FM} = 3.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5 $\mu\text{A}$ 100 $\mu\text{A}$	$T_A = 25^\circ\text{C}$ $T_A = 55^\circ\text{C}$
Maximum Reverse Recovery Time FR301GP-304GP FR305GP FR306GP-307GP	$T_{rr}$	150ns 250ns 500ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance	$C_J$	50pF	Measured at 1.0MHZ, $V_R=4.0\text{V}$

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

## 3 Amp Fast Recovery Rectifier 50 to 1000 Volts

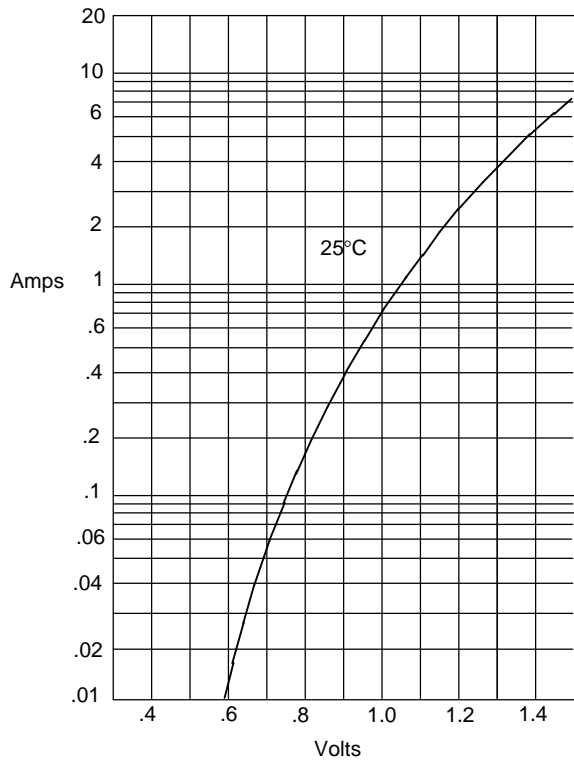
### DO-201AD



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.287	.374	7.30	9.50	
B	.189	.208	4.80	5.30	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

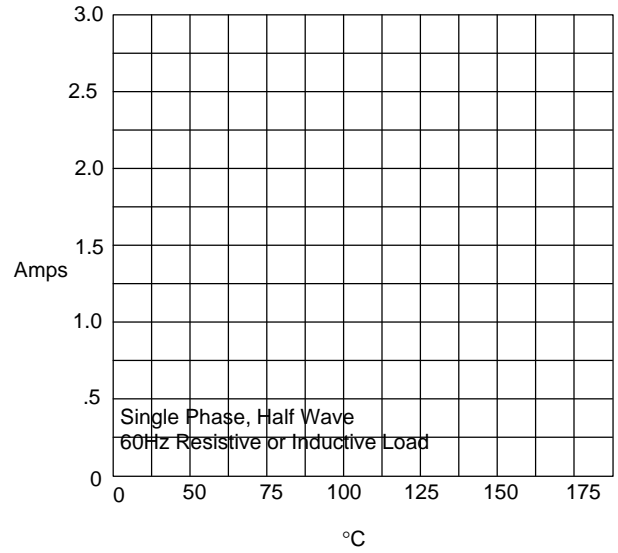
# FR301GP thru FR307GP

Figure 1  
Typical Forward Characteristics



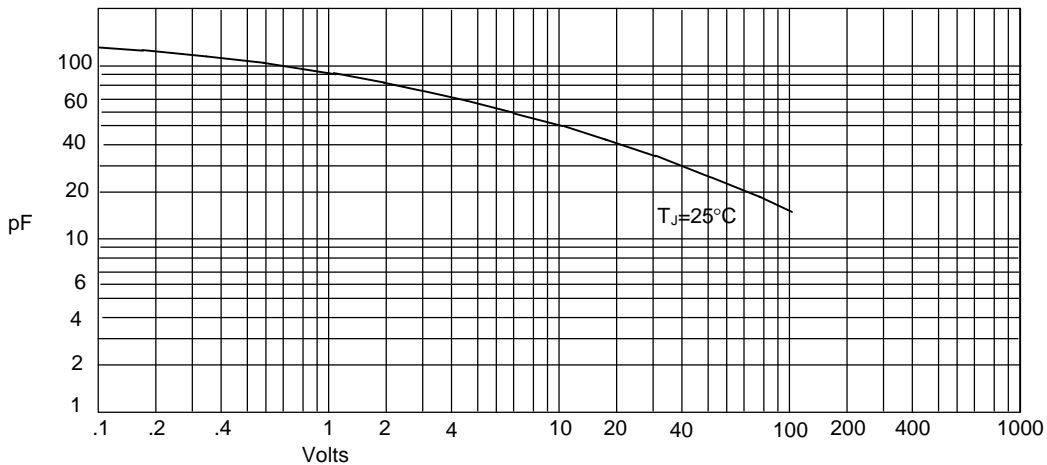
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve

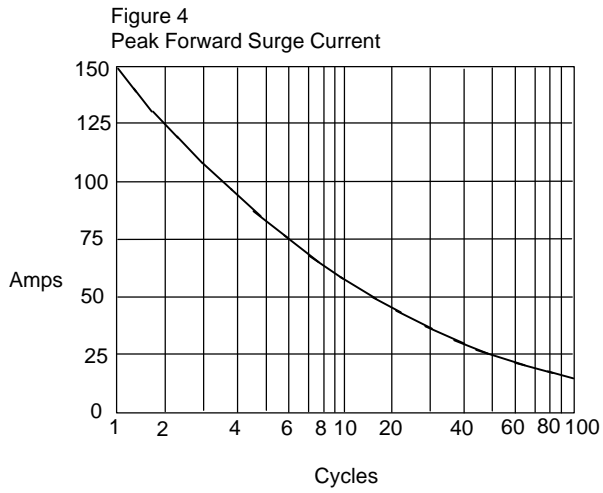


Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance

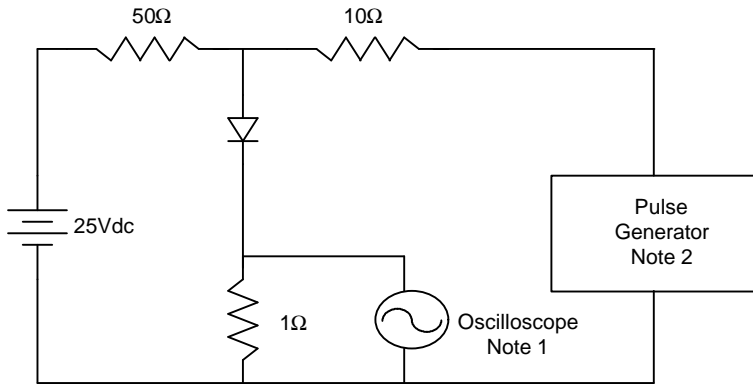


Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

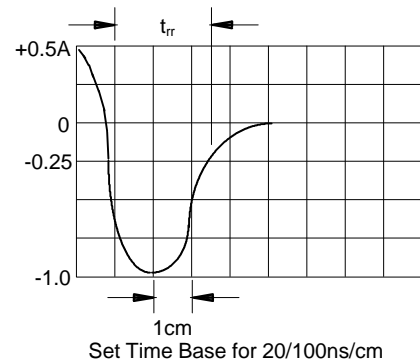


Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

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





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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 1.2Kpcs/Reel
Part Number-AP	Ammo Packing: 1.2Kpcs/Ammo Box
Part Number-BP	Bulk: 12Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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