



Micro Commercial Components

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**FR601  
THRU  
FR607**

## Features

- Halogen free available upon request by adding suffix "-HF"
- 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
- Low Forward Voltage Drop
- High Current Capability
- Fast Switching Speed For High Efficiency

## Maximum Ratings

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

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR601	FR601	50V	35V	50V
FR602	FR602	100V	70V	100V
FR603	FR603	200V	140V	200V
FR604	FR604	400V	280V	400V
FR605	FR605	600V	420V	600V
FR606	FR606	800V	560V	800V
FR607	FR607	1000V	700V	1000V

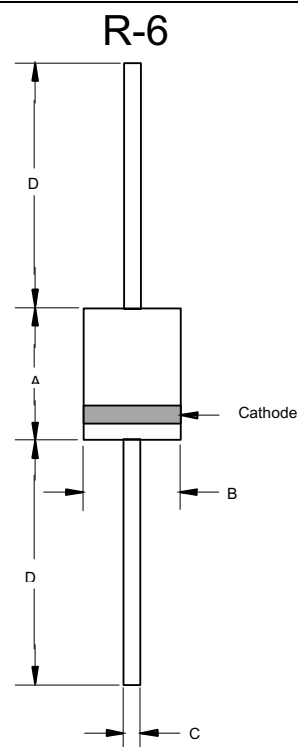
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	6 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	300A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.3V	$I_{FM} = 6.0\text{A}; T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu\text{A}$ 150 $\mu\text{A}$	$T_A = 25^\circ\text{C}$ $T_A = 55^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{rr}$	150ns 250ns 500ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
Typical Junction Capacitance	$C_J$	150pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

\*Pulse Test: Pulse Width 300 $\mu\text{sec}$ , Duty Cycle 1%

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

**6 Amp Fast Recovery  
Rectifier  
50 to 1000 Volts**

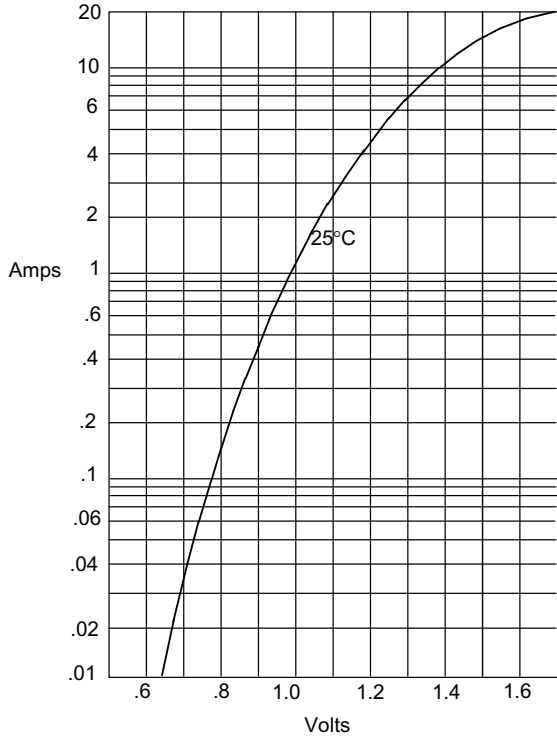


DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.340	.360	8.60	9.10	
B	.340	.360	8.60	9.10	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

[www.mccsemi.com](http://www.mccsemi.com)

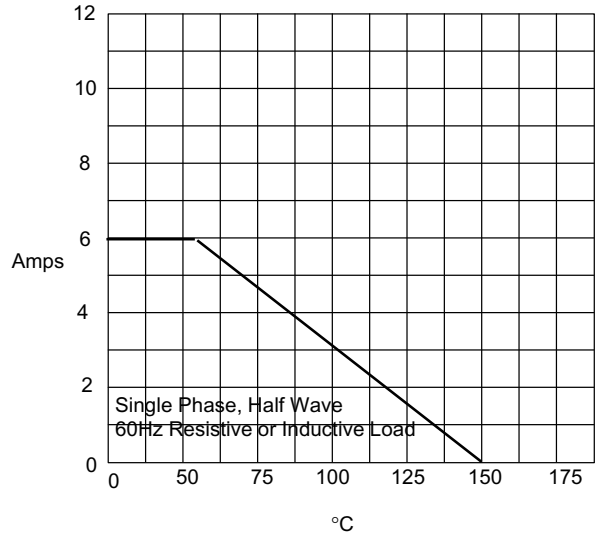
FR601 thru FR607

Figure 1  
Typical Forward Characteristics



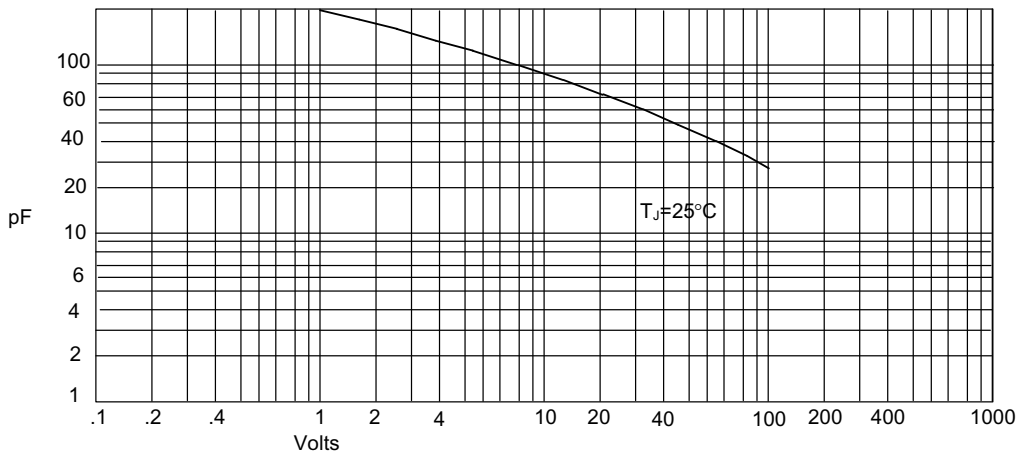
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



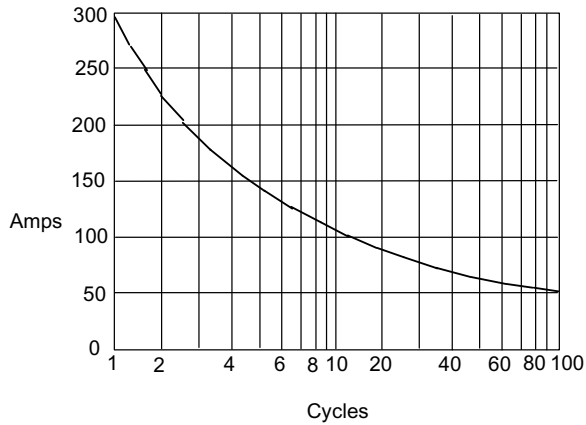
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



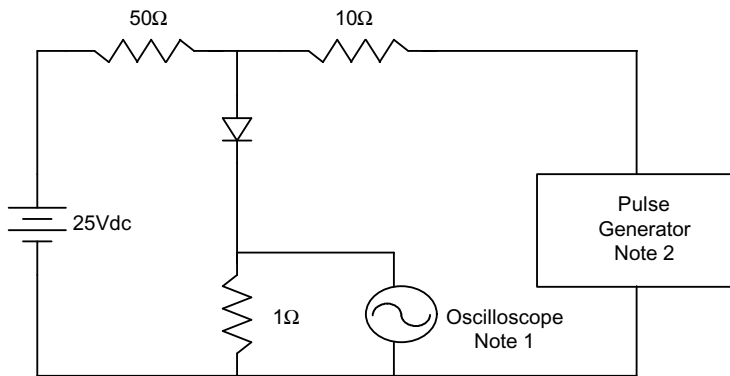
Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

Figure 4  
 Peak Forward Surge Current

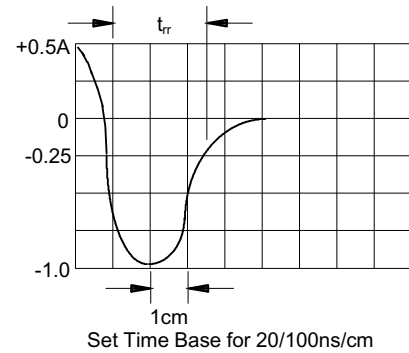


Peak Forward Surge Current - Amperes versus  
 Number Of Cycles At 60Hz - Cycles

Figure 5  
 Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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: 500pcs/Reel
Part Number-AP	Ammo Packing: 450pcs/Ammo Box
Part Number-BP	Bulk: 4.8Kpcs/Carton

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

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