

**Micro Commercial Components** 



Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311

Phone: (818) 701-4933 Fax: (818) 701-4939 FR301 THRU FR307

### **Features**

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

## Maximum Ratings

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

MCC	Device	Maximum	Maximum	Maximum
Catalog	Marking	Recurrent	RMS	DC
Number		Peak Reverse	Voltage	Blocking
		Voltage	_	Voltage
FR301	FR301	50V	35V	50V
FR302	FR302	100V	70V	100V
FR303	FR303	200V	140V	200V
FR304	FR304	400V	280V	400V
FR305	FR305	600V	420V	600V
FR306	FR306	800V	560V	800V
FR307	FR307	1000V	700V	1000V

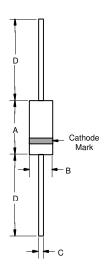
#### Hectrical Characteristics @25°CUnless Otherwise Specified

dectrical dialacteristics @25 cdiless afferwise specified					
Average Forward	I <sub>F(AV)</sub>	3 A	$T_A = 55^{\circ}C$		
Current					
Peak Forward Surge	I <sub>FSM</sub>	150A	8.3ms, half sine		
Current					
Maximum			$I_{FM} = 3.0A;$		
Instantaneous	$V_{F}$	1.3V	$T_A = 25^{\circ}C$		
Forward Voltage					
Maximum DC					
Reverse Current At	I <sub>R</sub>	10μΑ	T <sub>A</sub> = 25°C		
Rated DC Blocking		150μΑ	$T_A = 55^{\circ}C$		
Voltage		•			
Maximum Reverse					
Recovery Time					
FR301-304	$T_{rr}$	150ns	$I_F=0.5A, I_R=1.0A,$		
FR305		250ns	I <sub>rr</sub> =0.25A		
FR306-307		500ns			
Typical Junction	CJ	65pF	Measured at		
Capacitance			1.0MHz, V <sub>R</sub> =4.0V		

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

# 3 Amp Fast Recovery Rectifier 50 to 1000 Volts

### **DO-201AD**



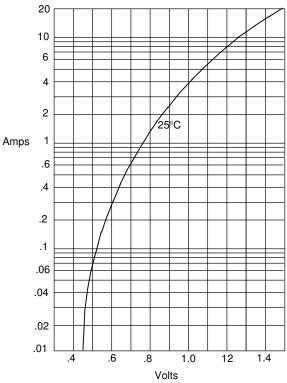
DIMENSIONS							
	INCHES		MM				
DIM	MIN	MAX	MIN	MAX	NOTE		
Α	.287	.374	7.30	9.50			
В	.189	.208	4.80	5.30			
С	.048	.052	1.20	1.30			
D	1.000		25.40				

### FR301 thru FR307

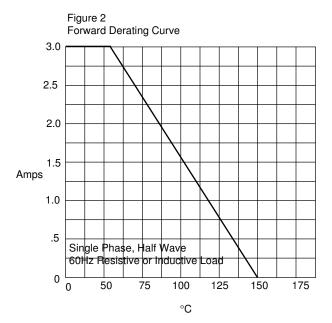
·M·C·C·

**Micro Commercial Components** 

Figure 1 Typical Forward Characteristics

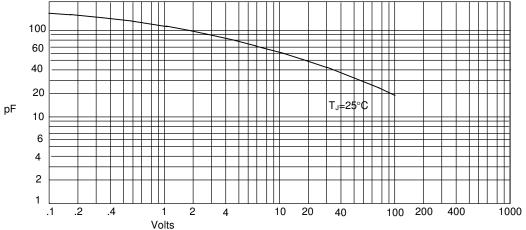


Instantaneous Forward Current - Amperes*versus* Instantaneous Forward Voltage - Volts



Average Forward Rectified Current - Amperes/ersus Ambient Temperature - $^{\circ}$ C



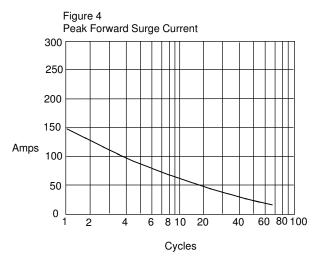


Junction Capacitance - pF*versus* Reverse Voltage - Volts

### FR301 thru FR307

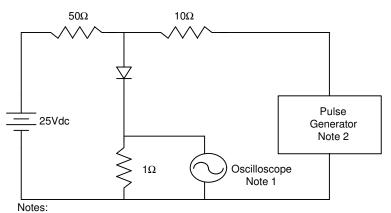


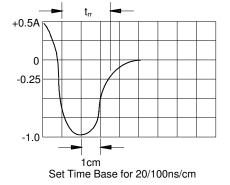
**Micro Commercial Components** 



Peak Forward Surge Current - Amperesversus Number Of Cycles At 60Hz - Cycles

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram





- 1. Rise Time = 7ns max.
- Input impedance = 1 megohm, 22pF
- 2. Rise Time = 10ns max.
- Source impedance = 50 ohms
- 3. Resistors are non-inductive



### **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

#### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

#### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

#### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.