



Micro Commercial Components



Micro Commercial Components  
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# FR151S THRU FR157S

## Features

- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Fast Switching Speed For High Efficiency
- High Current Capability
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

## 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
FR151S	FR151S	50V	35V	50V
FR152S	FR152S	100V	70V	100V
FR153S	FR153S	200V	140V	200V
FR154S	FR154S	400V	280V	400V
FR155S	FR155S	600V	420V	600V
FR156S	FR156S	800V	560V	800V
FR157S	FR157S	1000V	700V	1000V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

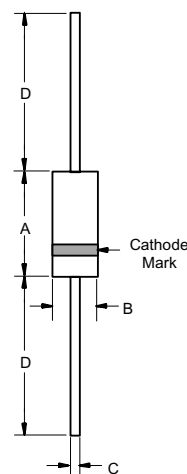
Average Forward Current	$I_{F(AV)}$	1.5 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	50A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.3V	$I_{FM} = 1.5A$ ; $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0 $\mu$ A 100 $\mu$ A	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$
Maximum Reverse Recovery Time FR151S-154S FR155S FR156S-157S	$T_{rr}$	150ns 250ns 500ns	$I_F=0.5A$ , $I_R=1.0A$ , $I_{rr}=0.25A$
Typical Junction Capacitance	$C_J$	20pF	Measured at 1.0MHz, $V_R=4.0V$

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

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

## 1.5 Amp Fast Recovery Rectifier 50 to 1000 Volts

### DO-41

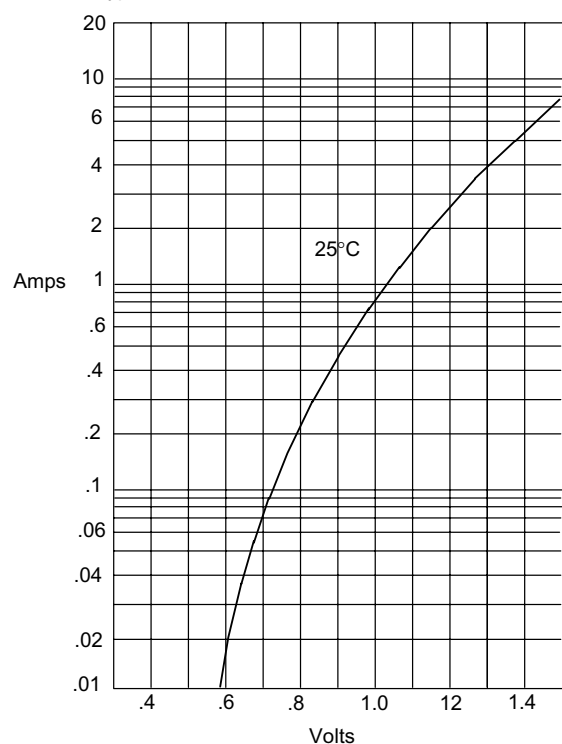


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

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

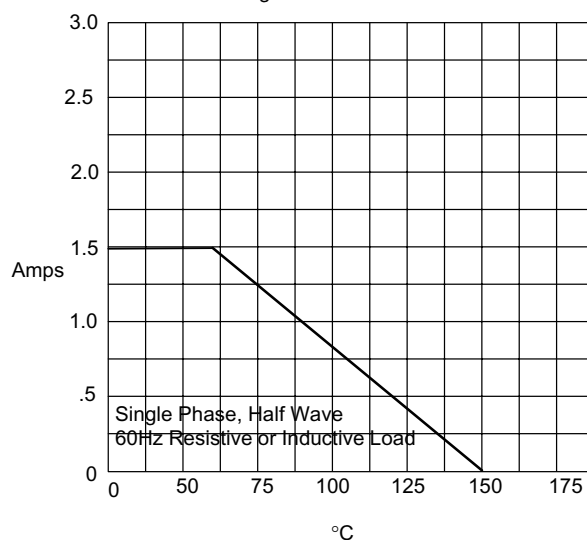
# FR151S thru FR157S

Figure 1  
Typical Forward Characteristics



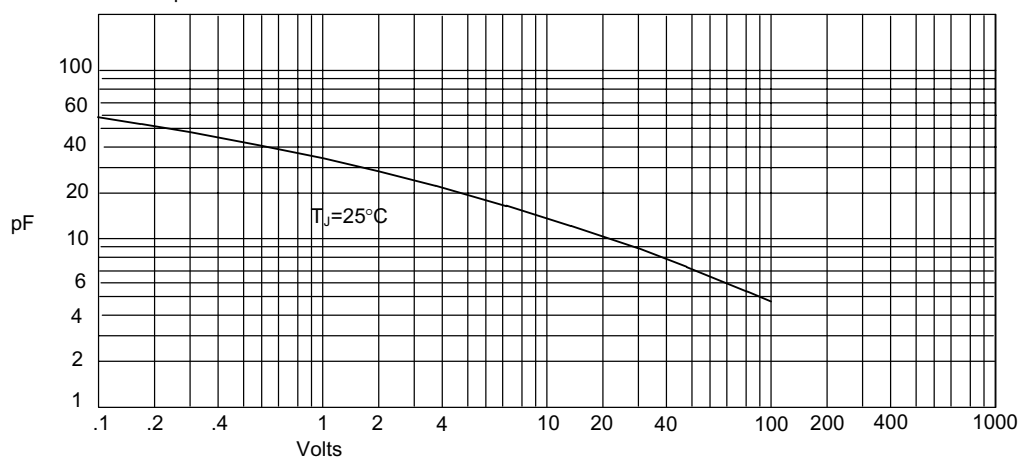
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



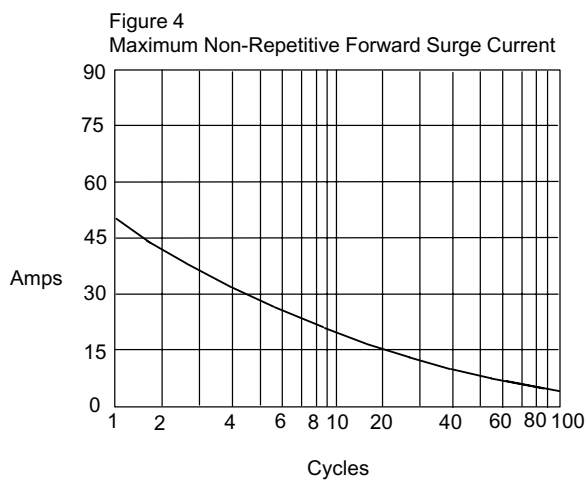
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



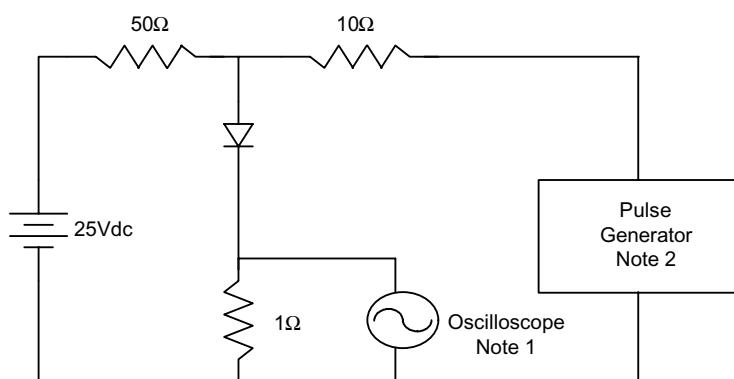
Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

## FR151S thru FR157S



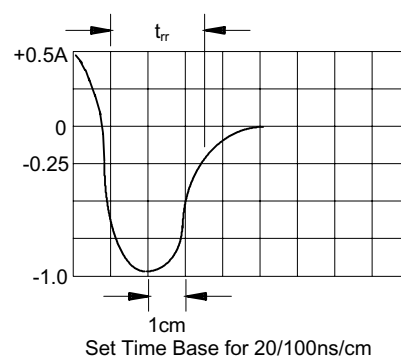
Peak Forward Surge Current - Amperes *versus*  
Number Of Cycles At 60Hz - Cycles

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: 5Kpcs/Reel
Part Number-AP	Ammo Packing: 5Kpcs/Ammo Box
Part Number-BP	Bulk: 50Kpcs/Carton

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

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