



Micro Commercial Components

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# FR2AL THRU FR2ML

## Features

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

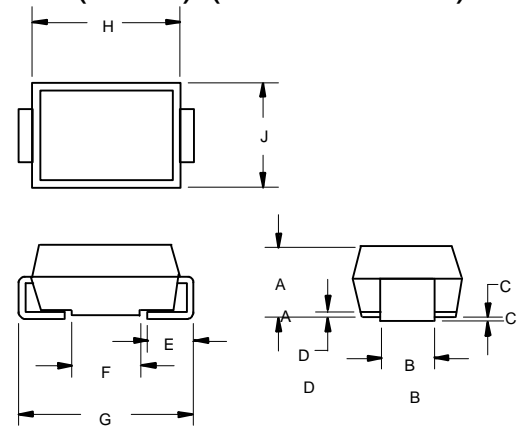
## 2 Amp Fast Recovery Silicon Rectifier 50 to 1000 Volts

## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR2AL	FR2A	50V	35V	50V
FR2BL	FR2B	100V	70V	100V
FR2DL	FR2D	200V	140V	200V
FR2GL	FR2G	400V	280V	400V
FR2JL	FR2J	600V	420V	600V
FR2KL	FR2K	800V	560V	800V
FR2ML	FR2M	1000V	700V	1000V

## DO-214AA (SMB) (Lead Frame)



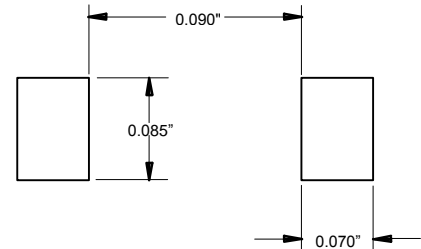
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward current	$I_{F(AV)}$	2.0A	$T_A = 90^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	50A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.30V	$I_{FM} = 2.0A$ ; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5 $\mu\text{A}$ 200 $\mu\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{rr}$	150ns 250ns 500ns	$I_F=0.5A, I_R=1.0A,$ $I_{rr}=0.25A$
Typical Junction Capacitance	$C_J$	40pF	Measured at 1.0MHz, $V_R=4.0V$

\*Pulse test: Pulse width 300  $\mu\text{s}$ , Duty cycle 1%

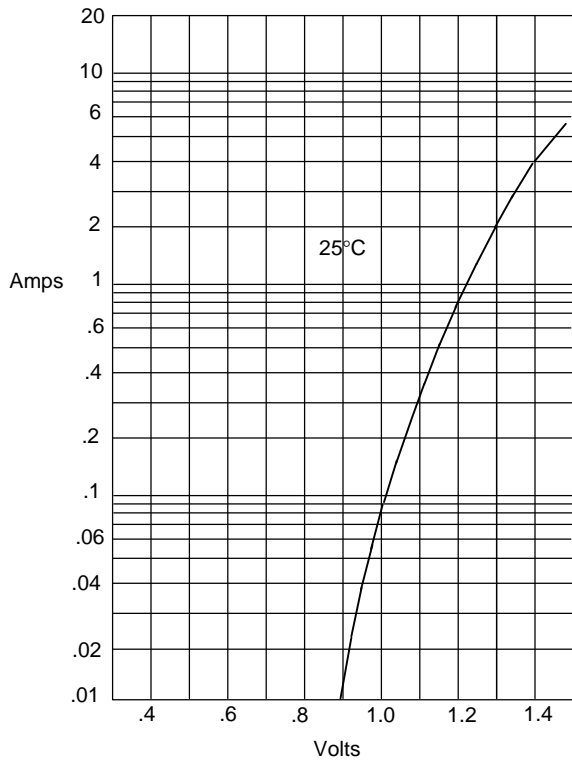
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.075	.095	1.91	2.41	
B	.077	.083	1.96	2.10	
C	.002	.008	.05	.20	
D	----	.02	----	.51	
E	.030	.060	.76	1.52	
G	.200	.220	5.08	5.59	
H	.160	.187	4.06	4.75	
J	.130	.155	3.30	3.94	

### SUGGESTED SOLDER PAD LAYOUT



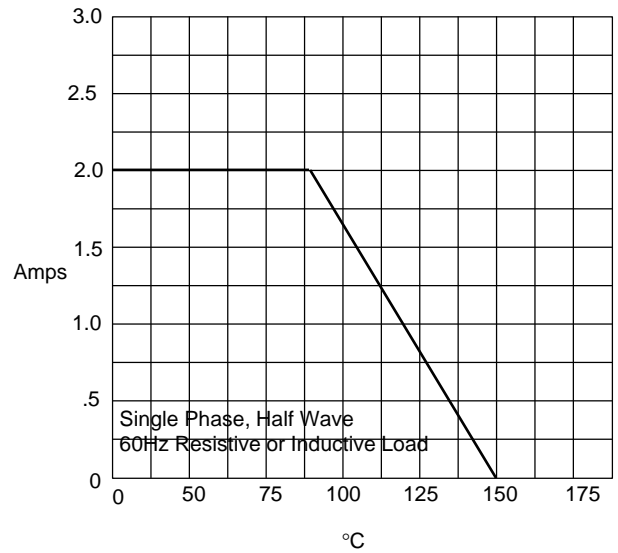
# FR2AL thru FR2ML

Figure 1  
Typical Forward Characteristics



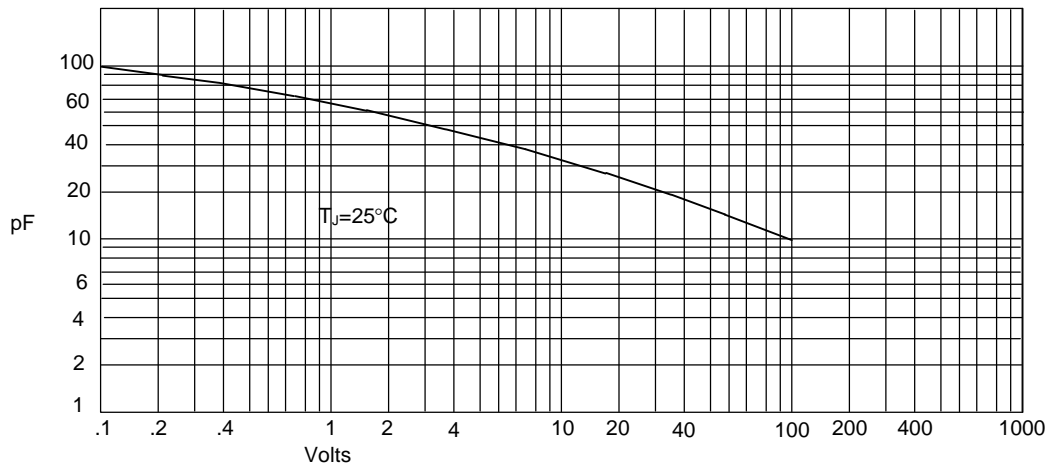
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



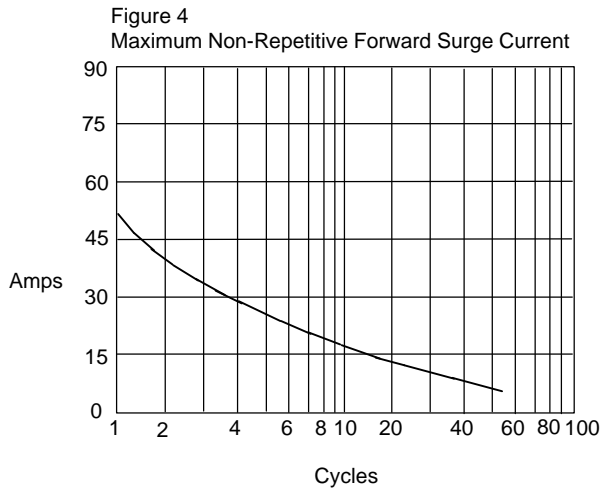
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



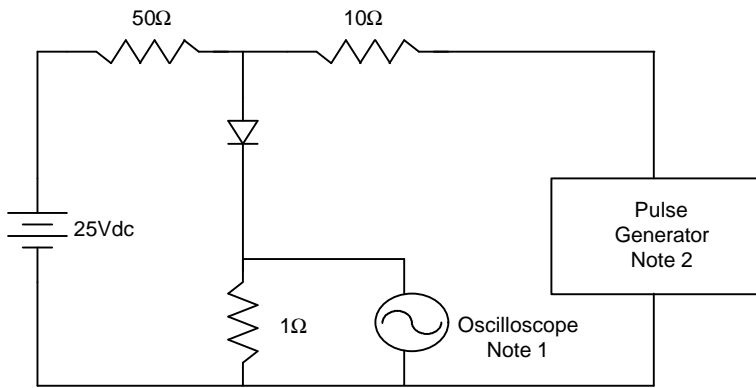
Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

# FR2AL thru FR2ML

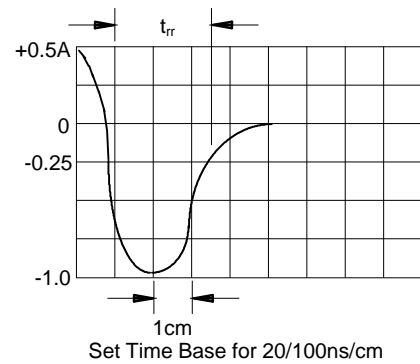


Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

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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