SM Technology Co., Limited

FR2A THRU FR2M

2 Amp Fast Recovery Silicon Rectifier 50 to 1000 Volts

Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

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

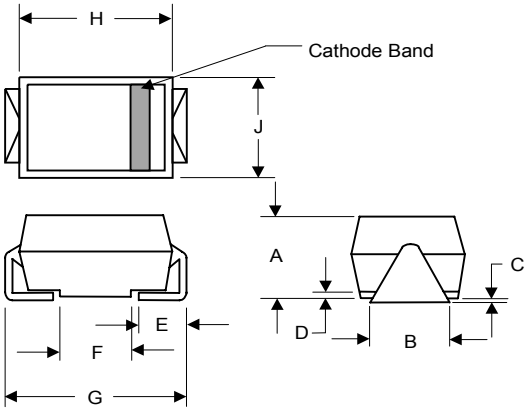
Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR2A	50V	35V	50V
FR2B	100V	70V	100V
FR2D	200V	140V	200V
FR2G	400V	280V	400V
FR2J	600V	420V	600V
FR2K	800V	560V	800V
FR2M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward current	$I_{F(AV)}$	2.0A	T_A = 90°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°C*
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5μA 200μA	T_J = 25°C T_J = 125°C
Maximum Reverse Recovery Time FR2A-G FR2J FR2K-M	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

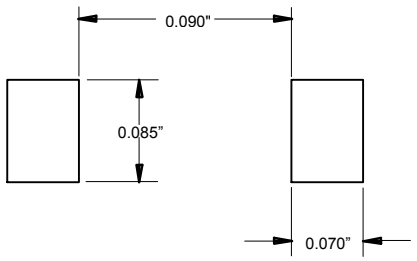
*Pulse test: Pulse width 300 μsec, Duty cycle 1%

DO-214AA (SMB) (Round Lead)



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.078	.116	1.98	2.95	
B	.075	.089	1.90	2.25	
C	.002	.008	.05	.20	
D	----	.02	----	.51	
E	.035	.055	.90	1.40	
F	.065	.091	1.65	2.32	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.130	.155	3.30	3.94	

SUGGESTED SOLDER PAD LAYOUT



FR2A thru FR2M

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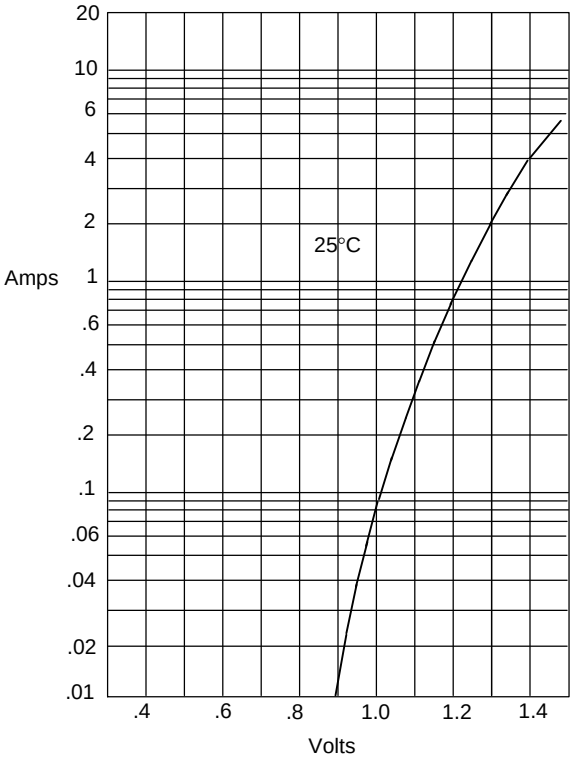
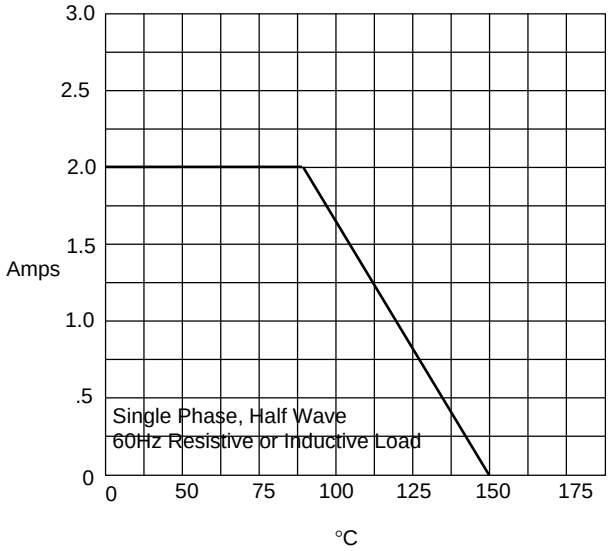
Figure 1
Typical Forward Characteristics



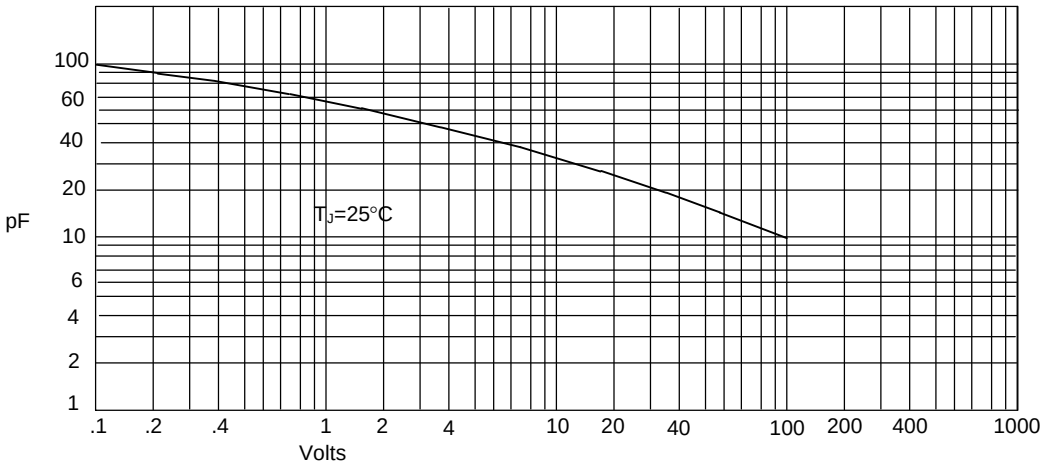
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

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