SANGDEST MICROELECTRONICS

FR3A-FR3K

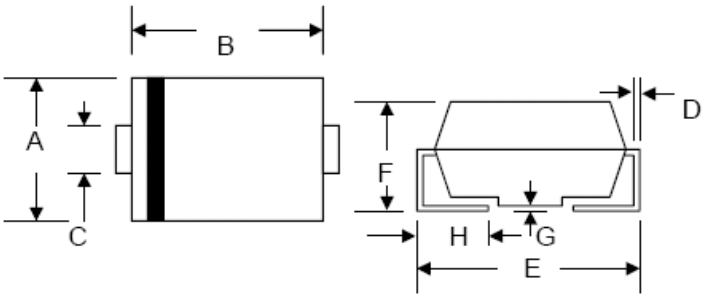
3.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

Technical Data ***Green Products***

Data Sheet N0440, Rev. -

Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 100A Peak
- Low Power Loss
- Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



SMC/DO-214AB				
Dim	Min	Max	Min	Max
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.030	0.05
	In mm		In inch	

Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)

Marking Diagram:



Where XXXXX is YYWWL

FR3A = Part Name
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information

Device	Package	Shipping
FR3A-FR3K	SMC (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

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• FAX (86) 25-87123900 • World Wide Web Site - http://www.sangdest.com.cn • E-Mail Address - sales@ sangdest.com.cn •

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	V
Average Rectified Output Current @T_L = 75°C	I_O	3.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100						A
Forward Voltage @I_F = 3.0A	V_{FM}	1.30						V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	10 350						μA
Reverse Recovery Time (Note 1)	t_{rr}	150				250	500	nS
Typical Junction Capacitance (Note 2)	C_j	60						pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	15						K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-50 to +150						°C

Note: 1. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A,
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
3. Mounted on P.C. Board with 8.0mm^2 land area.

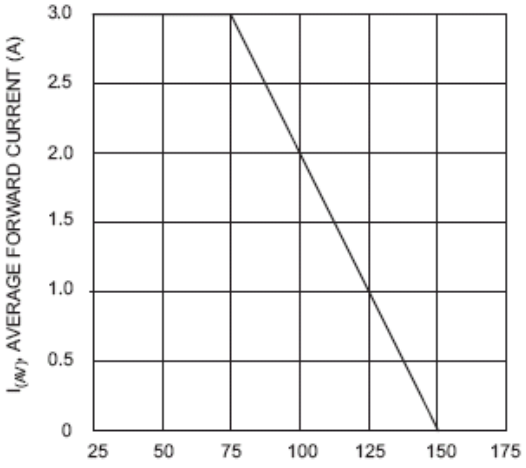


Fig. 1 Forward Current Derating Curve

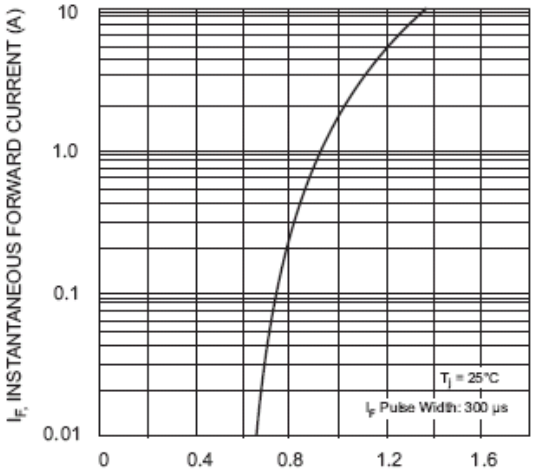


Fig. 2 Typical Forward Characteristics

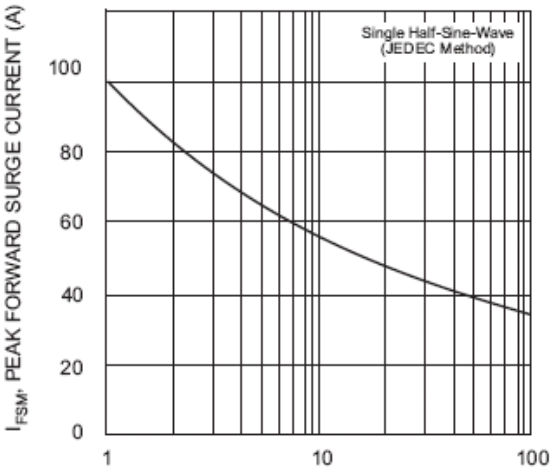


Fig. 3 Forward Surge Current Derating Curve

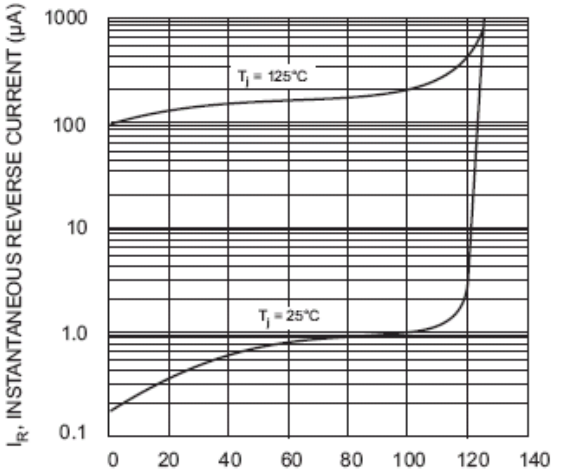
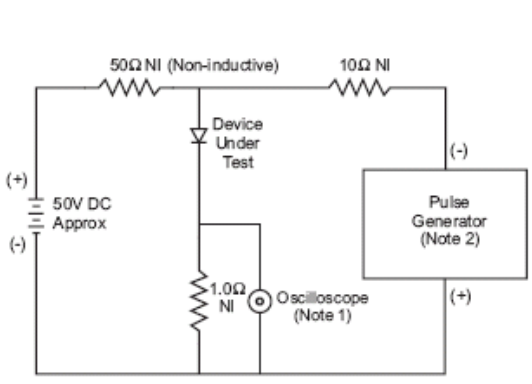


Fig. 4 Typical Reverse Characteristics



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

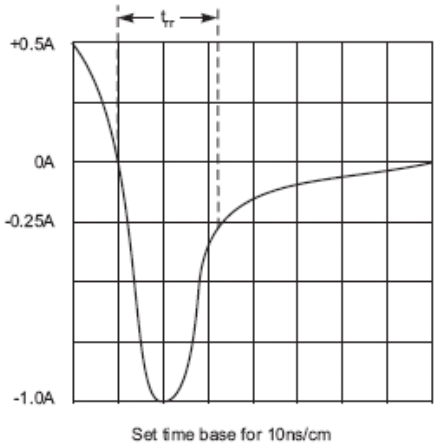


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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