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ER3A THRU ER3M

3 Amp Super Fast Recovery Silicon Rectifier 50 to 1000 Volts

Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Super Fast Recovery Times For High Efficiency

Maximum Ratings

- Operating Temperature: -65°C to +125°C
- Storage Temperature: -65°C to +125°C
- Maximum Thermal Resistance; 10°C/W Junction To Lead

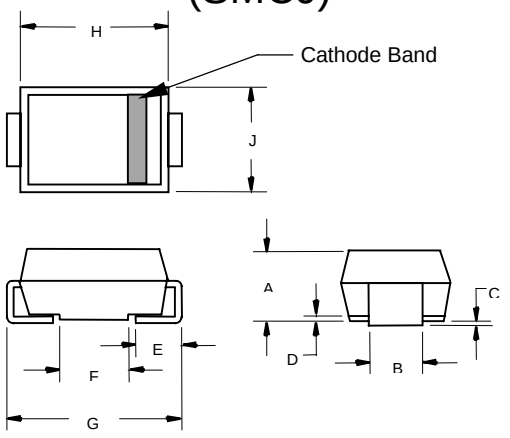
Microsemi Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ER3A	ER3A	50V	35V	50V
ER3B	ER3B	100V	70V	100V
ER3C	ER3C	150V	105V	150V
ER3D	ER3D	200V	140V	200V
ER3G	ER3G	400V	280V	400V
ER3J	ER3J	600V	420V	600V
ER3K	ER3K	800V	560V	800V
ER3M	ER3M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3.0A	T_J = 120°C
Peak Forward Surge Current	I_{FSM}	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage ER3A-G ER3J-M	V_F	.95V 1.25V	I_{FM} = 3.0A; T_J = 25°C*
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5µA 500µA	T_J = 25°C T_J = 100°C
Maximum Reverse Recovery Time ER3A-G ER3J-M	T_{rr}	35ns 75ns	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance	C_J	45pF	Measured at 1.0MHz, V_R=4.0V

*Pulse test: Pulse width 200 µsec, Duty cycle 2%

DO-214AB (SMCJ)



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.075	.095	1.90	2.41	
B	.115	.121	2.92	3.07	
C	.004	.008	.10	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F					
G	.305	.320	7.75	8.13	
H	.260	.280	6.60	7.11	
J	.220	.245	5.59	6.22	

SUGGESTED SOLDER PAD LAYOUT

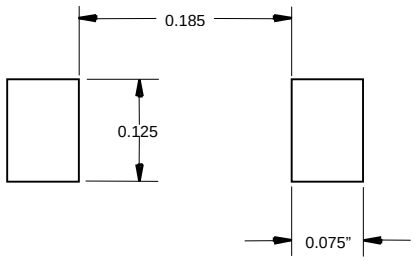
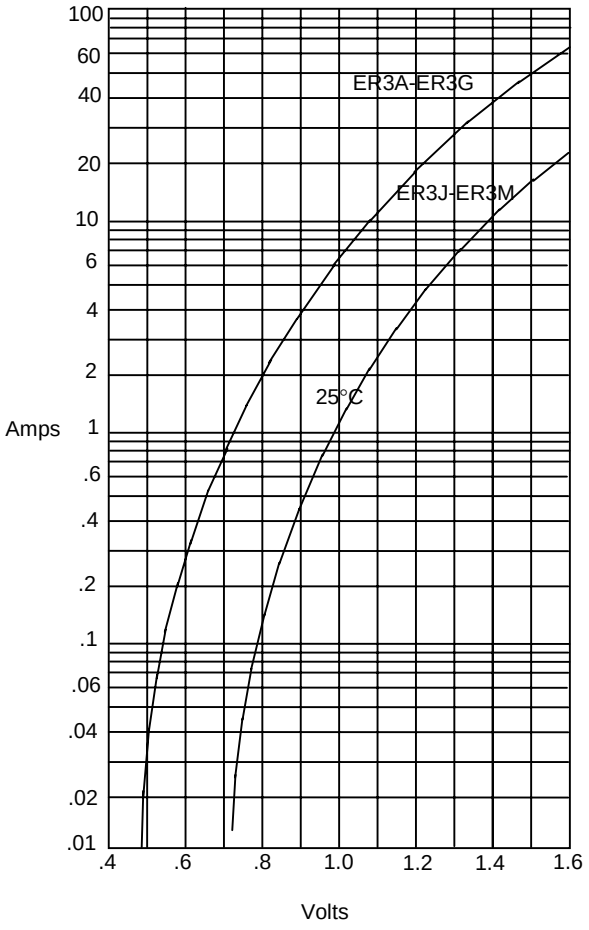
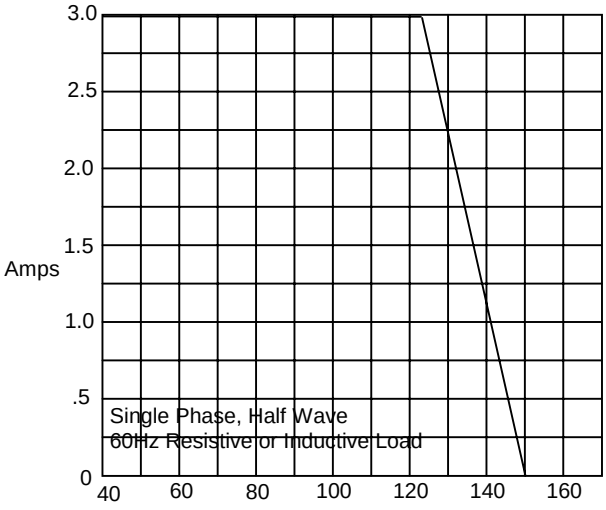


Figure 1
Typical Forward Characteristics



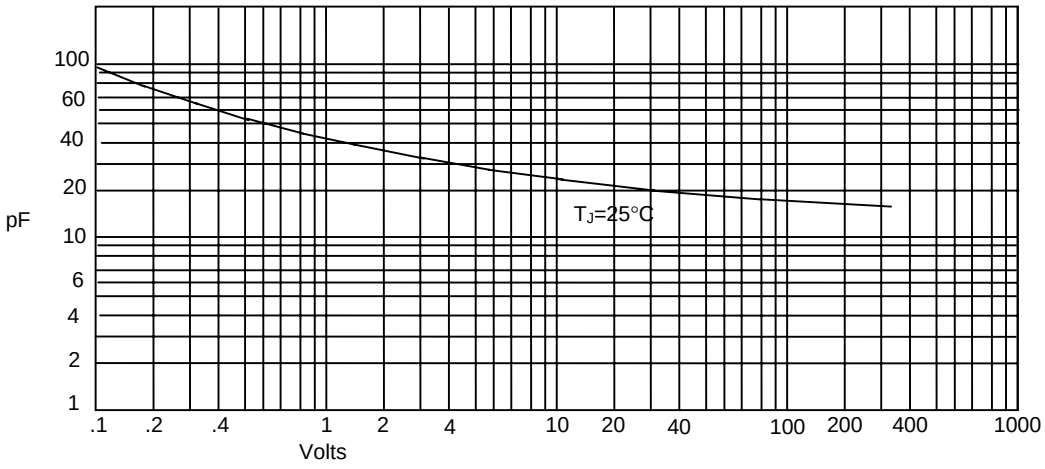
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



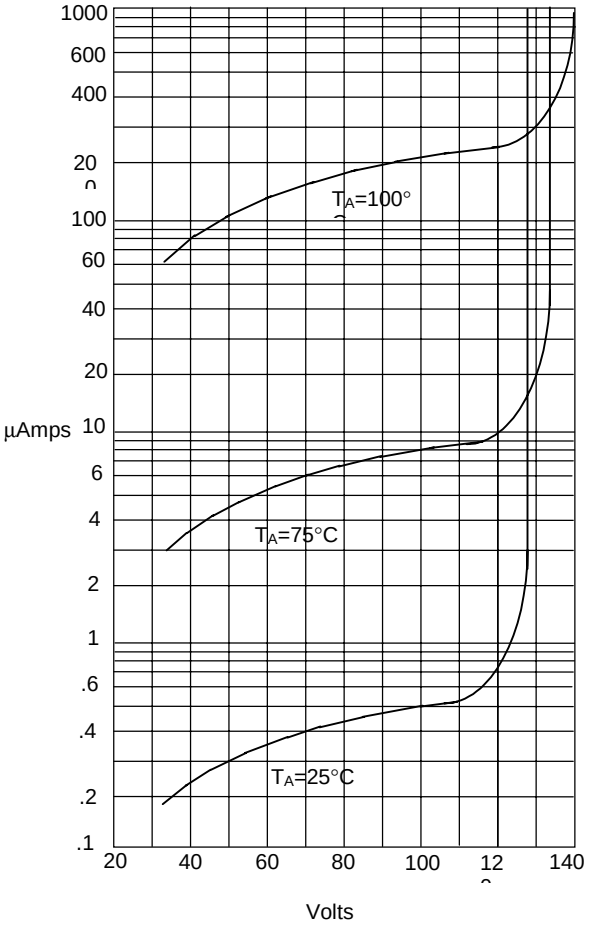
Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

Figure 3
Junction Capacitance



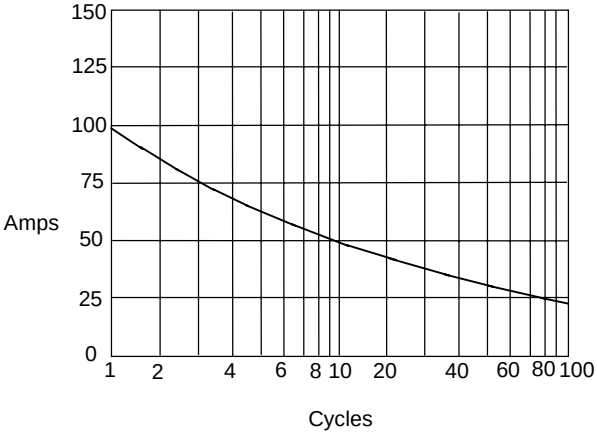
Junction Capacitance - pF *versus*
Reverse Voltage - Volts

Figure 4
Typical Reverse Characteristics



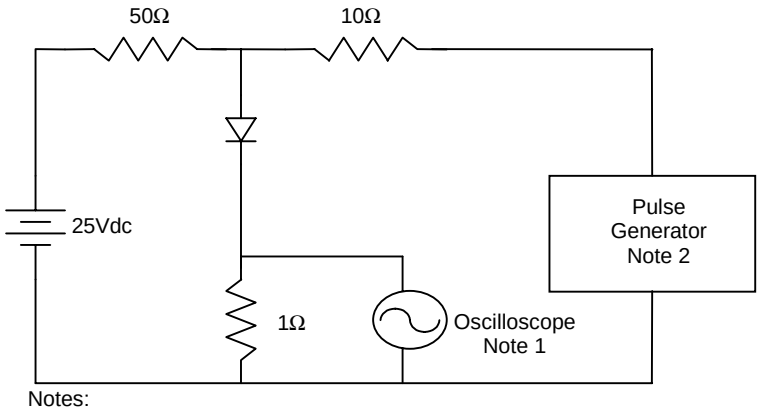
Instantaneous Reverse Leakage Current - MicroAmperes *versus*
Percent Of Rated Peak Reverse Voltage - Volts

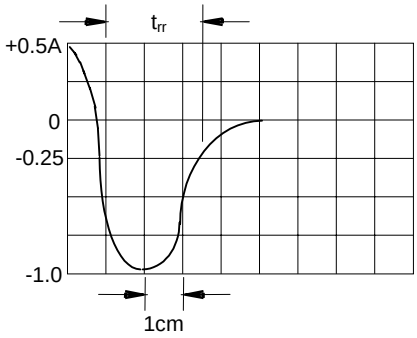
Figure 5
Peak Forward Surge Current



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

Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

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