

ER3A THRU ER3M

Features

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

3 Amp Super Fast Recovery Silicon Rectifier 50 to 1000 Volts

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

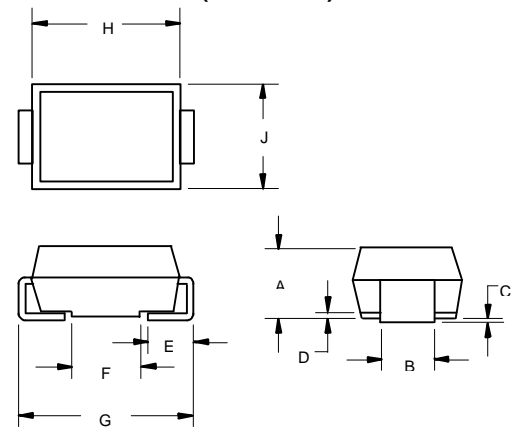
Microsemi Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ER3A	ER3A	50V	35V	50V
ER3B	ER3B	100V	70V	100V
ER3C	ER3C	150V	105V	150V
ER3D	ER3D	200V	140V	200V
ER3G	ER3G	400V	280V	400V
ER3J	ER3J	600V	420V	600V
ER3K	ER3K	800V	560V	800V
ER3M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

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3.0A	$T_J = 120^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage ER3A-G ER3J-M	V_F	.90V 1.25V	$I_{FM} = 3.0A$; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5 μA 500 μA	$T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	35ns	$I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$
Typical Junction Capacitance	C_J	45pF	Measured at 1.0MHz, $V_R=4.0V$

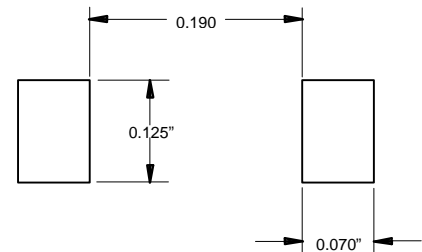
*Pulse test: Pulse width 200 μsec , Duty cycle 2%

DO-214AB (SMCJ)



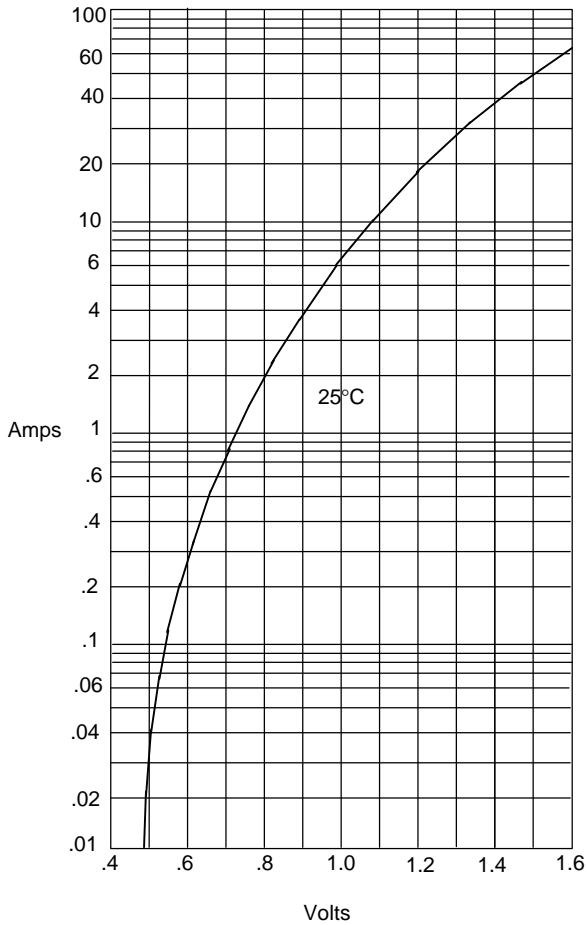
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.075	.095	1.90	2.41	
B	.115	.121	2.92	3.07	
C	.004	.008	.10	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F					
G	.305	.320	7.75	8.13	
H	.260	.280	6.60	7.11	
J	.220	.245	5.59	6.22	

SUGGESTED SOLDER PAD LAYOUT



ER3A thru ER3M

Figure 1
Typical Forward Characteristics



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

Figure 2
Forward Derating Curve

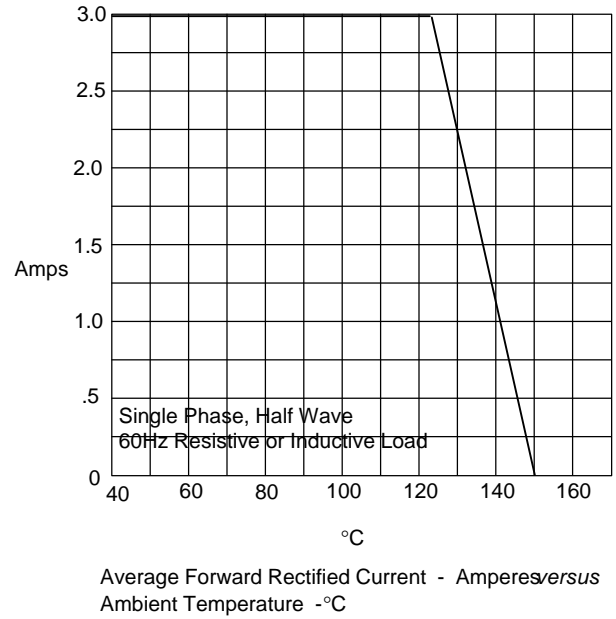
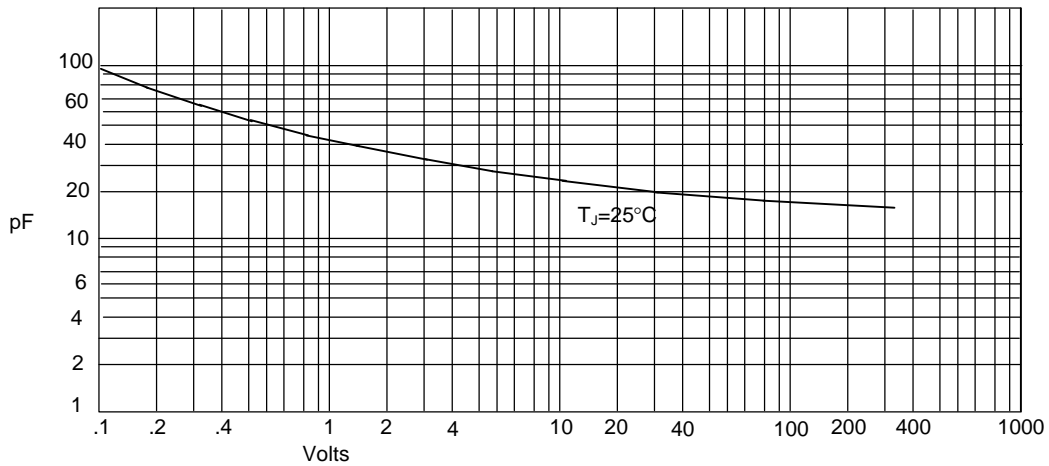


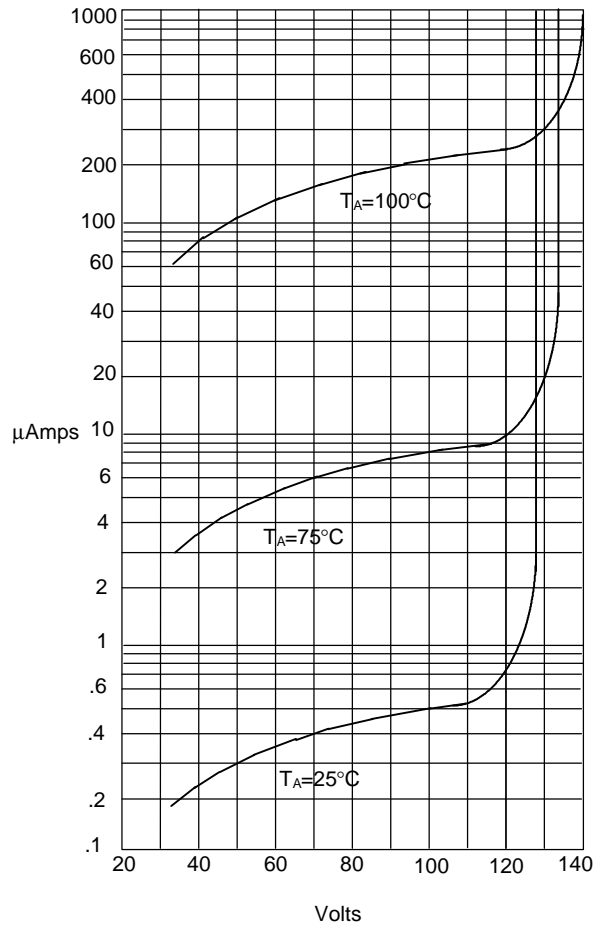
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

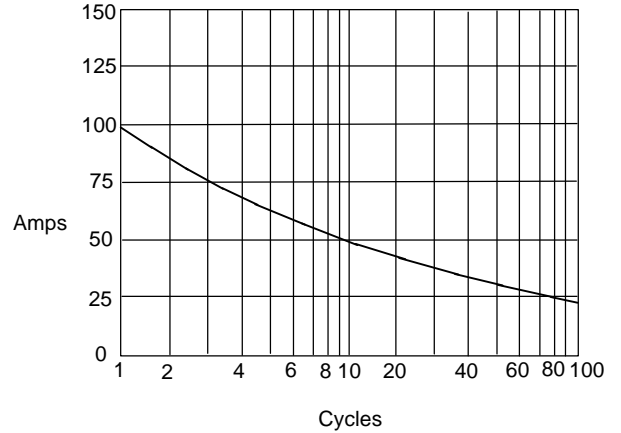
ER3A thru ER3M

Figure 4
Typical Reverse Characteristics



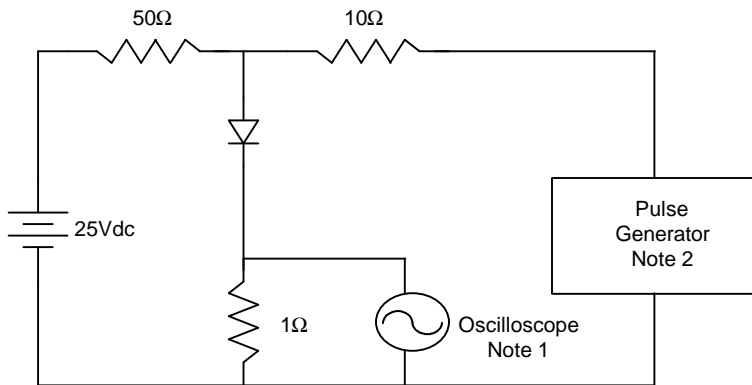
Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

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



- 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

