

M·C·C·

Micro Commercial Components
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**ER1A
THRU
ER1M**

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

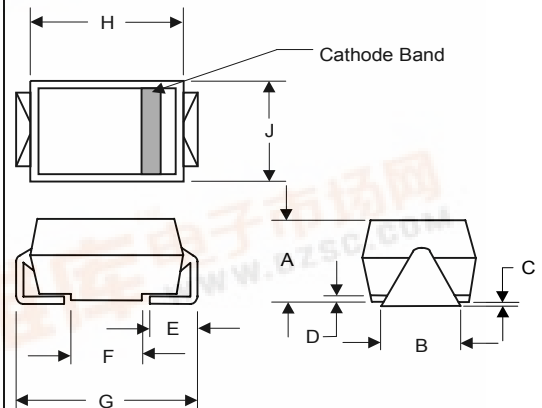
MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ER1A	ER1A	50V	35V	50V
ER1B	ER1B	100V	70V	100V
ER1C	ER1C	150V	105V	150V
ER1D	ER1D	200V	140V	200V
ER1G	ER1G	400V	280V	400V
ER1J	ER1J	600V	420V	600V
ER1K	ER1K	800V	560V	800V
ER1M	ER1M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_J = 75^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	.975V 1.35V 1.60V	$I_{FM} = 1.0A$; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5 μA 100 μA	$T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	50ns 60ns 100ns	$I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$
Typical Junction Capacitance	C_J	45pF	Measured at 1.0MHz, $V_R = 4.0V$

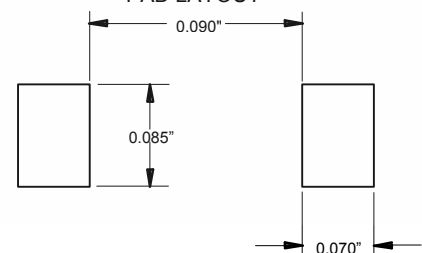
**1 Amp Super Fast
Recovery
Silicon Rectifier
50 to 1000 Volts**

**DO-214AA
(SMBJ) (Round Lead)**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
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**



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

ER1A thru ER1M



Figure 1
Typical Forward Characteristics

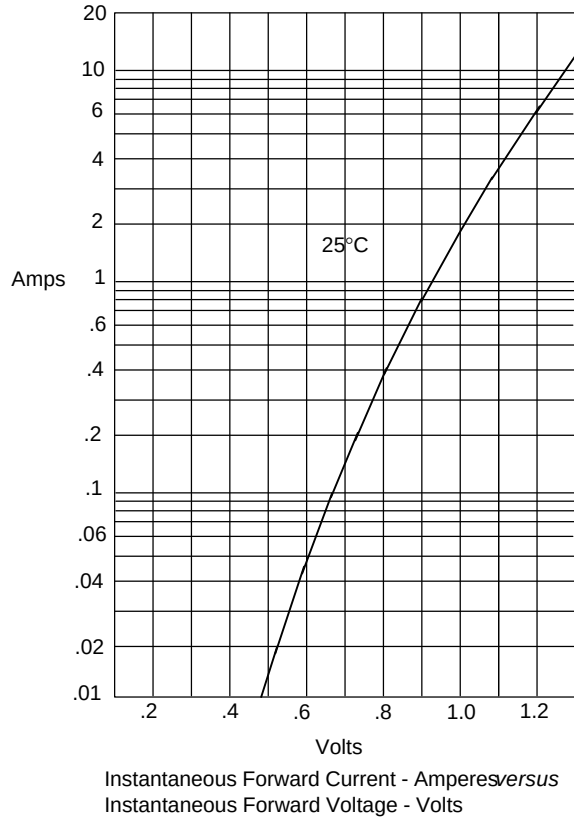


Figure 2
Forward Derating Curve

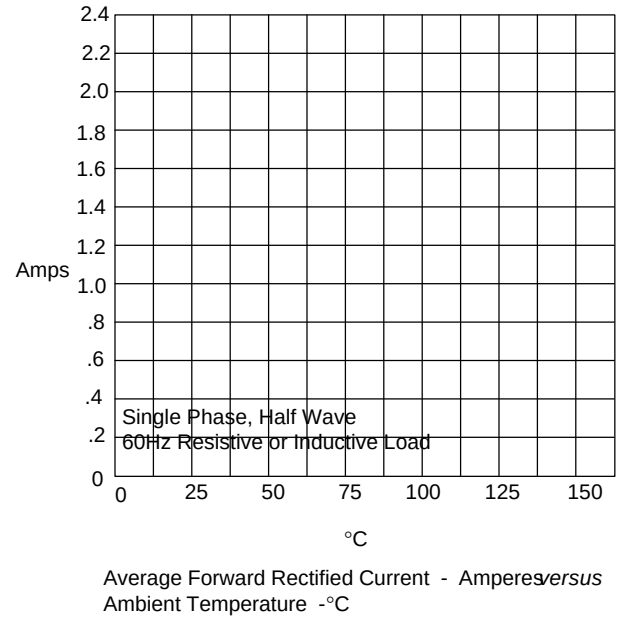
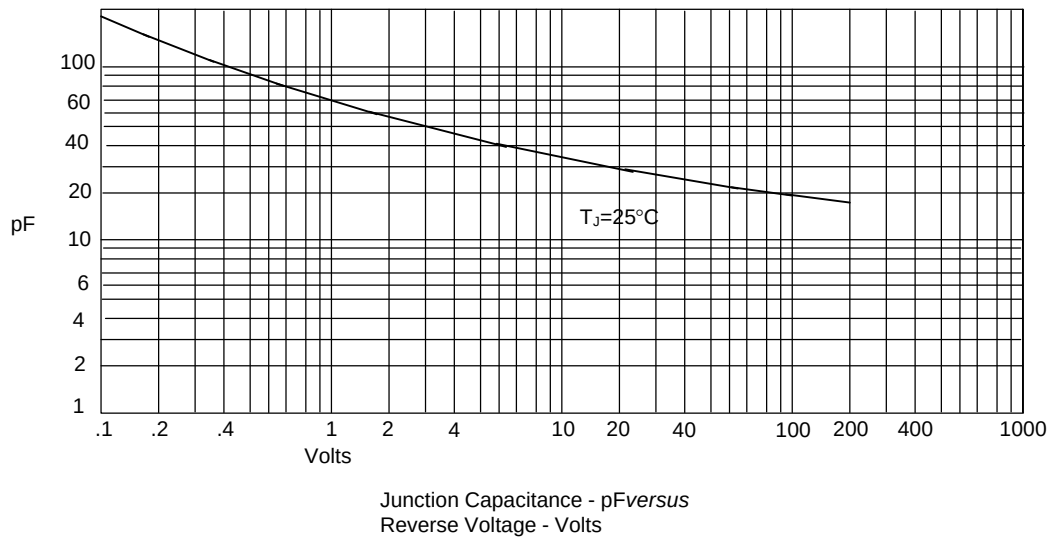


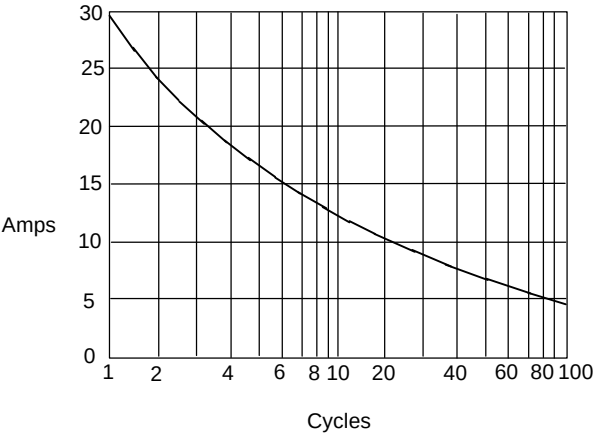
Figure 3
Junction Capacitance



ER1A thru ER1M

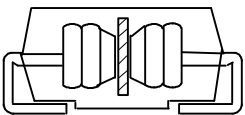


Figure 4
Peak Forward Surge Current



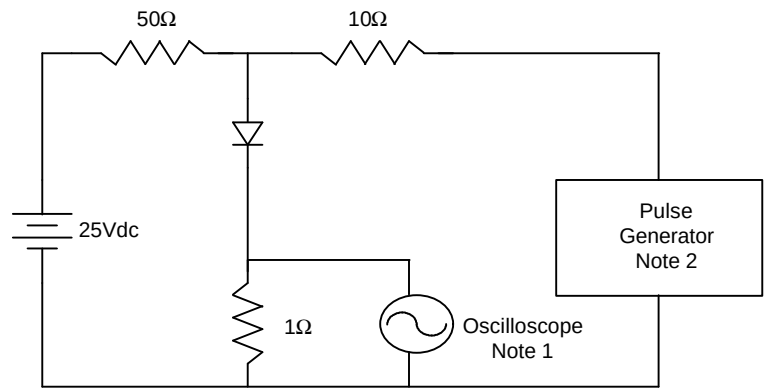
Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles

Figure 5
New SMB Assembly



Round Lead
Process

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

