

ER3A THRU ER3J

Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Super Fast Recovery Times For High Efficiency

Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Typical Thermal Resistance; 16°C/W Junction To Lead

MCC 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

Electrical Characteristics @ 25°C Unless Otherwise Specified

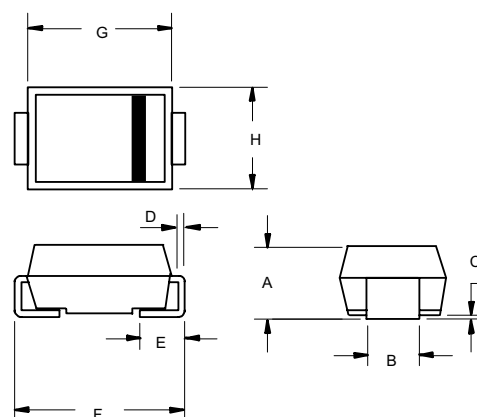
Average Forward Current	$I_{F(AV)}$	3.0A	$T_A = 75^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage ER3A-3D ER3G ER3J	V_F	.95V 1.25V 1.70V	$I_{FM} = 3.0A$; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5 μA 200 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 300 μsec , Duty cycle 2%

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

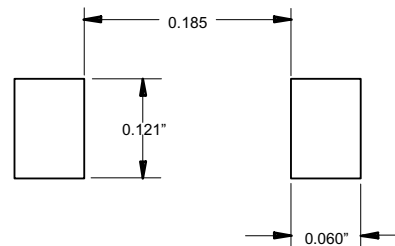
3 Amp Super Fast Recovery Silicon Rectifier 50 to 600 Volts

DO-214AB (SMC) (LEAD FRAME)



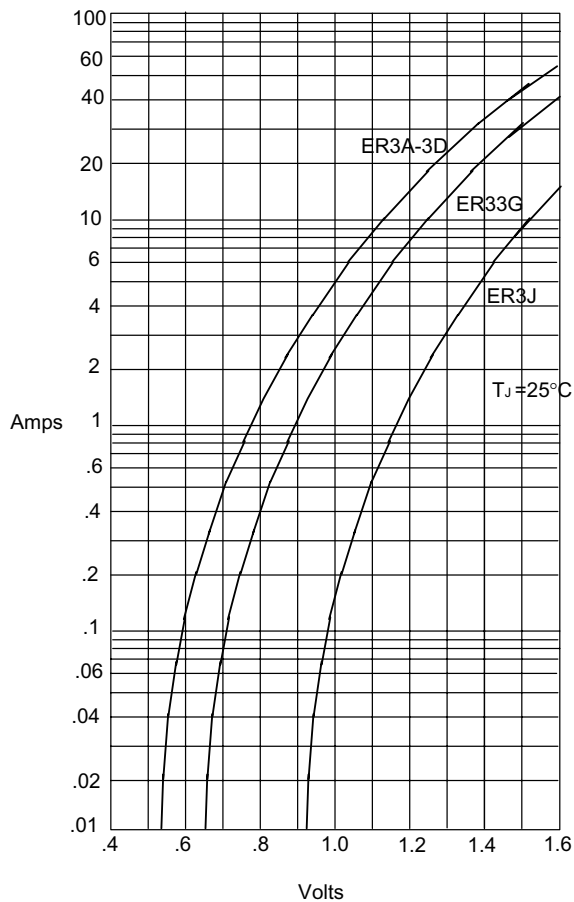
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.103	2.00	2.62	
B	.108	.128	2.75	3.25	
C	.002	.008	0.051	0.203	
D	.006	.012	0.152	0.305	
E	.030	.050	0.76	1.27	
F	.305	.320	7.75	8.13	
G	.260	.280	6.60	7.11	
H	.220	.245	5.59	6.22	

SUGGESTED SOLDER PAD LAYOUT



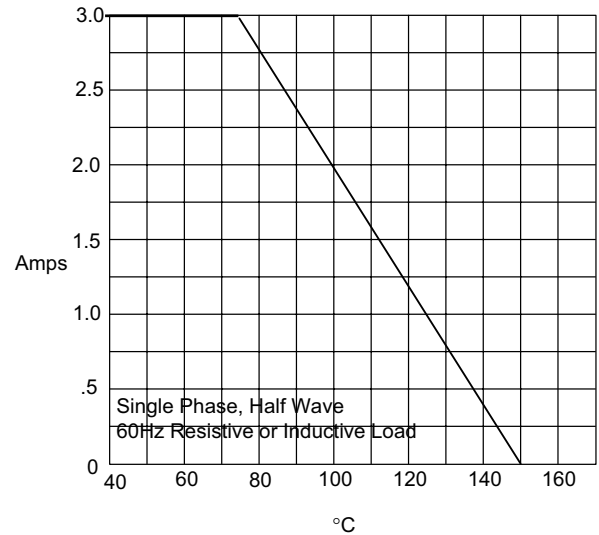
ER3A thru ER3J

Figure 1
Typical Forward Characteristics



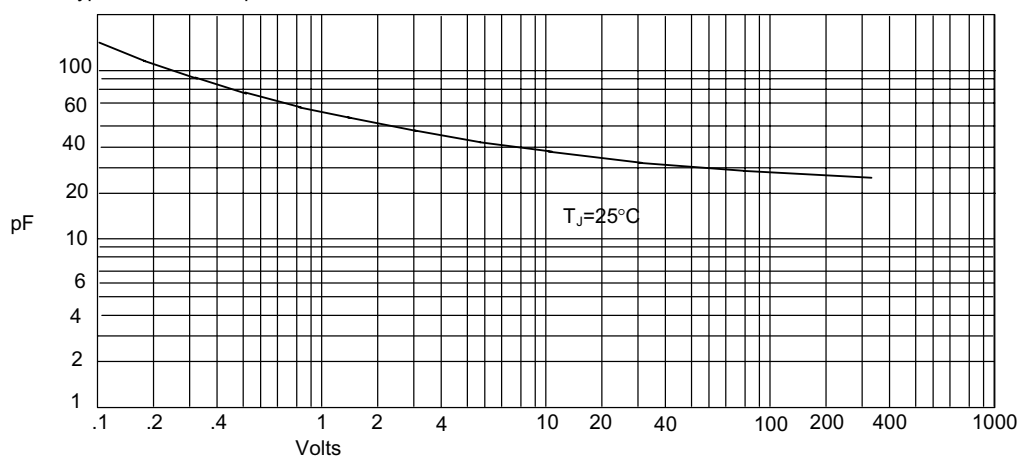
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*
Lead Temperature - $^\circ\text{C}$

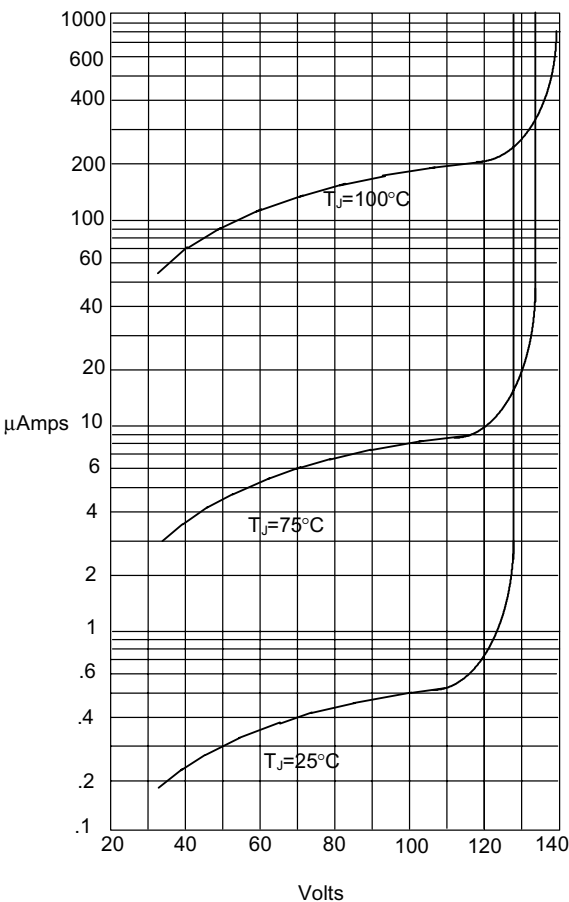
Figure 3
Typical Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

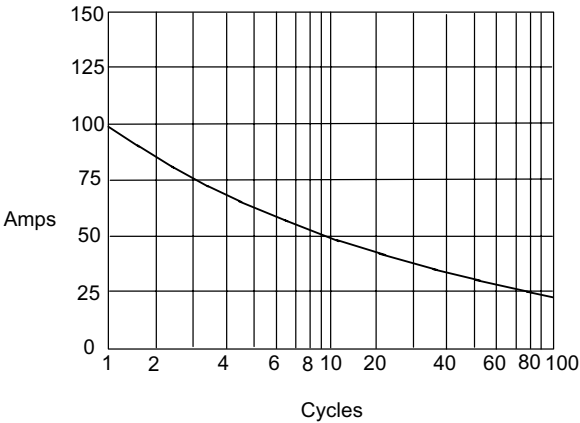
ER3A thru ER3J

Figure 4
Typical Reverse Characteristics



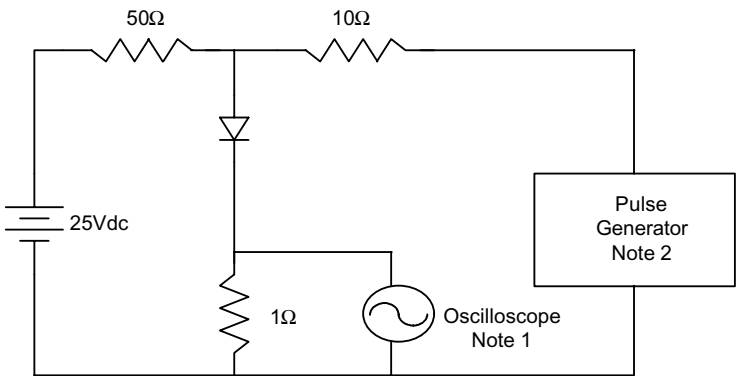
Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current

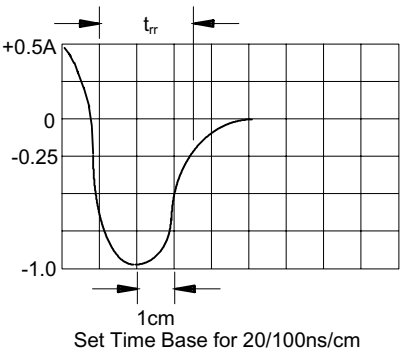


Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles

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



Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel