

# ER3AB THRU ER3MB

## Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Super Fast Recovery Times For High Efficiency
- Halogen free available upon request by adding suffix "-HF"

## 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
ER3AB	ER3AB	50V	35V	50V
ER3BB	ER3BB	100V	70V	100V
ER3CB	ER3CB	150V	105V	150V
ER3DB	ER3DB	200V	140V	200V
ER3GB	ER3GB	400V	280V	400V
ER3JB	ER3JB	600V	420V	600V
ER3KB	ER3KB	800V	560V	800V
ER3MB	ER3MB	1000V	700V	1000V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

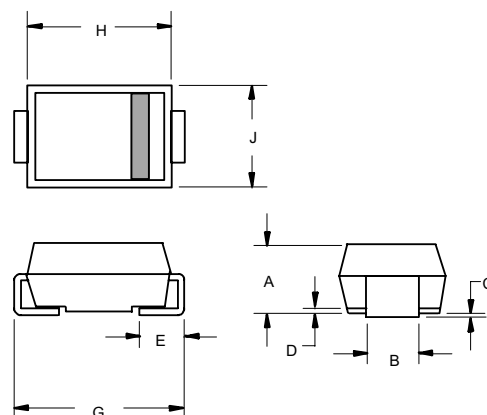
Average Forward Current	$I_{F(AV)}$	3.0A	$T_A = 75^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage ER3AB-3DB ER3GB ER3JB~3MB	$V_F$	.95V 1.25V 1.70V	$I_{FM} = 3.0A$ ; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5 $\mu\text{A}$ 200 $\mu\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$
Maximum Reverse Recovery Time ER3AB~ER3JB ER3KB~ER3MB	$T_{rr}$	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 300  $\mu\text{sec}$ , Duty cycle 2%

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

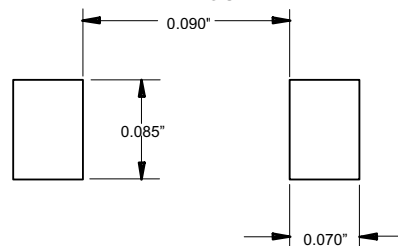
## 3 Amp Super Fast Recovery Silicon Rectifier 50 to 1000 Volts

### DO-214AA (SMB) (LEAD FRAME)



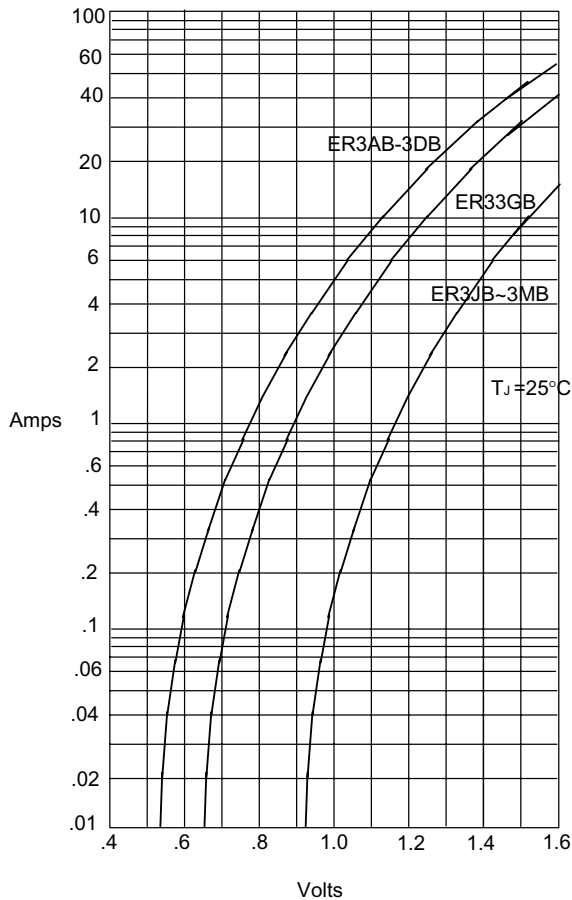
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.075	.095	1.91	2.41	
B	.077	.083	1.96	2.10	
C	.002	.008	.05	.20	
D	----	.02	----	.51	
E	.030	.060	.76	1.52	
G	.200	.220	5.08	5.59	
H	.160	.187	4.06	4.75	
J	.130	.155	3.30	3.94	

### SUGGESTED SOLDER PAD LAYOUT

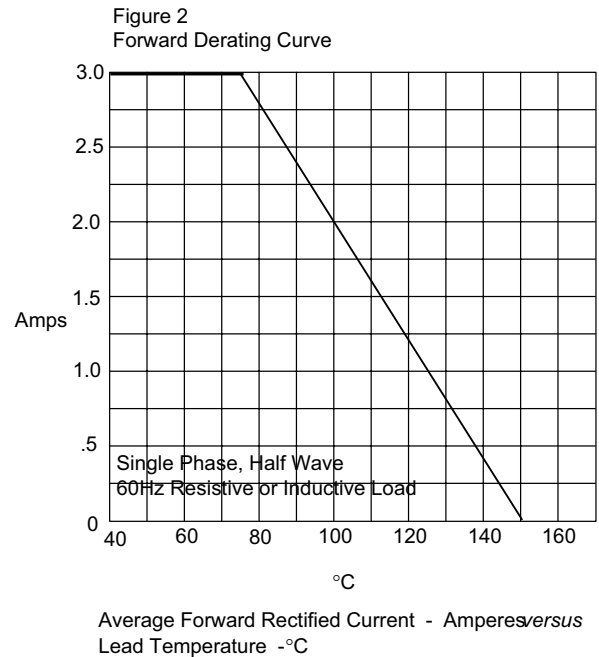


## ER3AB thru ER3MB

Figure 1  
Typical Forward Characteristics

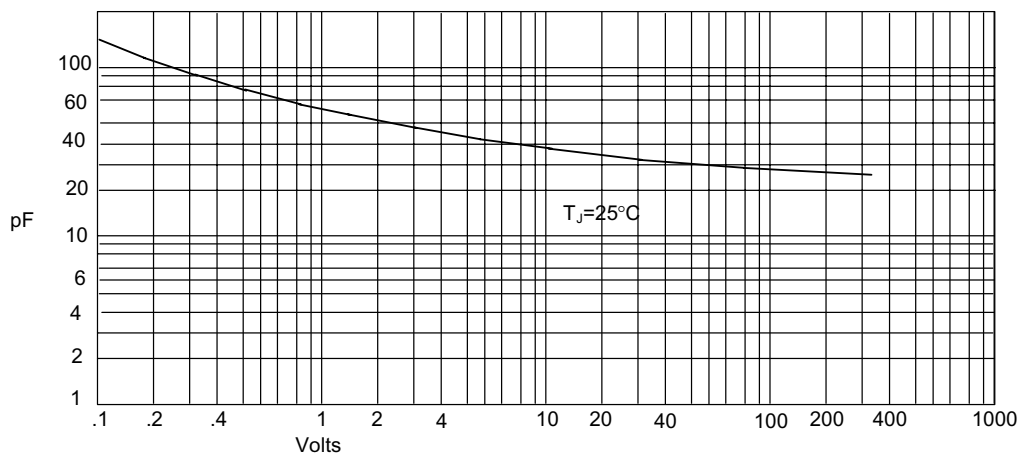


Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts



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

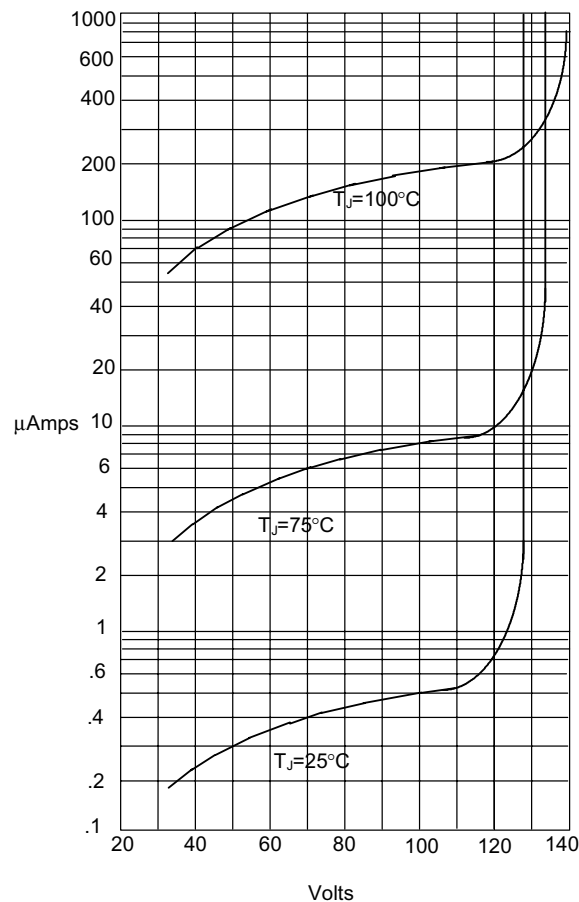
Figure 3  
Typical Junction Capacitance



Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

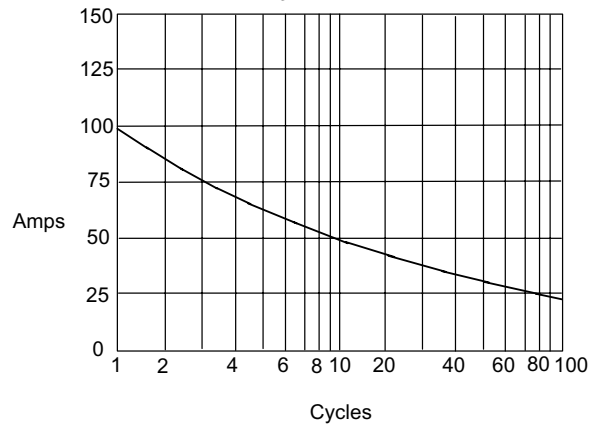
## ER3AB thru ER3MB

Figure 4  
Typical Reverse Characteristics



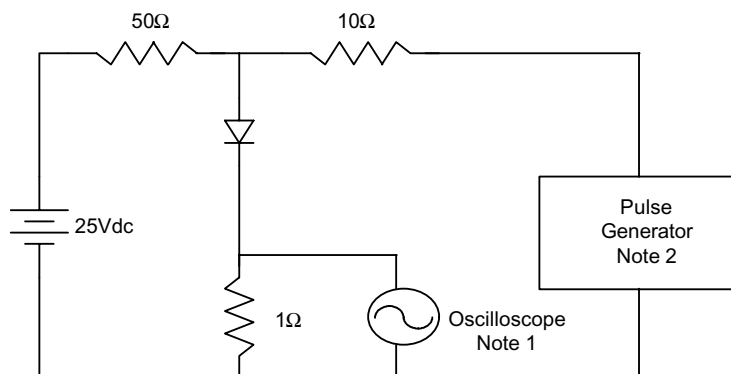
Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current

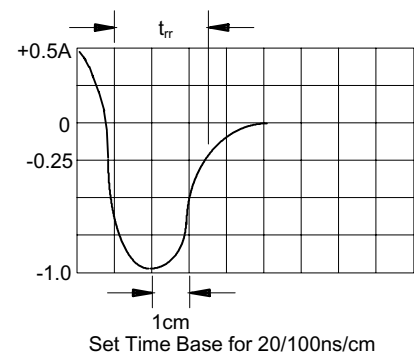


Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

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





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**Ordering Information :**

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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