

ER3A-ER3J SURFACE MOUNT SUPER FAST RECTIFIER

Features:

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Overload Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

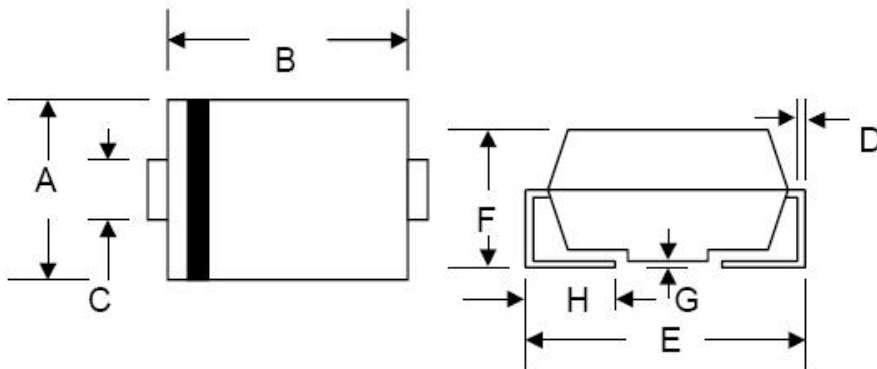
Mechanical Data:

- Case: Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.65 grams(approx)



ER3A

Mechanical Dimensions: In mm / Inches



SMC

SMC/DO-214AB				
Dim	Min	Max	Min	Max
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.030	0.05
	In mm		In inch	

MARKING, MOLDING RESIN

Marking for ER3A/B/C/D/E/G/J, 1st row ER3A/B/C/D/E/G/J, 2nd row YYWWL

Where YY is the manufacture year

WW is the manufacture week code

L is the wafer's Lot Number

Ordering Information:

Device	Package	Shipping
ER3(A-J)	SMC (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Single Phase half wave 60Hz, resistive or inductive load. For capacitive load current derate by 20%.

Characteristic	Symbol	ER3A	ER3B	ER3C	ER3D	ER3E	ER3G	ER3J	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	420	
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	I_o	3.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100							A
Forward Voltage @ $I_F = 3.0\text{A}$, $T_J = 25^\circ\text{C}$	V_F	0.95			1.25		1.7		V
Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	I_R	5.0 100							μA
Typical junction capacitance (Note 1)	C_J	45							pF
Maximum Reverse Recovery Time (Note 2)	T_{rr}	35							ns
Typical thermal resistance (Note 3)	$R_{\theta JL}$	16							K/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150							$^\circ\text{C}$

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC
 2. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$,
 3. Mounted on P.C. Board with 8.0mm² lead area

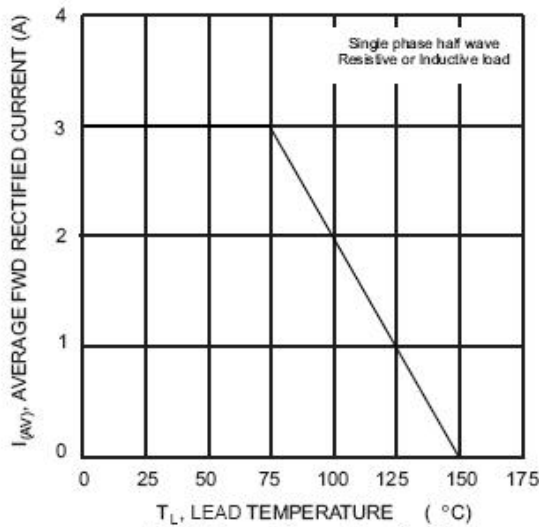


Fig. 1 Forward Current Derating Curve

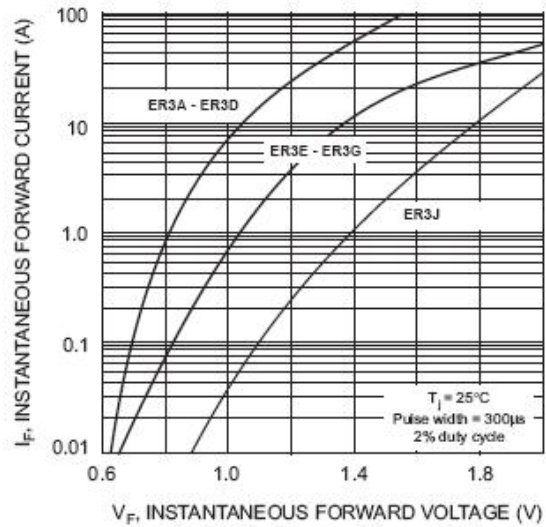


Fig. 2 Typical Forward Characteristics

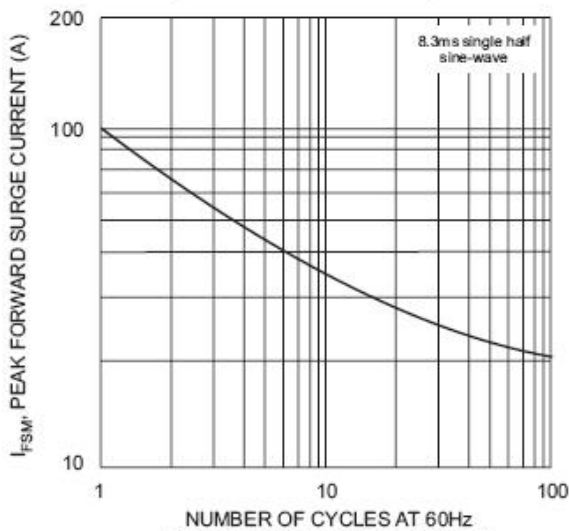


Fig. 3 Peak Forward Surge Current

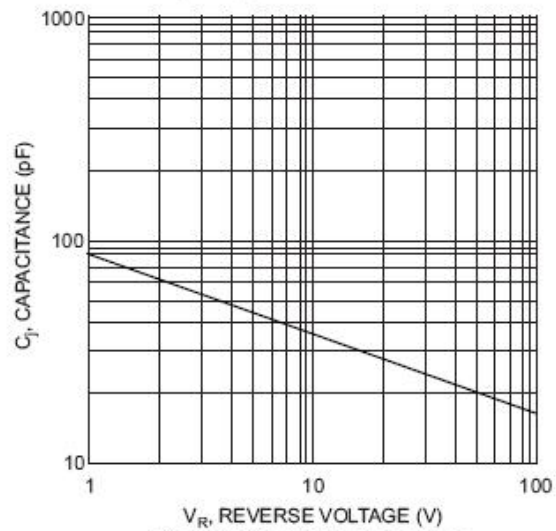
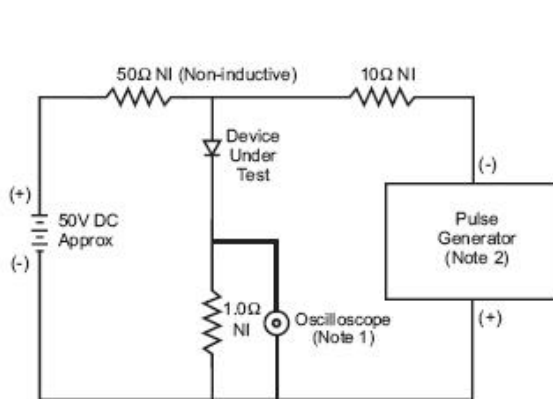


Fig. 4 Typical Junction Capacitance



- Notes:
 1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

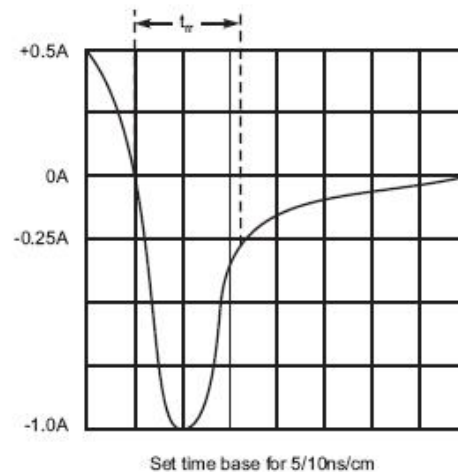


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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