

ER3EA ULTRAFAST RECTIFIER

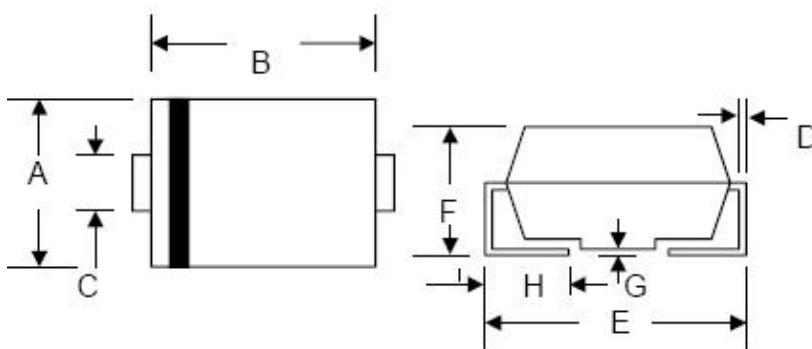
Features:

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 100 A Peak
- Low Power Loss
- Super Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- Green Products in Compliance with the ROHS Directive
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Data:

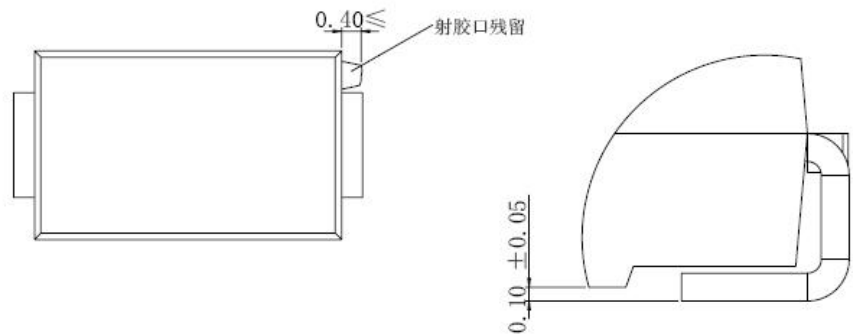
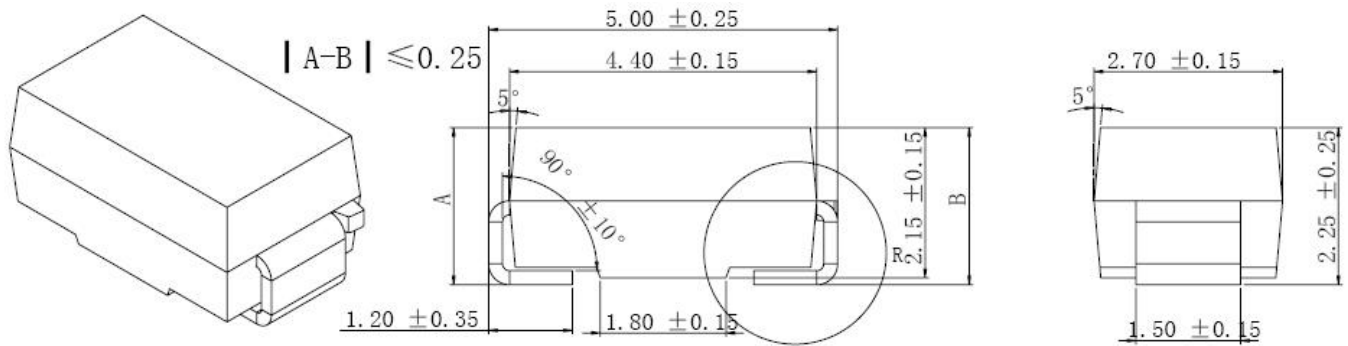
- Case: Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity :Cathode Band or Cathode Notch
- Weight: 0.68 grams (approx.)
- Marking: Type Number

Mechanical Dimensions: In mm / Inches



SMA/DO-214AC				
Dim	Min	Max	Min	Max
A	2.50	2.90	0.098	0.114
B	4.00	4.60	0.157	0.181
C	1.40	1.60	0.055	0.063
D	0.152	0.305	0.006	0.012
E	4.80	5.28	0.189	0.208
F	2.00	2.44	0.079	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.52	0.030	0.060
	In mm		In inch	

OPTION 1



OPTION 2(JK)

SMA

Marking Diagram:



Where XXXXX is YYWWL

ER = Device Type
3 = Forward Current (3A)
E = Reverse Voltage (300V)
A = Package type
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
ER3EA	SMA (Pb-Free)	5000pcs / 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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	ER3EA	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	300	V
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	I_o	3.0	A
Non-Repetitive 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	1.25	V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	I_{RM}	5.0 500	μA
Typical Thermal Resistance Junction to Lead (Note 1)	$R_{\theta JL}$	16	K/W
Maximum Reverse Recovery Time (Note 2)	T_{rr}	35	ns
Typical Junction Capacitance (Note 3)	C_J	45	pF
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +150	$^\circ\text{C}$
Case Style	SMA		

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

Technical Data
Data Sheet N0055, Rev. -

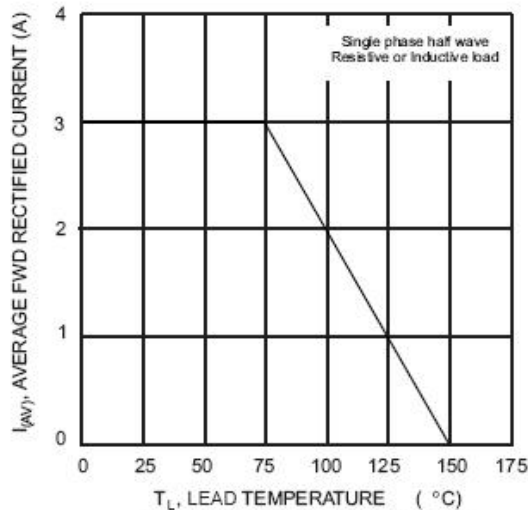


Fig. 1 Forward Current Derating Curve

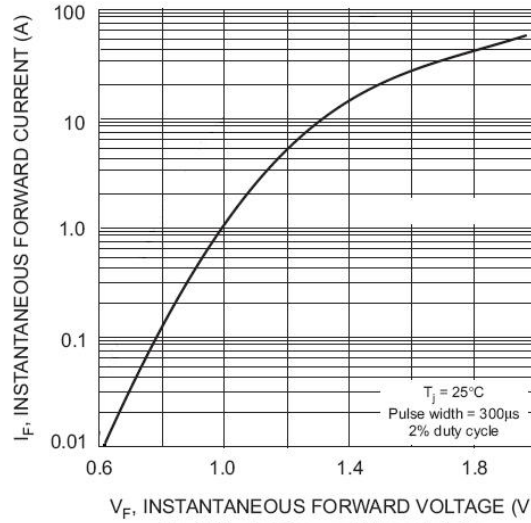


Fig. 2 Typical Forward Characteristics

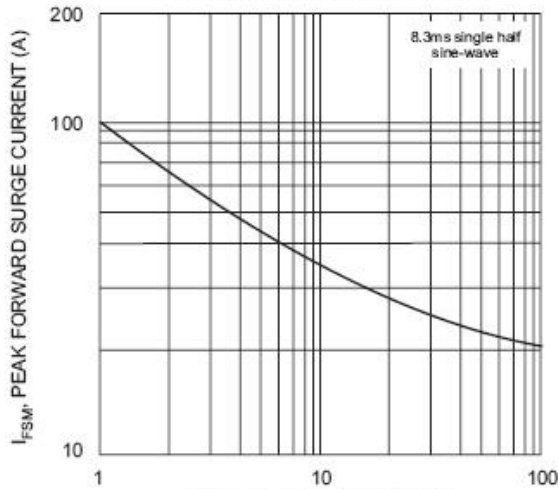


Fig. 3 Peak Forward Surge Current

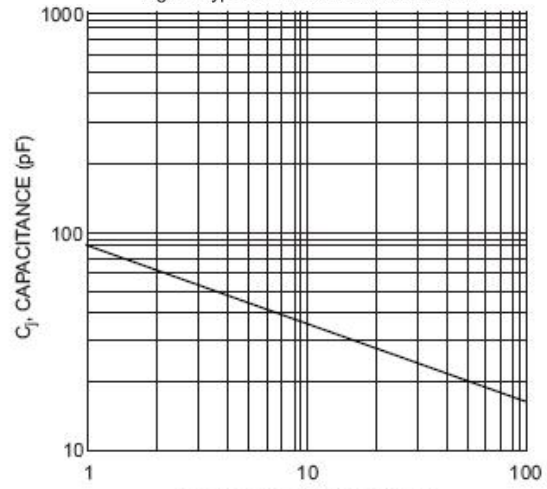
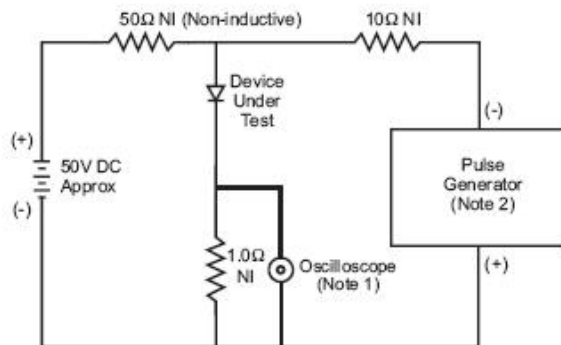
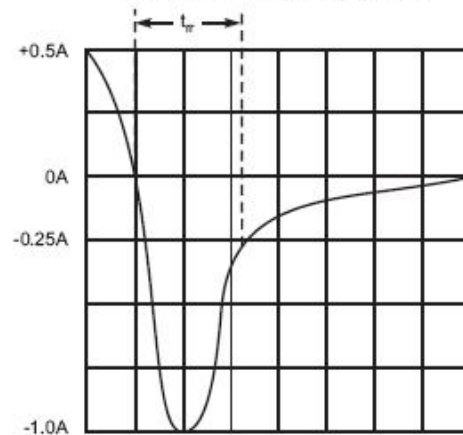


Fig. 4 Typical Junction Capacitance



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



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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