WINSOURCE
ELECTRONICS

THE DATASHEET OF

ER5D

Technical Data
Data Sheet N0994, Rev. A

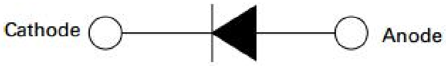
ER5A-ER5J SURFACE MOUNT SUPER FAST RECTIFIER

SMC

Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Overload Drop, High Efficiency
- 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

Circuit Diagram



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: 0.23grams(approx)

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	ER5A	ER5B	ER5C	ER5D	ER5E	ER5G	ER5J	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°C	Io	5.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150							A
Forward Voltage @I_F = 5.0A, T_J=25°C	V_F	0.95				1.25		1.7	V
Maximum DC reverse current T_A = 25°C at rated DC blocking voltage T_A = 100°C	I_R	5.0 100							μA
Typical junction capacitance (Note 1)	C_J	58							pF
Maximum Reverse Recovery Time (Note 2)	Trr	35							ns
Typical thermal resistance (Note 3)	$R_{θJL}$	47							°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							°C

Note: 1. Measured at 1.0 MHZ and applied reverse voltage of 4.0 V_{DC}
2. Measured with I_F=0.5A, I_R=1.0A, I_{rr}=0.25A,
3. Mounted on P.C. Board with 8.0mm^2 lead area

Ratings and Characteristics Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

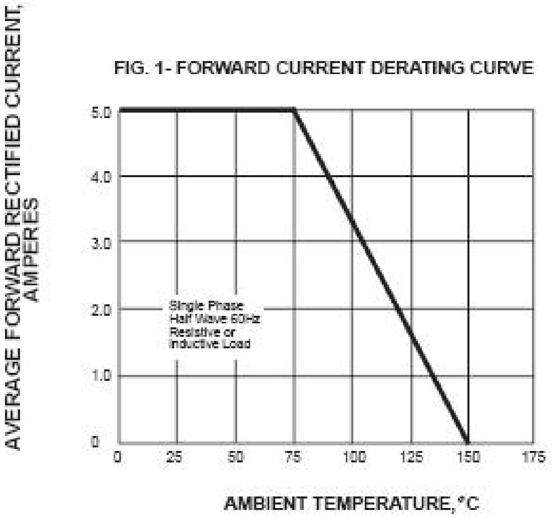


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

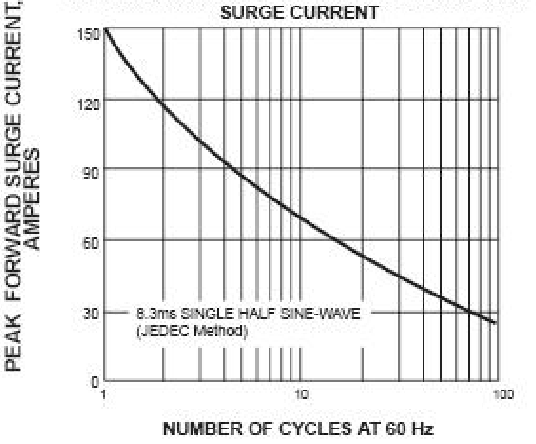


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

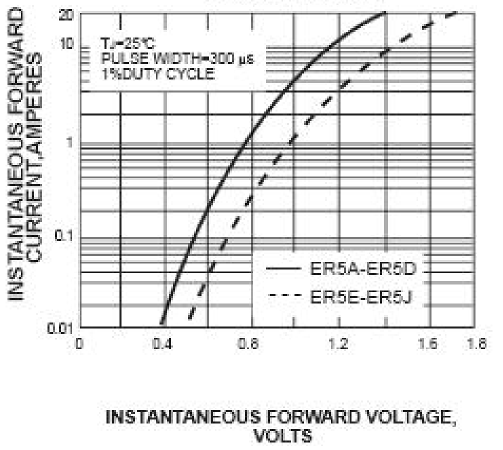


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

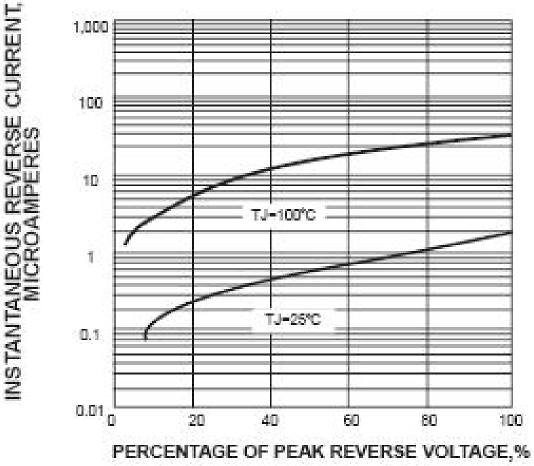


FIG. 5-TYPICAL JUNCTION CAPACITANCE

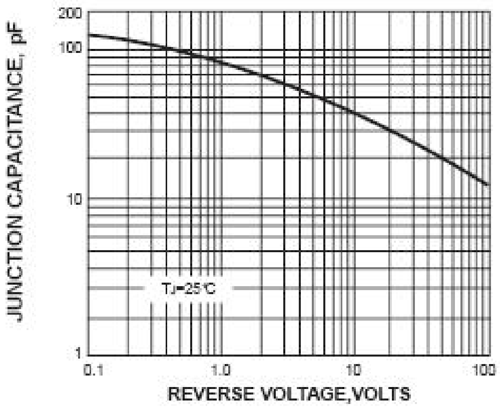
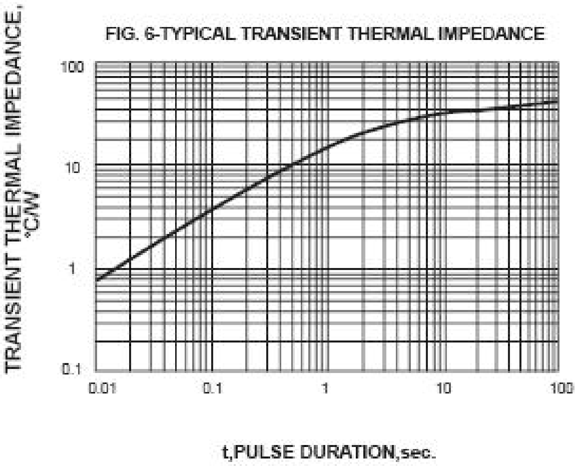


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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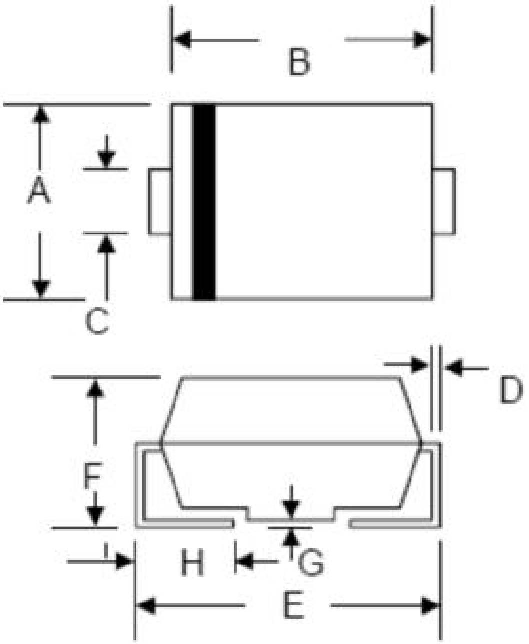
Mechanical Dimensions SMC



SYMBOL	Millimeters		Inches	
	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	8.25	0.305	0.325
F	2.00	2.95	0.079	0.116
G	0.051	0.203	0.002	0.008
H	0.76	1.60	0.030	0.063

Ordering Information

Device	Package	Shipping
ER5A-ER5J	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.

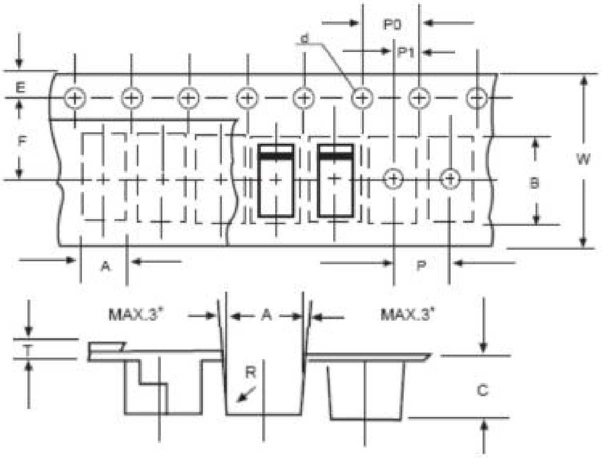
Marking Diagram

Where XXXXX is YYWWL

ER	= Device Type
5	= Forward Current (5A)
A	= Reverse Voltage (50V)
YY	= Year
WW	= Week
L	= Lot Number

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

Carrier Tape Specification SMC



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20

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