



ER5AC THRU ER5KC

5.0 AMP Surface Mount Superfast Rectifiers

Features

- Glass passivated junction chip
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V-0

Case: SMC(DO-214AB)



Cathode 1  2 Anode

Mechanical Data

- Case: Molded plastic SMC
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Marking: Type Number

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 derate current by 20%

Parameter	Symbol	ER5AC	ER5BC	ER5DC	ER5GC	ER5JC	ER5KC	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	V
Average Rectified Output Current @T _L =100 °C	I _{F(AV)}	5.0						A
Non-Repetitive Peak Forward Surge @T _j =25 °C Current 8.3ms Single half sine-wave@T _j =125 °C Superimposed On Rated Load (JEDEC Method)	I _{FSM}	120 96					100 80	A
Non-Repetitive Peak Forward Surge @T _j =25 °C Current 1.0ms Single half sine-wave @T _j =125°C Superimposed On Rated Load (JEDEC Method)	I _{FSM}	240 192					200 160	A
10000 times of the wave surge current (time width 1ms, time interval 3s)	I _{FSM}	90					75	A
I ² t Rating for Fusing (t < 8.3ms)	I ² t	59.76					41.5	A ² S
Forward Voltage @IF=5A	V _F	0.95			1.3	1.7	2.0	V
Peak Reverse Current @T _A =25 °C	I _R	3.0						uA
At Rated DC Blocking Voltage @T _A =125°C		100						
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35						ns
Typical Junction Capacitance (Note 2)	C _J	45			30			pF
Typical Thermal Resistance	R _{θJL}	17						°C/W
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to +150						°C

Note: 1. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C
2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$



5. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

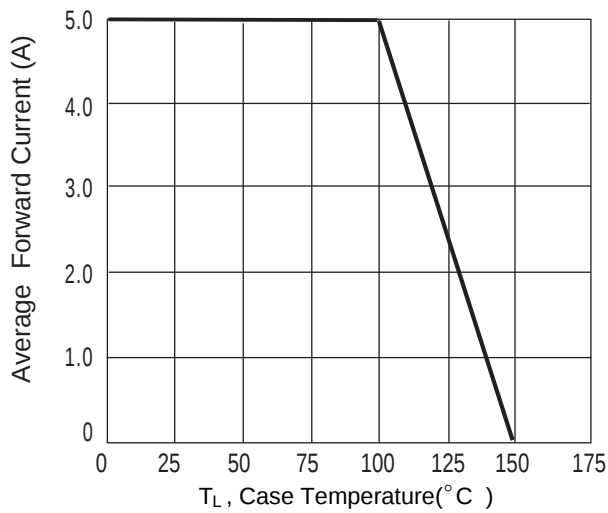


Fig. 2 Typ. Forward Characteristics

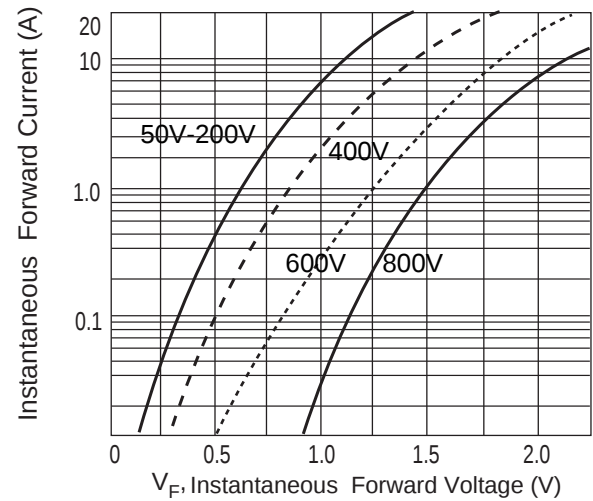


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

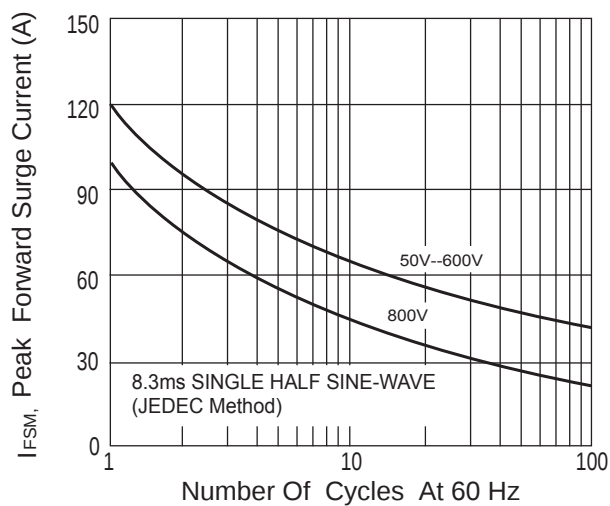
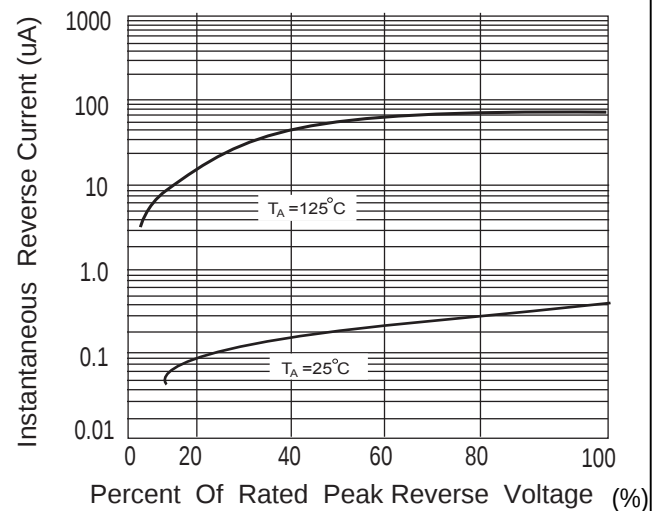


Fig.4 Typical Reverse Characteristics

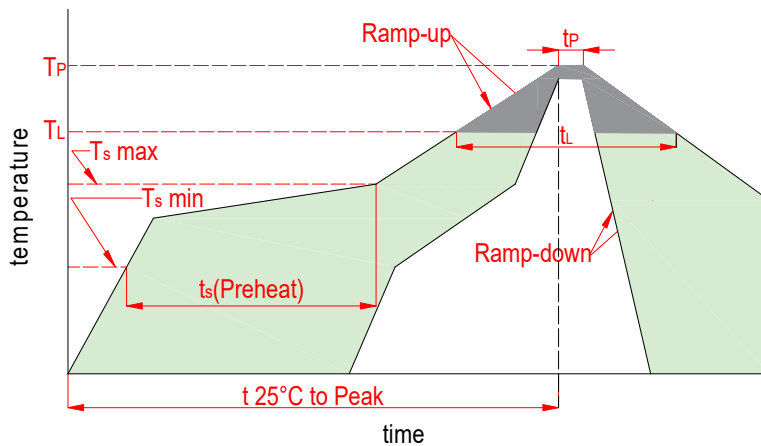




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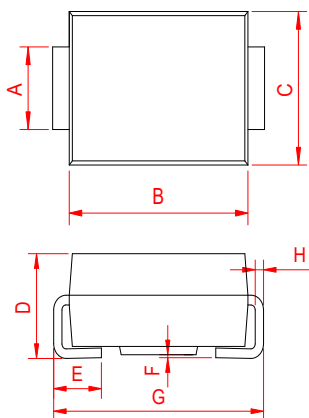
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6. Soldering Parameters



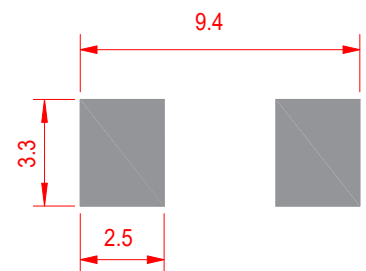
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} °C
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe.(T_P)		8 minutes max
Do not exceed		260°C

7. Dimensions

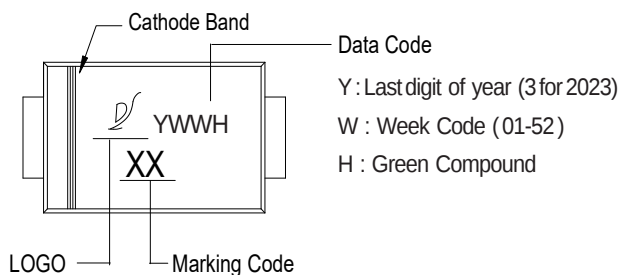


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.110	0.126	2.80	3.20
B	0.260	0.280	6.60	7.11
C	0.220	0.245	5.59	6.22
D	0.079	0.103	2.00	2.62
E	0.039	0.063	1.00	1.60
F	0.002	0.008	0.05	0.20
G	0.305	0.320	7.75	8.13
H	0.006	0.014	0.15	0.35

Mounting PAD Layout



8.Part Marking System



9. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)	AEC-Q101	LOGO
		mm	inch			
SMC	16	330	13	3000	No	



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