



ER5AC THRU ER5KC

5.0 AMP Surface Mount Superfast Rectifiers

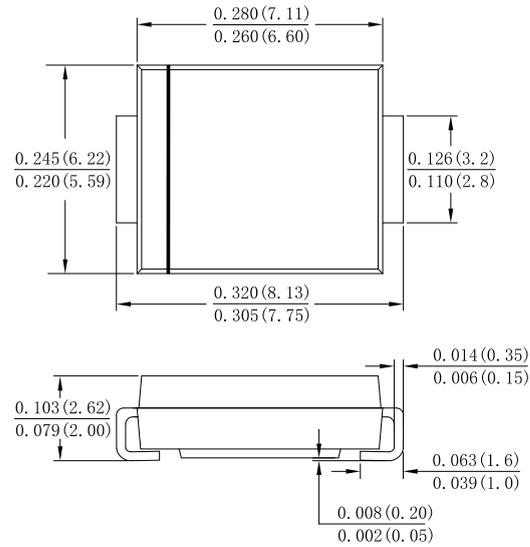
Features

- 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

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
- Making: Type Number

Case: SMC(DO-214AB)



Dimensions in inches and (millimeters)

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%

| Type Number | Symbols | ER5AC | ER5BC | ER5DC | R5GC | 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 @ $T_L = 75^\circ C$ | $I_{F(AV)}$ | 5.0 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave @ $T_j = 125^\circ C$ Superimposed On Rated Load (JEDEC Method) | I_{FSM} | 150 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave @ $T_j = 125^\circ C$ Superimposed On Rated Load (JEDEC Method) | I_{FSM} | 300 | | | | | | A |
| 10000 times of the wave surge current (time width 1ms, time interval 3s) | I_{FSM} | 112.5 | | | | | | A |
| I^2t Rating for Fusing ($t < 8.3ms$) | I^2t | 93.375 | | | | | | A^2S |
| Forward Voltage @ $I_F = 5A$ | V_F | 0.95 | | | 1.3 | 1.7 | 1.9 | V |
| Peak Reverse Current @ $T_A = 25^\circ C$ | I_R | 3.0 | | | | | | uA |
| At Rated DC Blocking Voltage @ $T_A = 125^\circ C$ | | 100 | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 35 | | | | | | ns |
| Typical Junction Capacitance (Note 2) | C_J | 45 | | | 30 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ | 17 | | | | | | $^\circ C/W$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | | $^\circ C$ |

Note:

1. Reverse Recovery Test Conditions: $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$.
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C.
3. Thermal Resistance from Junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas.



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FIG.1 MAXIMUM AVERAGE FORWARD CURRENT DERATING

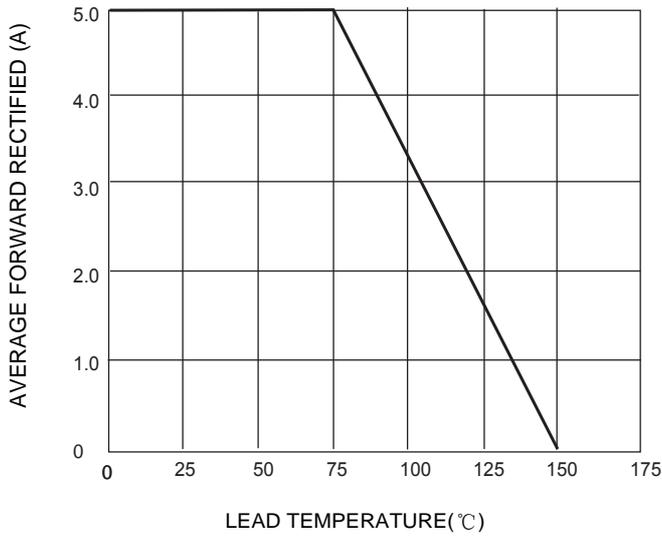


FIG.2 TYPICAL FORWARD CHARACTERISTICS

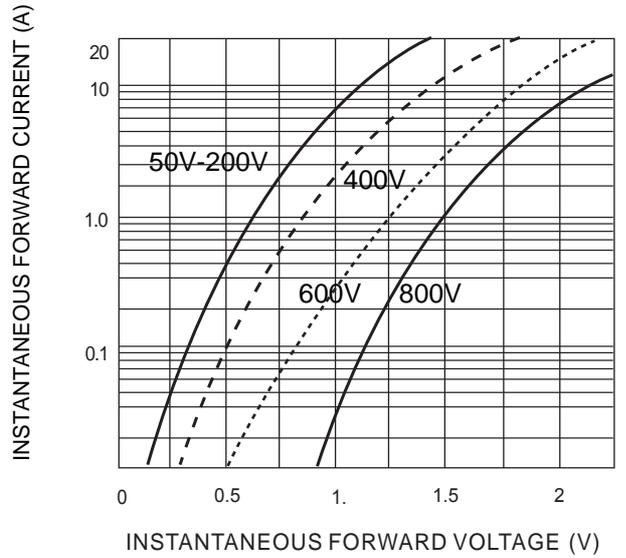


FIG.3 MAXIMUM NON-REPEITIVE SURGE CURRENT

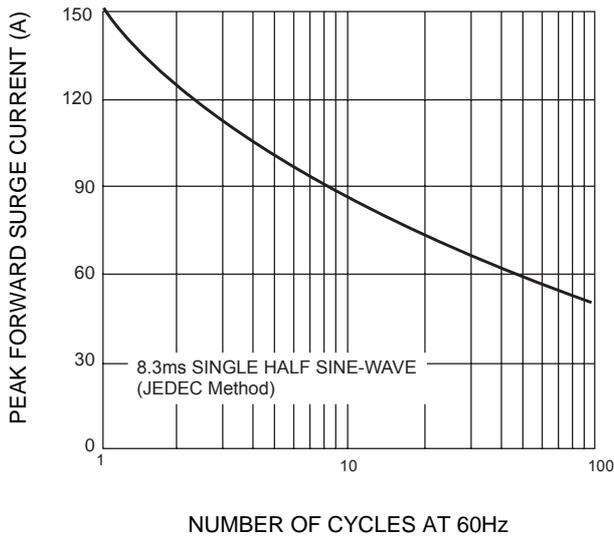


FIG.4 TYPICAL REVERSE CHARACTERISTICS

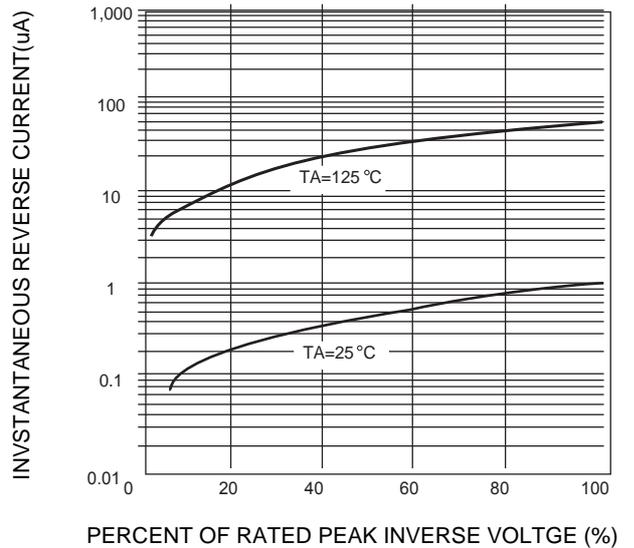
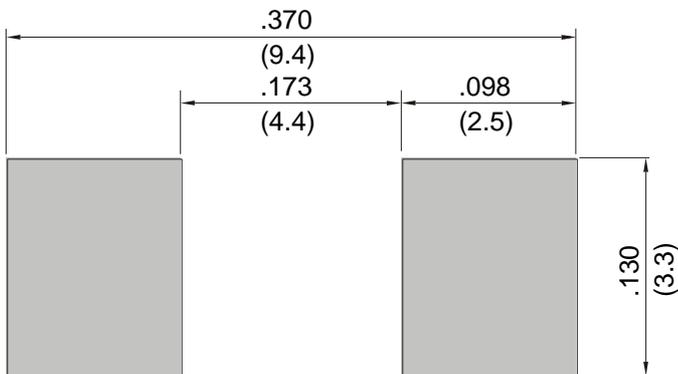


FIG.5 MOUNTING PAD LAYOUT





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