



# ER3AC THRU ER3KC

## 3.0 AMP Surface Mount Superfast Rectifiers

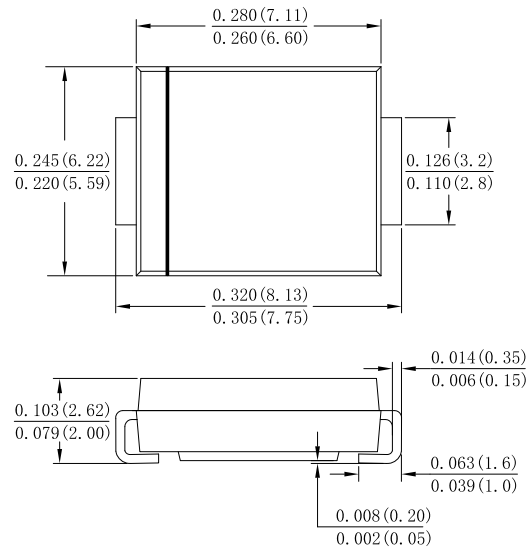
### Features

- 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 dented 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	ER3AC	ER3BC	ER3DC	ER3GC	ER3JC	ER3KC	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 @ $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	3.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave @ $T_j = 25^\circ\text{C}$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	110						A
Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave @ $T_j = 125^\circ\text{C}$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	88						A
Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave @ $T_j = 25^\circ\text{C}$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	220						A
Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave @ $T_j = 125^\circ\text{C}$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	176						A
10000 times of the wave surge current (time width 1ms, time interval 3s)	$I_{FSM}$	82.5						A
$I^2t$ Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	41.5						$\text{A}^2\text{S}$
Forward Voltage @ $I_F = 3\text{A}$	$V_F$	0.95			1.3	1.7	1.9	V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$	$I_R$	3.0						uA
At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$		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						$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150						$^\circ\text{C}$

Note:

1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$ .
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-TYPICAL FORWARD CURRENT DERATING CURVE

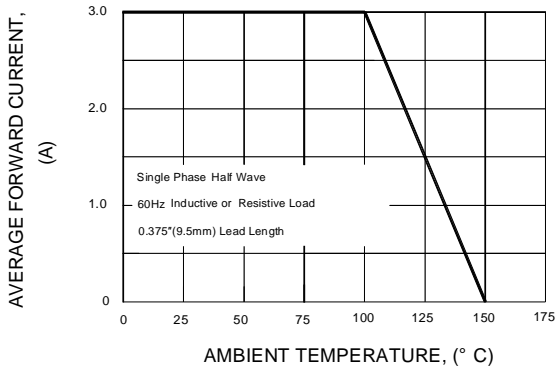


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

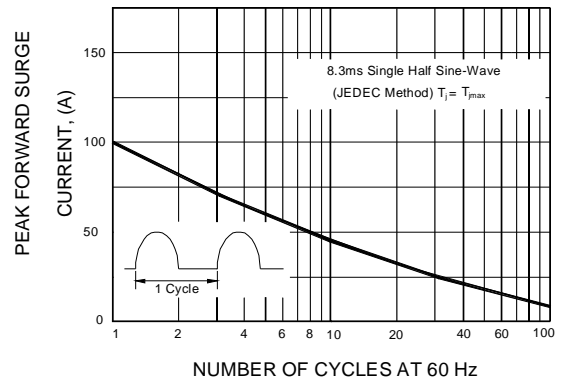


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

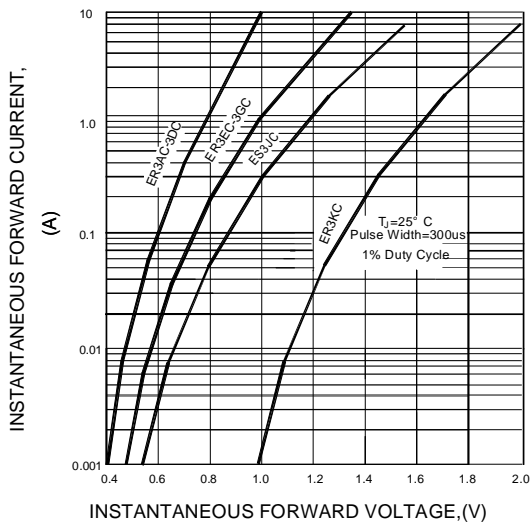


FIG.4-TYPICAL REVERSE CHARACTERISTICS

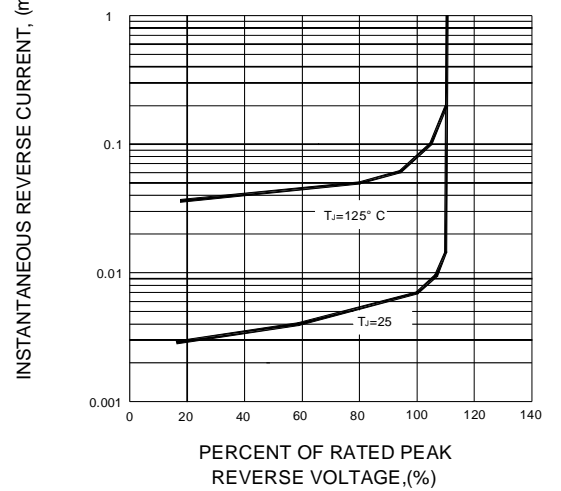


FIG.5-TYPICAL JUNCTION CAPACITANCE

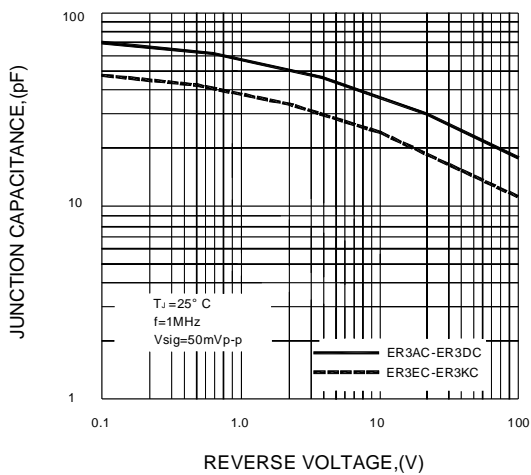
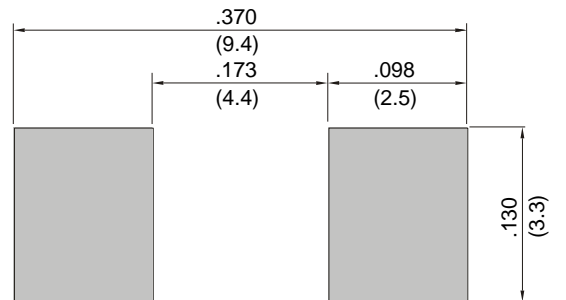


FIG.6 MOUNTING PAD LAYOUT





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