



# ER3A THRU ER3K

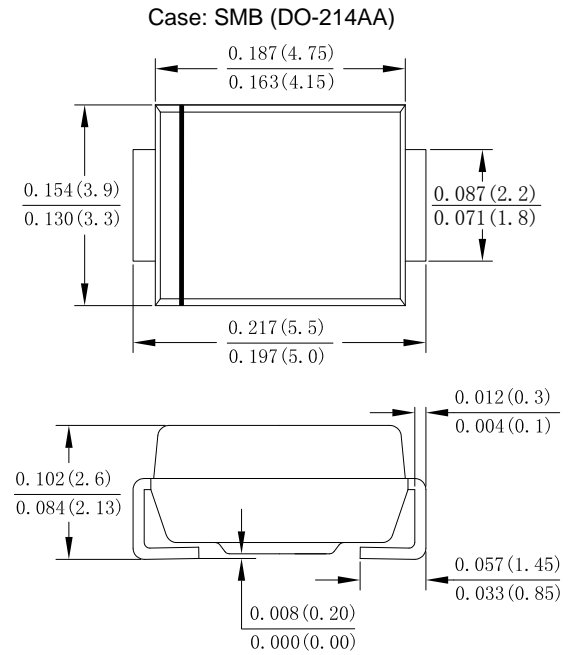
## 3.0AMP Surface Mount Superfast Rectifiers

### 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 SMB
- 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%

Type Number	Symbols	ER3A	ER3B	ER3D	ER3G	ER3J	ER3K	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	V
Average Rectified Output Current @T <sub>L</sub> =100 °C	I <sub>F (AV)</sub>	3.0						A
Non-Repetitive Peak Forward Surge @T <sub>j</sub> =25 °C Current 8.3ms Single half sine-wave@T <sub>j</sub> =125 °C Superimposed On Rated Load (JEDEC Method)	I <sub>FSM</sub>	110 88						A
Non-Repetitive Peak Forward Surge @T <sub>j</sub> =25 °C Current 1.0ms Single half sine-wave @T <sub>j</sub> =125°C Superimposed On Rated Load (JEDEC Method)	I <sub>FSM</sub>	220 176						A
10000 times of the wave surge current (time width 1ms, time interval 3s )	I <sub>FSM</sub>	82.5						A
I <sup>2</sup> t Rating for Fusing (t < 8.3ms)	I <sup>2</sup> t	50.215						A <sup>2</sup> S
Forward Voltage @I <sub>F</sub> =3A	V <sub>F</sub>	0.95			1.3	1.7	1.9	V
Peak Reverse Current @T <sub>A</sub> =25 °C	I <sub>R</sub>	3.0						uA
At Rated DC Blocking Voltε @T <sub>A</sub> =125°C		100						
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	35						ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	50			25			pF
Typical Thermal Resistance	R <sub>θJA</sub>	85						°C/W
	R <sub>θJC</sub>	10						
Operating and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150						°C

Note:

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



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Fig. 1 Forward Current Derating Curve

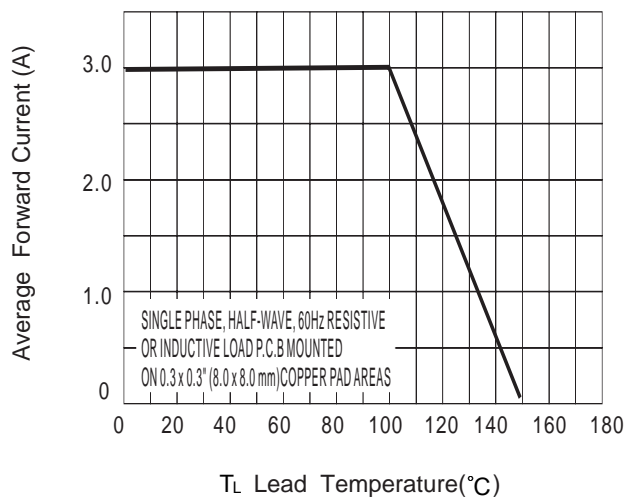


Fig. 2 Typ. Forward Characteristics

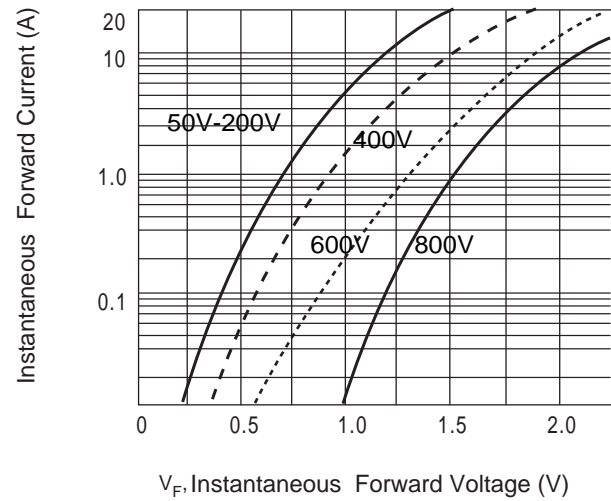


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

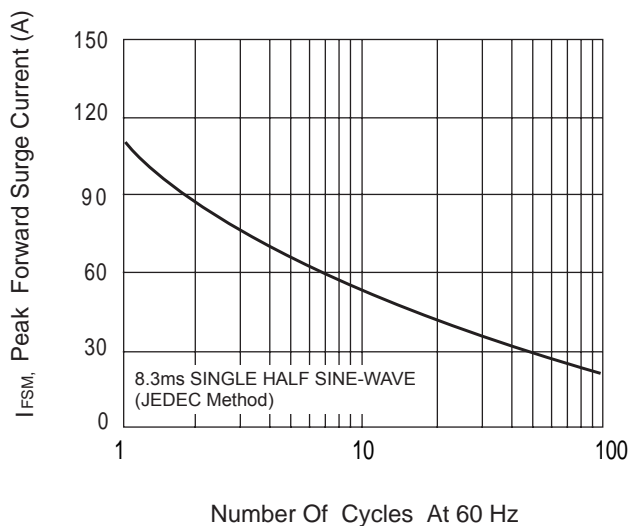


Fig4 Typical Reverse Characteristics

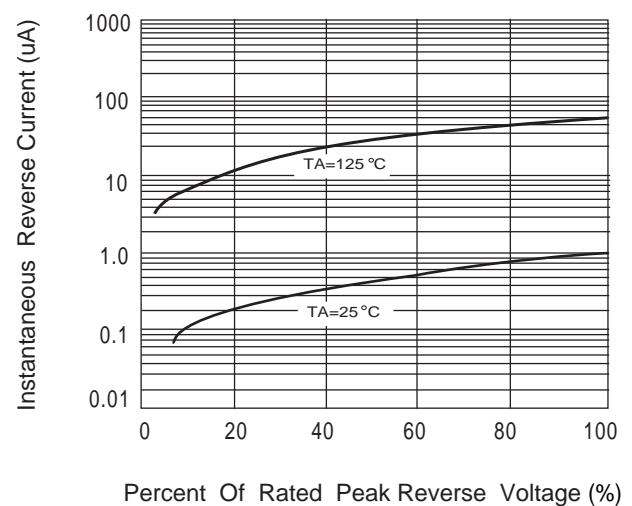
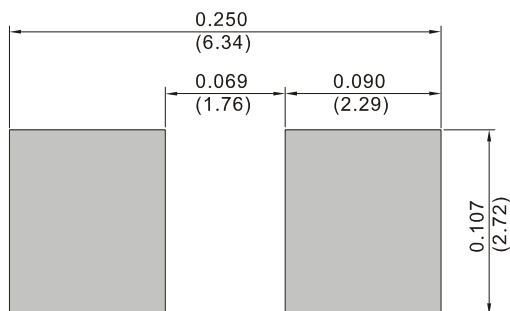


Fig.5 Mounting PAD Layout





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