

# ES1A\_J

## SURFACE MOUNT ULTRAFAST EFFICIENT RECTIFIER

### Features

- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-0
- Glass passivated chip junctions
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- High temperature soldering guaranteed: 260°C/10

seconds on terminals

- RoHS Compliant Product

### Mechanical Data

Case: JEDEC DO-214AC molded plastic body

Terminals: Solder plated, solderable per

MIL-STD-750, Method 2026

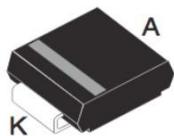
Polarity: Color band denotes cathode end

Weight: 0.002 ounces, 0.065 gram

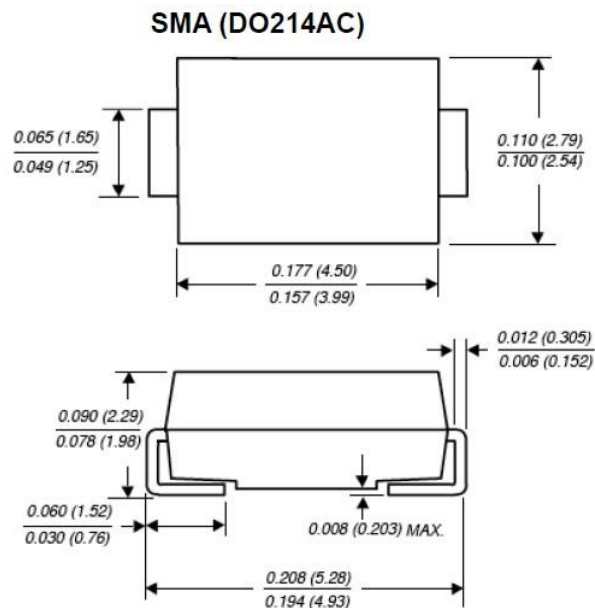
Packate type : SMA

Packing & Order Information

5,000/Reel

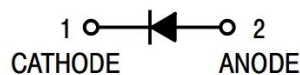


**RoHS**  
COMPLIANT



Dimensions in inches and (millimeters)

### Graphic symbol



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

|                    |   | ES1A     | ES1B | ES1D | ES1G | ES1J | Unit |
|--------------------|---|----------|------|------|------|------|------|
| V <sub>RRM</sub>   | Maximum repetitive peak reverse voltage                                     | 50       | 100  | 200  | 400  | 600  | V    |
| V <sub>RWS</sub>   | Maximum RMS voltage   | 35       | 70   | 140  | 280  | 420  | V    |
| V <sub>DC</sub>    | Maximum DC blocking voltage   | 50       | 100  | 200  | 400  | 600  | V    |
| I <sub>F(AV)</sub> | Maximum average forward rectified current at TL=110°C                       | 1        |      |      |      |      | A    |
| I <sub>FSM</sub>   | Peak forward surge current 8.3ms single half-sine-wave                      | 30       |      |      |      |      | A    |
| V <sub>F</sub>     | Maximum instantaneous forward voltage at IFM=1.0A                           | 0.95     |      |      |      | 1.7  | V    |
| I <sub>R</sub>     | Maximum DC reverse current TJ=25°C<br>At rated DC blocking voltage TA=100°C | 5<br>200 |      |      |      |      | uA   |

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|                  |                               | ES1A        | ES1B | ES1D | ES1G | ES1J | Unit |
|------------------|-------------------------------|-------------|------|------|------|------|------|
| T <sub>rr</sub>  | Maximum reverse recovery time | 30          |      |      |      | 50   | nS   |
| C <sub>j</sub>   | Typical junction capacitance  | 19          |      |      |      | 19   | PF   |
| R <sub>θJA</sub> | Maximum thermal resistance    | 75          |      |      |      |      | °C/W |
| R <sub>θJL</sub> |                               | 27          |      |      |      |      | °C/W |
| T <sub>STG</sub> | Storage temperature range     | -55 to +150 |      |      |      |      | °C   |

NOTE:

1. Pluse test: Pulse width 300us, duty cycle 1%

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### SURFACE MOUNT ULTRAFAST EFFICIENT RECTIFIER

#### ■ Ratings and Characteristic Curves

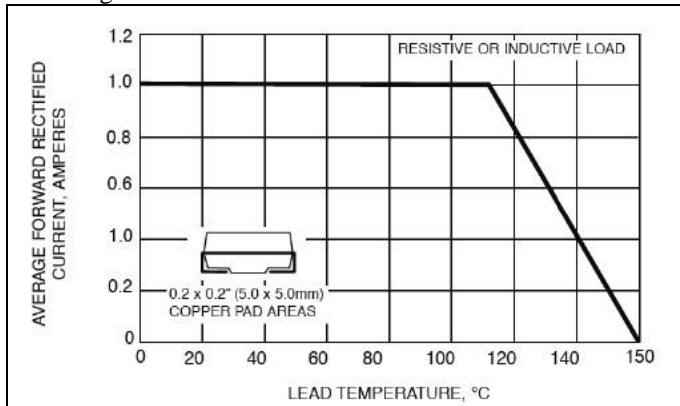


FIG.1-FORWARD DERATING CURVE

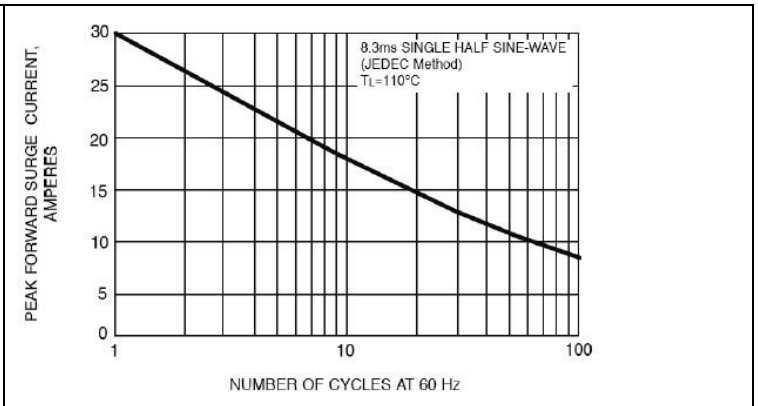


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

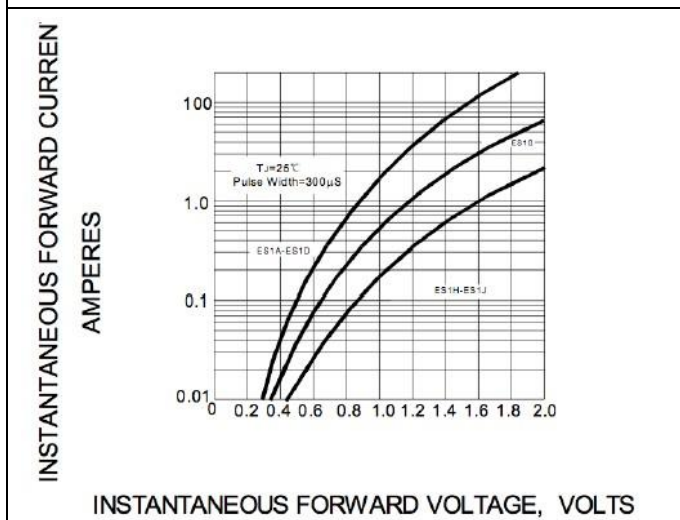


FIG.3-TYPICAL FORWARD CHARACTERISTICS

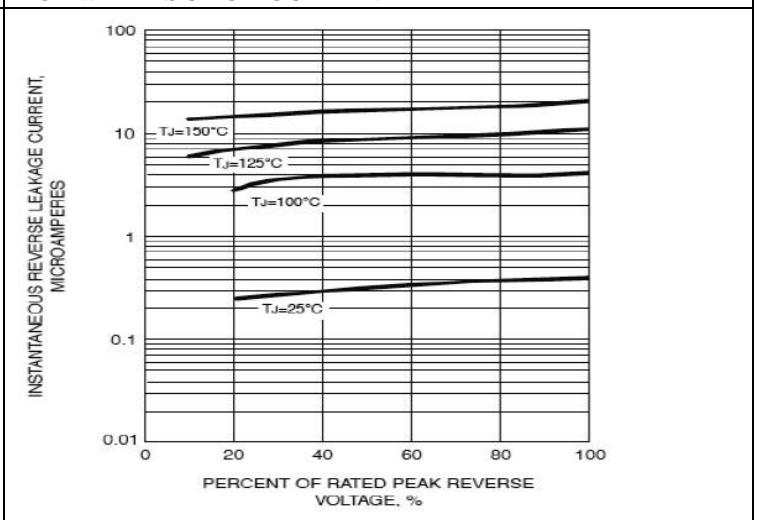


FIG.4-TYPICAL REVERSE CHARACTERISTICS

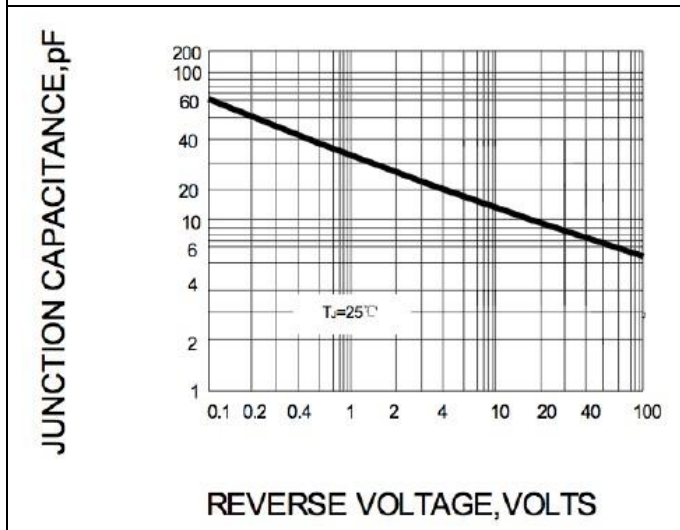


FIG.5-TYPICAL JUNCTION CAPACITANCE

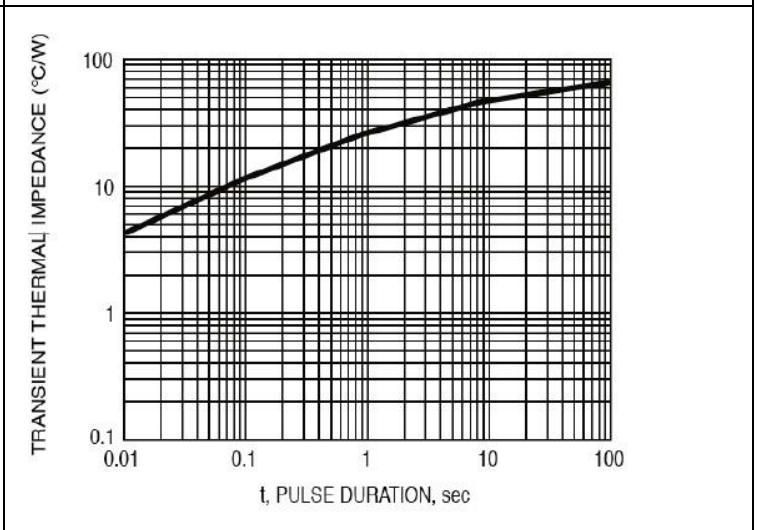


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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