



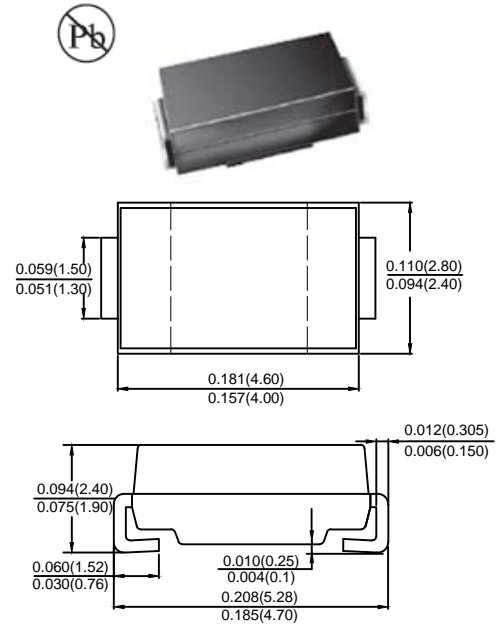
Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to
RoHS 2002/95/1 and WEEE 2002/96/EC

Mechanical Date

- **Case:** JEDEC DO-214AC (SMA) molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

SMA/DO-214AC



Dimensions in inches and (millimeters)

Maximum Ratings & Thermal 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 | SYMBOL | ES1A | ES1B | ES1D | ES1G | ES1J | Unit |
|--|-----------------|-------------|------|------|------|------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | V |
| Average Rectified Output Current @ $T_L=100^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | | | | | A |
| Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | A |
| Rating for fusing ($t < 8.3\text{ms}$) | I^2t | 5.08 | | | | | A^2s |
| Forward Voltage @ $I_F=1.0\text{A}$ | V_{FM} | 1.0 | | 1.25 | | 1.65 | V |
| Peak Reverse Current @ $T_A=25^\circ\text{C}$ | I_R | 5.0 | | | | | μA |
| At Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | | 200 | | | | | |
| Maximum Reverse Recovery Time (Note1) | T_{rr} | 35 | | | | | ns |
| Typical Junction Capacitance (Note 2) | C_J | 15 | | | | | pF |
| Typical Thermal Resistance Junction to Ambient(Note 3) | $R_{\theta JA}$ | 110 | | | | | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_J | -55 to +150 | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | 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. 8.0MM² (.013mm Thick) Land Areas.



ES1A-ES1J

Surface Mount Superfast Rectifiers

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Maximum Average Forward Current Rating

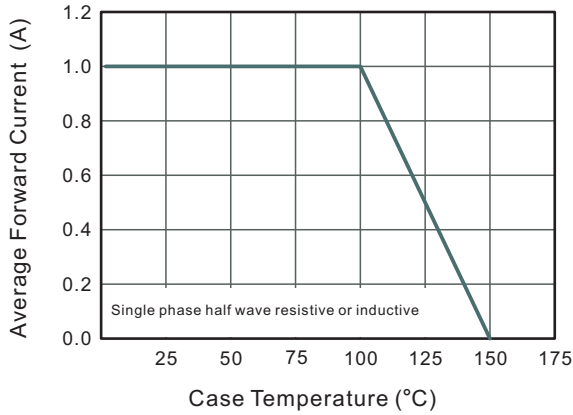


Fig.2 Typical Reverse Characteristics

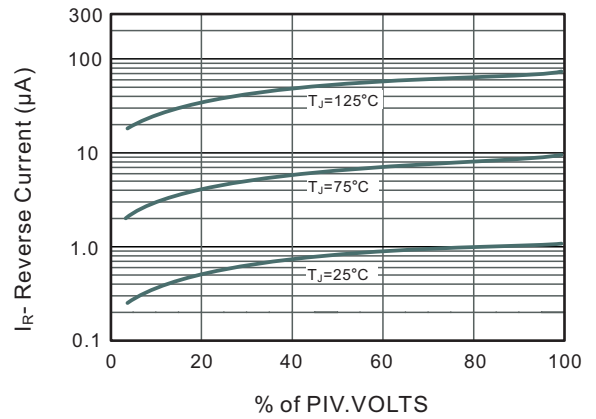


Fig.3 Typical Forward Characteristics

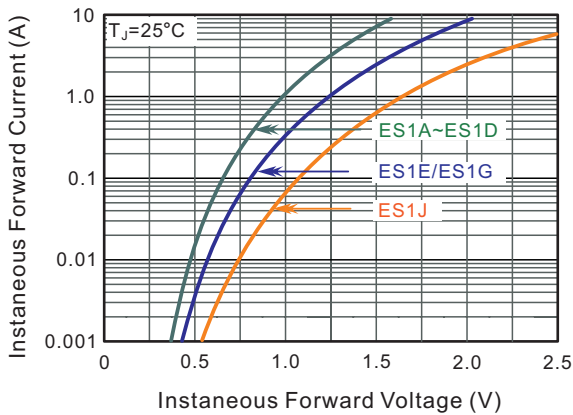


Fig.4 Typical Junction Capacitance

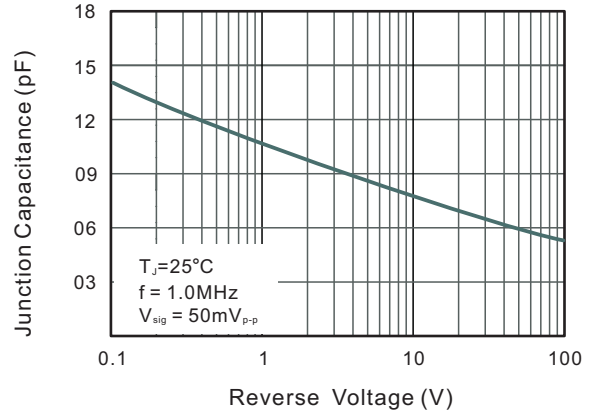
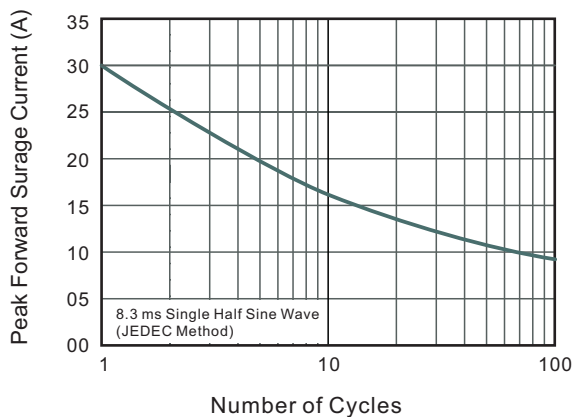
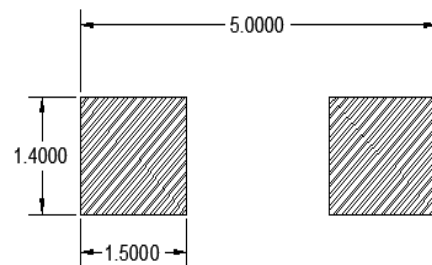


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



SMA PAD LAYOUT



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