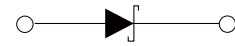


FEATURES

- | Low Power Loss High Efficiency
- | Ideal For Automated Placement
- | Guard Ring For Over-voltage Protection
- | High Surge Current Capability
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

MECHANICAL DATA

- | Case: DO-214AC (SMA)
- | Polarity: Color Band Denotes Cathode End
- | Mounting Position: Any

APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

| Parameter | Symbol | SS 32AQ | SS 33AQ | SS 34AQ | SS 35AQ | SS 36AQ | SS 39AQ | SS 310AQ | SS 315AQ | SS 320AQ | Unit | |
|--|-----------------------|-------------|---------|---------|---------|---------|---------|-------------|----------|----------|------|----|
| Repetitive Peak Reverse Voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | 200 | V | |
| Reverse Voltage, Total RMS Value | V _{RMS} | 14 | 21 | 28 | 35 | 42 | 63 | 70 | 105 | 140 | V | |
| Maximum DC Blocking Voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | 200 | V | |
| Maximum Average Forward Rectified Current at T _L =100°C | I _{F(AV)} | 3.0 | | | | | | | | | A | |
| Surge Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load Per Diode | I _{FSM} | 70 | | | | | | | | | A | |
| Forward Voltage Per Diode ⁽¹⁾ I _F =3a, T _J =25°C | V _F | 0.55 | | | 0.70 | | | 0.85 | | 0.95 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | T _A =25°C | 0.50 | | | | | | 0.10 | | | | mA |
| | T _A =100°C | 10 | | | | | | 5 | | | | mA |
| Operating Junction Temperature Range | T _J | -55 to +150 | | | | | | -55 to +175 | | | | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | | | | | | | | | °C | |

Notes:

1. pulse test with PW=0.3ms
2. pulse test with PW=30ms

THERMAL PERFORMANCE

| Parameter | Symbol | TYP. | Unit |
|--|-----------------|-------------------|------|
| Junction to Ambient Thermal Resistance | $R_{\theta JA}$ | 55 ⁽¹⁾ | °C/W |
| Junction to Ambient Thermal Resistance | $R_{\theta JL}$ | 17 ⁽¹⁾ | °C/W |

Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

CHARACTERISTIC CURVES

Fig. 1- Derating Curve Output Rectified Current

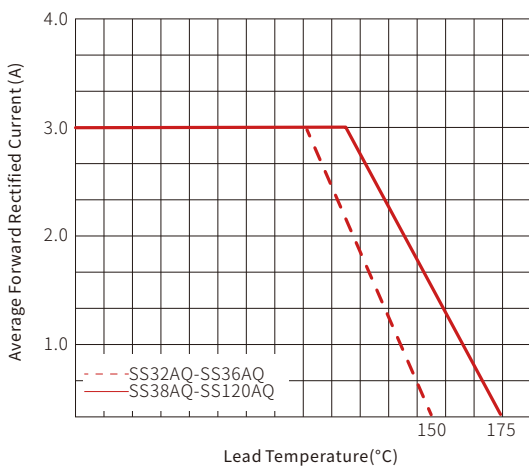


Fig. 2-Typical Junction Capacitance

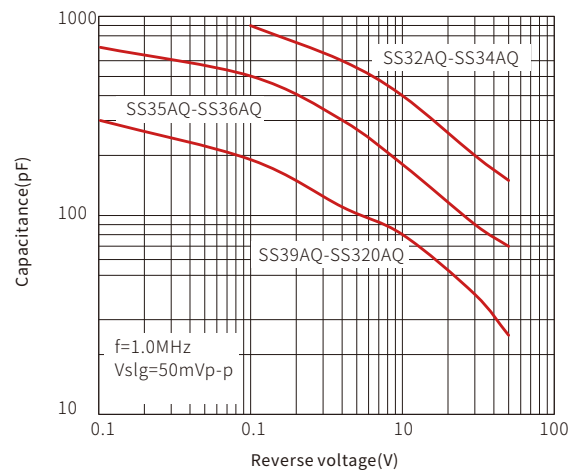


Fig. 3-Typical Reverse Characteristics

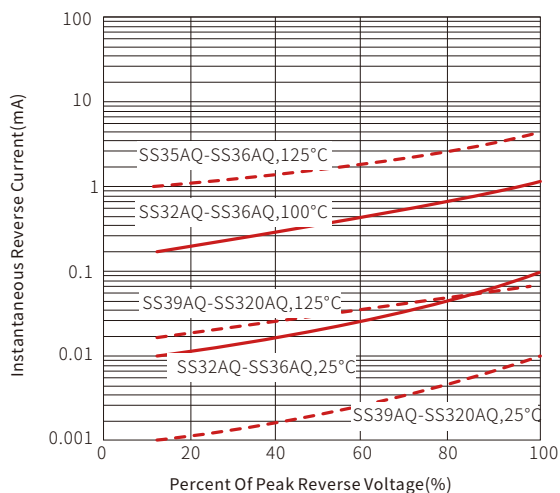


Fig. 4-Typical Forward Characteristics

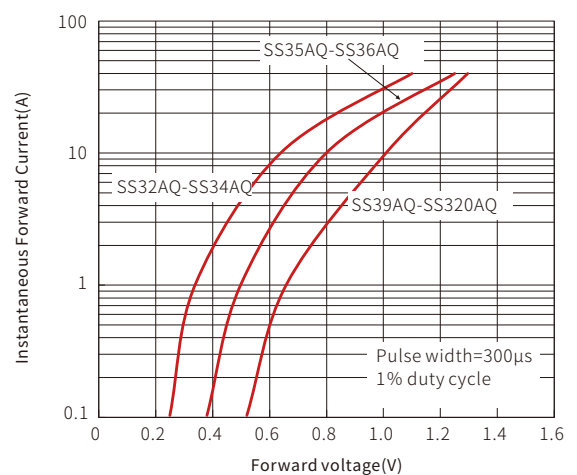
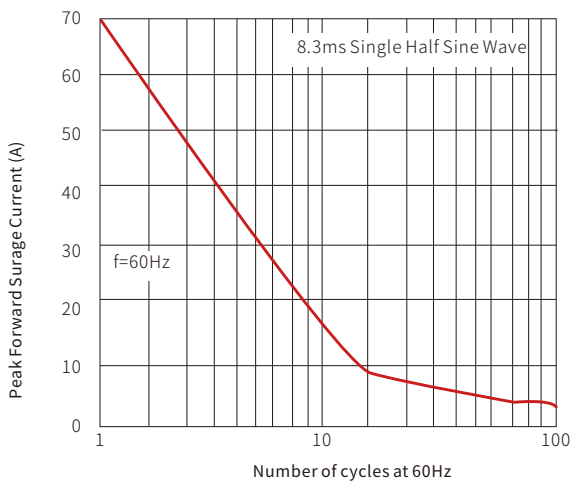
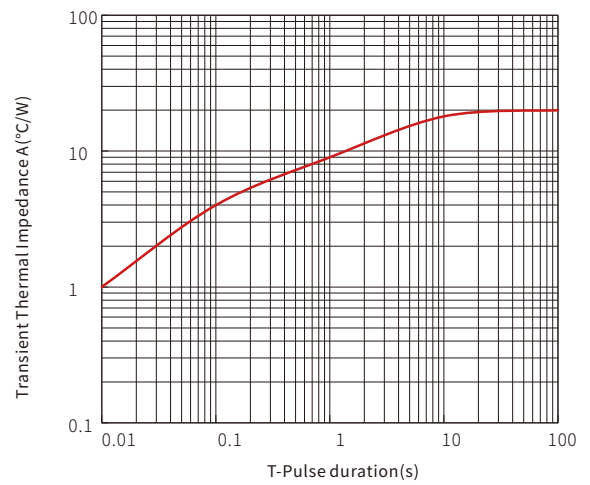
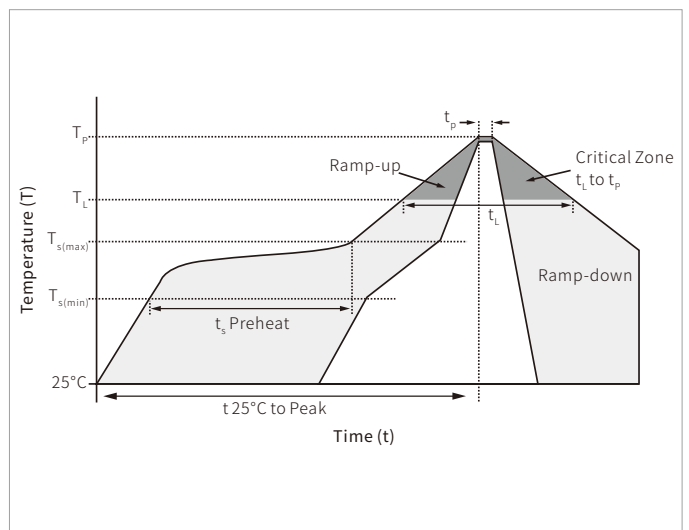


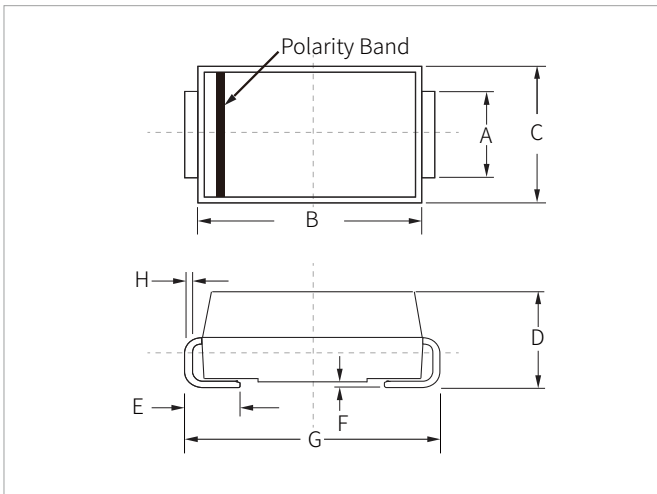
Fig. 5-Maximum Non-repetitive Forward Surge Current

Fig. 6-Typical Transient Thermal Characteristics


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 - 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_i) | 60 - 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 - 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

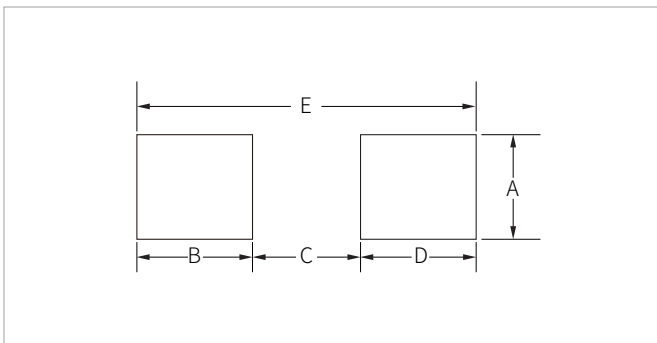


DO-214AC(SMA) PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.20 | 1.60 | 0.047 | 0.063 |
| B | 4.20 | 4.60 | 0.165 | 0.181 |
| C | 2.40 | 2.80 | 0.094 | 0.110 |
| D | 2.00 | 2.40 | 0.079 | 0.094 |
| E | 0.76 | 1.52 | 0.030 | 0.060 |
| F | 0.02 | 0.20 | 0.001 | 0.008 |
| G | 4.85 | 5.25 | 0.191 | 0.207 |
| H | 0.15 | 0.30 | 0.006 | 0.012 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | | Inches | |
|------|-------------|------|----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.63 | - | 0.064 | - |
| B | 1.45 | - | 0.057 | - |
| C | - | 2.80 | - | 0.090 |
| D | 1.45 | - | 0.057 | - |
| E | 5.28REF | | 0.208REF | |

ORDERING INFORMATION

| Part Number | Size | QTY/Reel | Reel Size |
|----------------|---------------|----------|-----------|
| SS32AQ-SS320AQ | DO-214AC(SMA) | 5000PCS | 13" |

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