

SS34L

LOW VF SCHOTTKY RECTIFIERS



| | | | | | |
|-----------------|----------|-----------------|-------------|-------------|-----------------------------|
| VOLTAGE: | 40 Volts | CURRENT: | 3.0 Amperes | SMAF | Marking and Polarity |
|-----------------|----------|-----------------|-------------|-------------|-----------------------------|

FEATURES

- Low Forward Voltage Drop for high efficiency
- Low leakage current for high reliability
- High forward surge capability for high reliability

MECHANICAL DATA

- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Mounting Position:** Any
- **Lead Free:** Lead Free Finish, RoHS Compliant
- **Weight:** App. 0.026 grams (0.0022 ounce)

TYPICAL APPLICATIONS

- For use in charger ,high frequency inverters, Adapter, Switch power supply, DC/DC converters

Remark:

- ①. NH=niuhang trademark
- ②. FF=Product line code, According to actual changes
YWW=Data code, According to actual changes
- ③. SS34L=Modle

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | SS34L | Unit |
|--|-------------|-------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 45 | V |
| Maximum average forward rectified current(see fig.1) | $I_{F(AV)}$ | 3 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | I_{FSM} | 80 | A |
| Peak repetitive reverse current | I_{RRM} | 60 | uA |

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Test Conditions | | Symbol | SS34L | | | Unit |
|-----------------------------------|--------------------|--------------|--------|-------|------|------|------|
| | | | | Min. | Typ. | Max. | |
| Instaneous forward voltage(note1) | $T_J=25^{\circ}C$ | $I_F= 3.0 A$ | V_F | -- | 0.40 | 0.42 | V |
| | $T_J=125^{\circ}C$ | | | -- | 0.37 | 0.40 | |
| Reverse current per diode (note2) | $T_J=25^{\circ}C$ | $V_R= 45 V$ | I_R | -- | 35 | 60 | uA |
| | $T_J=100^{\circ}C$ | $V_R= 45 V$ | | -- | 1 | 5 | mA |
| Typical junction capacitance | 4V,1MHz | | C_J | -- | 450 | | pF |

Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | SS34L | Unit |
|------------------------------------|-----------------|------------|------|
| Operating junction | T_J | -55 to 150 | °C |
| Storage temperature range | T_{STD} | -55 to 150 | |
| Typical thermal resistance (note3) | $R_{\theta JA}$ | 55 | °C/W |
| | $R_{\theta JC}$ | 15 | |

Notes: 1.Pulse width < 300 uS, Duty cycle < 2%
2.Mounted on P.C.B. with 0.2" x 0.2" (5.08 mm x 5.08 mm) copper pad areas

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RATING AND CHARACTERISTIC CURVES

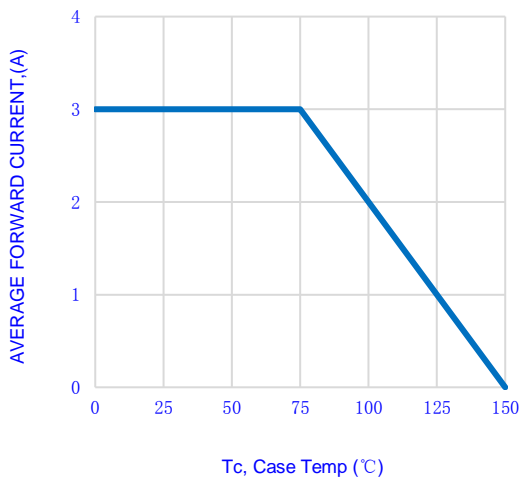


Fig.1-FORWARD CURRENT DERATING CURVE

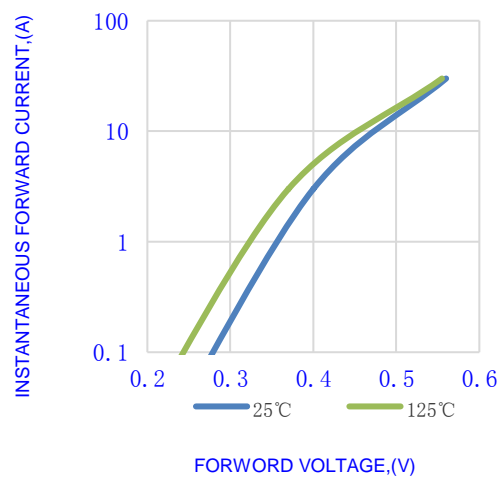


Fig.2- TYPICAL INSTANTANEOUS FORWARD

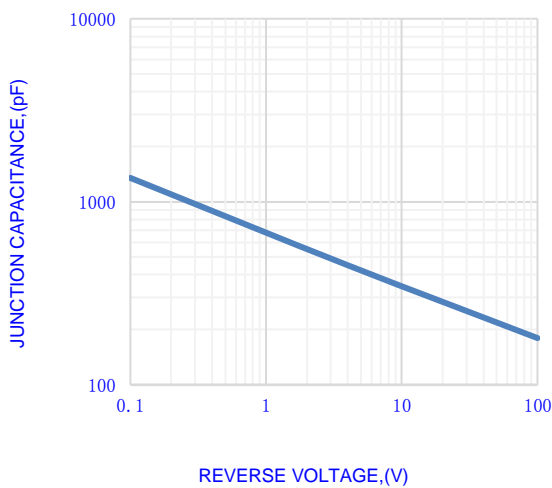


Fig.3- TYPICAL JUNCTION CAPACITANCE

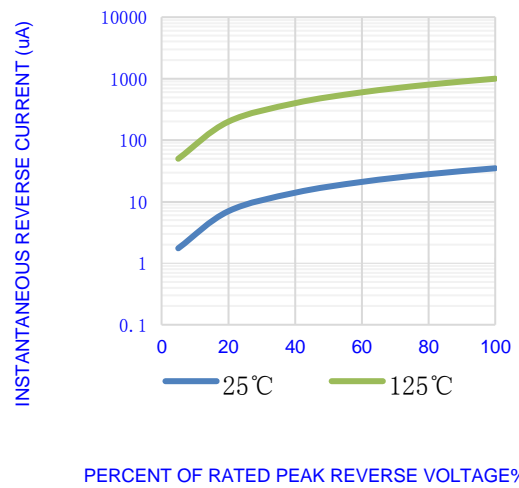


Fig.4- TYPICAL REVERSE CHARACTERISTICS

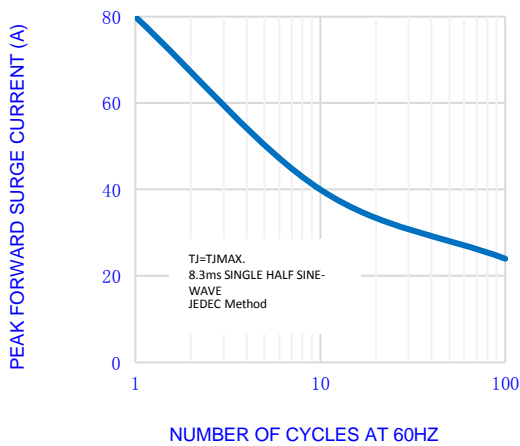


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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| OUTLINE DRAWINGS | | | | SMAF | | | | | |
|------------------|-------|------|-------|---------------------------|------------|-------|--|--------|--|
| | | | | OUTLINE DIMENSIONS | | | | | |
| | | | | Dim. | Milimeters | | | Inches | |
| Min. | Typ. | Max. | Min. | | Typ. | Max. | | | |
| A | 3.200 | - | 3.800 | 0.126 | - | 0.150 | | | |
| B | 4.400 | - | 5.300 | 0.173 | - | 0.209 | | | |
| C | 2.300 | - | 2.700 | 0.091 | - | 0.106 | | | |
| D | 0.950 | - | 1.200 | 0.037 | - | 0.047 | | | |
| E | 1.300 | - | 1.600 | 0.051 | - | 0.063 | | | |
| F | 0.080 | - | 0.170 | 0.003 | - | 0.007 | | | |
| G | 0.500 | - | 1.200 | 0.020 | - | 0.047 | | | |

| RECOMMENDED LAYOUT DRAWINGS | | | | SMAF | | | | | |
|-----------------------------|------|-------|------|--|------------|------|--|--------|--|
| | | | | RECOMMENDED MOUNTING PAD DIMENSIONS | | | | | |
| | | | | Dim. | Milimeters | | | Inches | |
| Min. | Typ. | Max. | Min. | | Typ. | Max. | | | |
| A | - | 5.300 | - | - | 0.2087 | - | | | |
| B | - | 2.060 | - | - | 0.0810 | - | | | |
| C | - | 1.660 | - | - | 0.0650 | - | | | |
| D | - | 2.070 | - | - | 0.0820 | - | | | |

| PACKING INFORMATION | | | | SMAF | | |
|---------------------|----------------|---------------------|--------------------------|--------------------------|-----------------------|-----------------------|
| Package Method | Reel Size (mm) | Quantity (pcs/reel) | Inner Box Size LxWxH(mm) | Quantity (pcs/Inner Box) | Carton Size LxWxH(mm) | Quantity (pcs/carton) |
| Tape Reel | Φ330 | 5000 | 340x340x45 | 10000 | 360x360x470 | 100000 |

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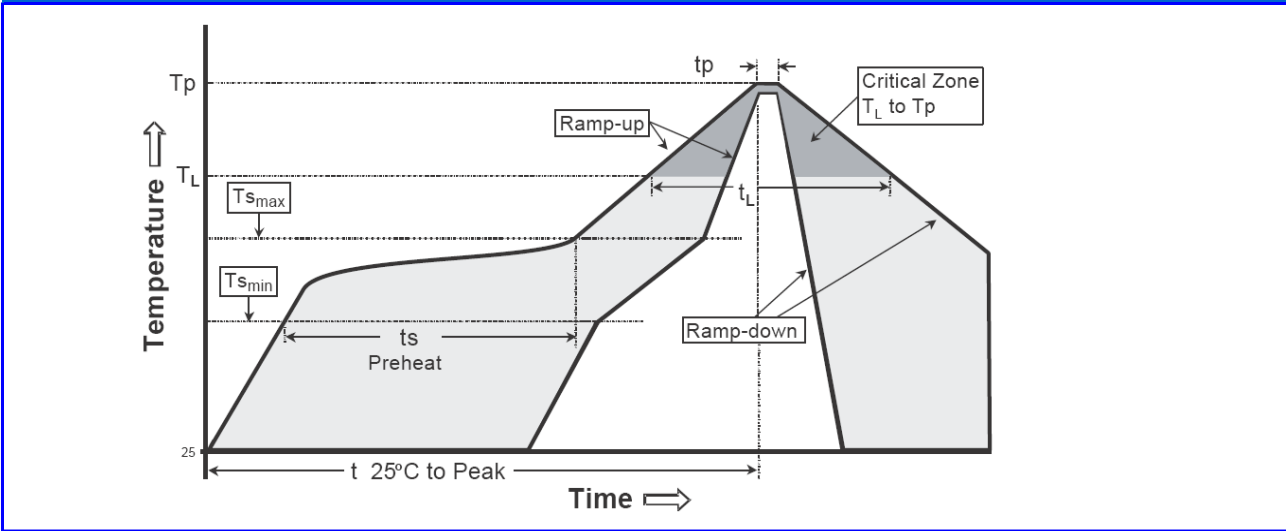
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Recommended wave soldering condition

| | | |
|-----------------|------------------|-----------------|
| Product | Peak Temperature | Soldering Time |
| Pb-free devices | 260 +0/-5 °C | 5 +1/-1 seconds |

Recommended temperature profile for IR reflow



| Profile feature | Sn-Pb eutectic Assembly | Pb-free Assembly |
|--|----------------------------------|----------------------------------|
| Average ramp-up rate (Tsmmax to Tp) | 3°C/second max. | 3°C/second max. |
| Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max) | 100°C 150°C 60-120 seconds | 150°C 200°C 60-180 seconds |
| Time maintained above: -Temperature (TL) - Time (tL) | 183°C 60-150 seconds | 217°C 60-150 seconds |
| Peak Temperature(TP) | 240 +0/-5 °C | 260 +0/-5 °C |
| Time within 5°C of actual peak temperature(tp) | 10-30 seconds | 20-40 seconds |
| Ramp down rate | 6°C/second max. | 6°C/second max. |
| Time 25 °C to peak temperature | 6 minutes max. | 8 minutes max. |

Note : All temperatures refer to topside of the package, measured on the package body surface.

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