

Schottky Barrier Rectifier

FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



MECHANICAL DATA

Case: TO-220AC

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

Terminal: Matte tin plated leads, solderable per JESD22-B102

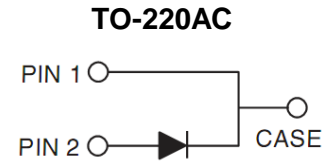
Meet JESD 201 class 1A whisker test,

with prefix "H" on packing code meet JESD 201 class 2 whisker test

Polarity: As marked

Mounting torque: 5 in-lbs maximum

Weight: 1.85 g (approximately)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | |
|---|--------------------|--------------|---------|---------|---------|--------------|---------|----------|----------|------|
| PARAMETER | SYMBOL | SRA 820 | SRA 830 | SRA 840 | SRA 850 | SRA 860 | SRA 890 | SRA 8100 | SRA 8150 | UNIT |
| Maximum repetitive peak reverse voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum RMS voltage | V _{RMS} | 14 | 21 | 28 | 35 | 42 | 63 | 70 | 105 | V |
| Maximum DC blocking voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum average forward rectified current | I _{F(AV)} | 8 | | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 150 | | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) @ 8A | V _F | 0.55 | | 0.70 | | 0.85 | | 0.95 | | V |
| Maximum reverse current @ Rated VR T _J =25 °C T _J =100 °C T _J =125 °C | I _R | 0.5 | | | | 0.1 | | | | mA |
| | | 15 | | 10 | | - | | | | |
| | | - | | | | 5 | | | | |
| Voltage rate of change (Rated V _R) | dV/dt | 10000 | | | | | | | | V/μs |
| Typical thermal resistance | R _{θJC} | 4 | | | | | | | | °C/W |
| Operating junction temperature range | T _J | - 55 to +125 | | | | - 55 to +150 | | | | °C |
| Storage temperature range | T _{STG} | - 55 to +150 | | | | | | | | °C |

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION | | | | | |
|----------------------|--------------------|--------------|---------------------|----------|-----------|
| PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
| SRA8xx (Note 1) | Prefix "H" | C0 | Suffix "G" | TO-220AC | 50 / Tube |

Note 1: "xx" defines voltage from 20V (SRA820) to 150V (SRA8150)

| EXAMPLE | | | | | |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| SRA860 C0 | SRA860 | | C0 | | |
| SRA860 C0G | SRA860 | | C0 | G | Green compound |
| SRA860HC0 | SRA860 | H | C0 | | AEC-Q101 qualified |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

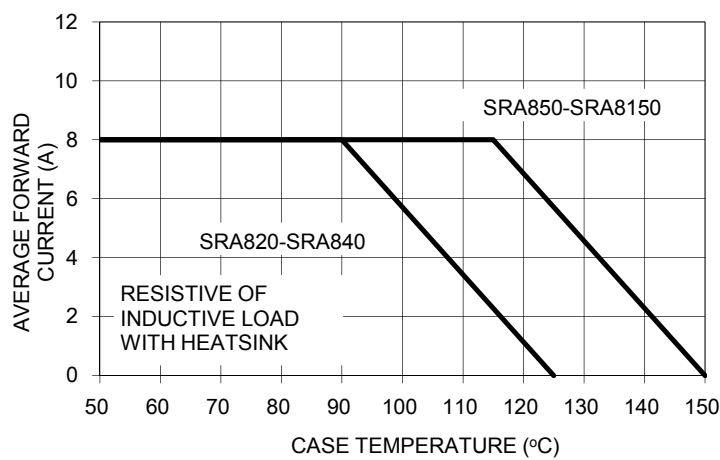


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

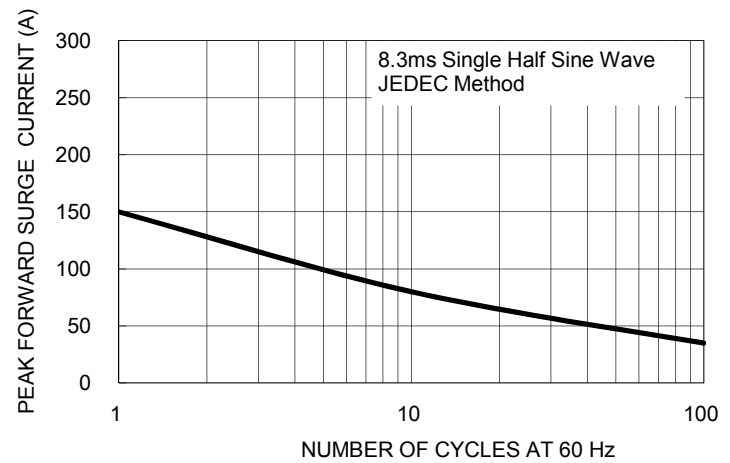


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

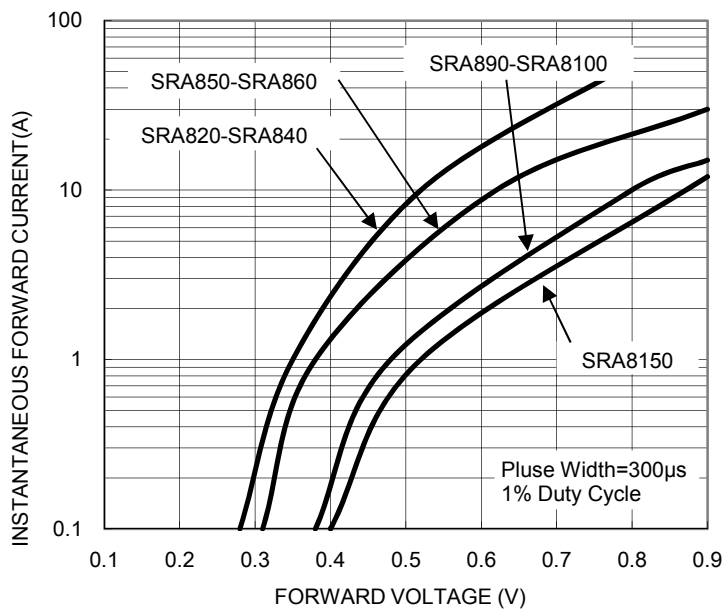


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

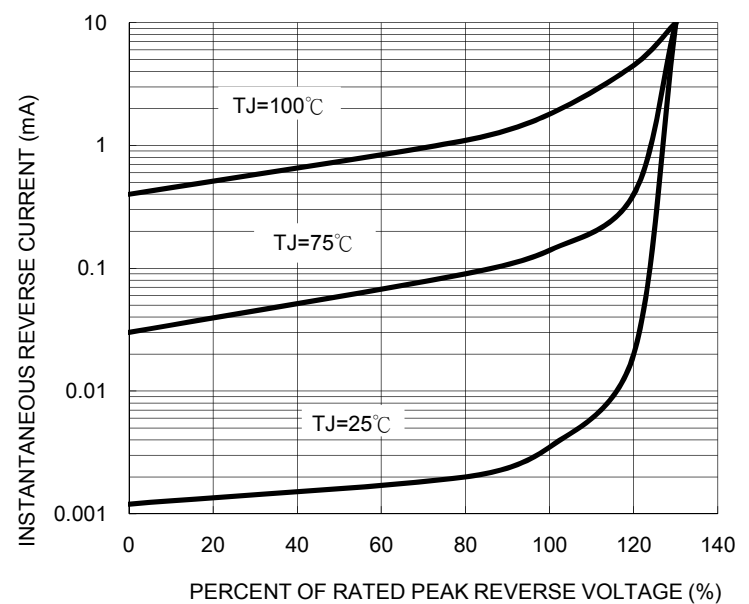


FIG. 5 TYPICAL JUNCTION CAPACITANCE

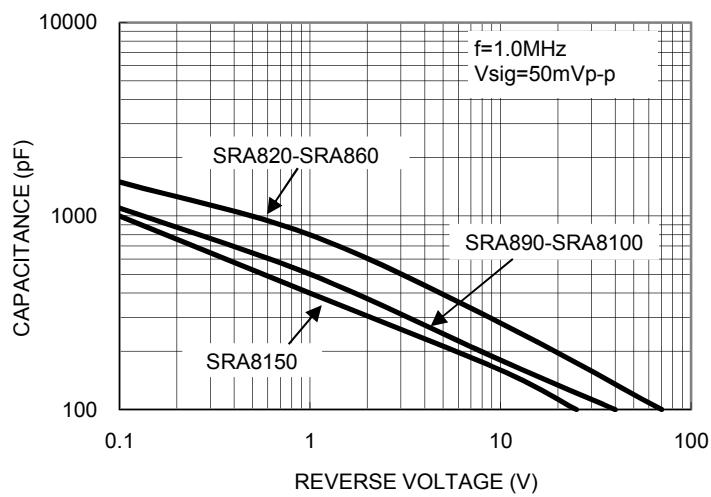
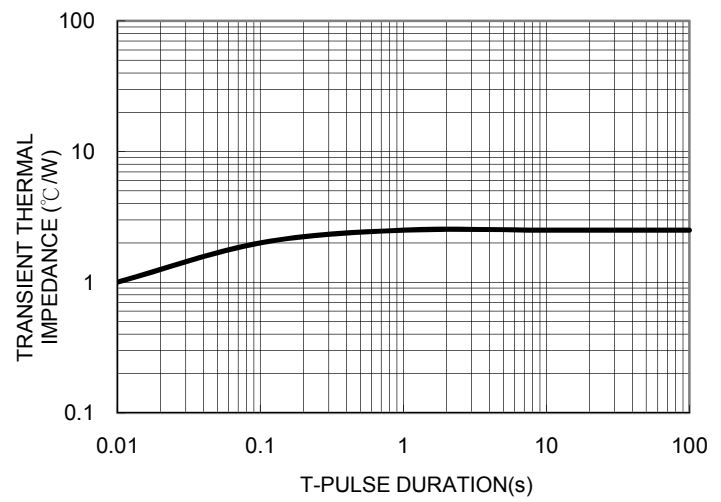
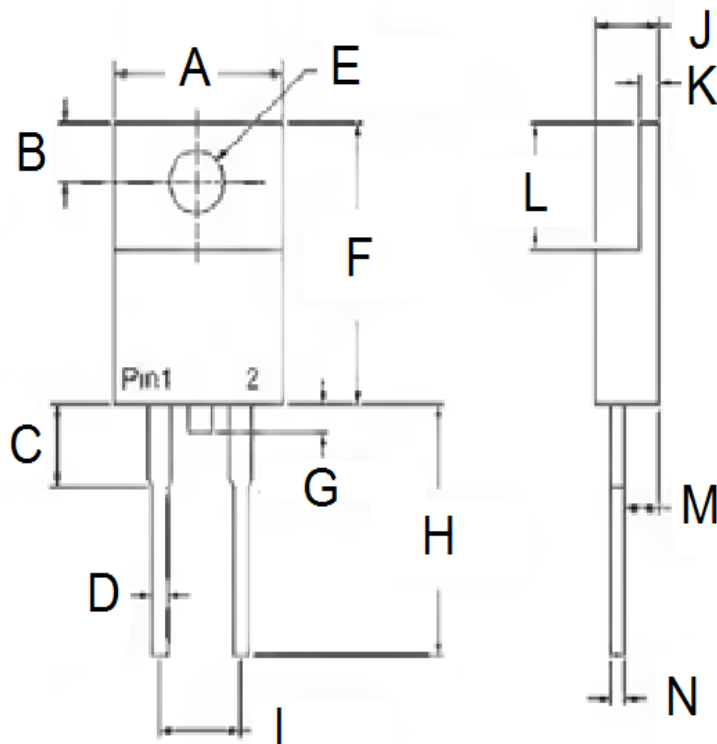


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

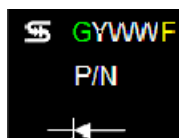


PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | - | 10.50 | - | 0.413 |
| B | 2.62 | 3.44 | 0.103 | 0.135 |
| C | 2.80 | 4.20 | 0.110 | 0.165 |
| D | 0.68 | 0.94 | 0.027 | 0.037 |
| E | 3.54 | 4.00 | 0.139 | 0.157 |
| F | 14.60 | 16.00 | 0.575 | 0.630 |
| G | 0.00 | 1.60 | 0.000 | 0.063 |
| H | 13.19 | 14.79 | 0.519 | 0.582 |
| I | 4.95 | 5.20 | 0.195 | 0.205 |
| J | 4.42 | 4.76 | 0.174 | 0.187 |
| K | 1.14 | 1.40 | 0.045 | 0.055 |
| L | 5.84 | 6.86 | 0.230 | 0.270 |
| M | 2.20 | 2.80 | 0.087 | 0.110 |
| N | 0.35 | 0.64 | 0.014 | 0.025 |

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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