

Surface Mount Schottky Barrier Rectifier

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guardring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- 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: DO-214AA (SMB)

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: Indicated by cathode band

Weight: 0.093 g (approximately)

DO-214AA (SMB)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | |
|---|--------------------|--------------|-----------|-----------|-----------|--------------|-----------|------------|------------|------|
| PARAMETER | SYMBOL | SK 12B | SK 13B | SK 14B | SK 15B | SK 16B | SK 19B | SK 110B | SK 115B | 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)} | 1 | | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 30 | | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) @ 1 A | V _F | 0.5 | | 0.75 | | 0.85 | | 0.95 | | V |
| Maximum reverse current @ rated V _R T _J =25 °C T _J =100 °C T _J =125 °C | I _R | 0.5 | | | | 0.1 | | | | mA |
| | | 10 | | 5 | | - | | | | |
| | | - | | - | | 2 | | | | |
| Voltage rate of change (Rated V _R) | dV/dt | 10000 | | | | | | | | V/μs |
| Typical thermal resistance | R _{θJL} | 25 | | | | | | | | °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: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION | | | | | |
|----------------------|--------------------|--------------|---------------------|---------|--------------------------|
| PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
| SK1xxB (Note 1) | Prefix "H" | R5 | Suffix "G" | SMB | 850 / 7" Plastic reel |
| | | R4 | | SMB | 3,000 / 13" Paper reel |
| | | M4 | | SMB | 3,000 / 13" Plastic reel |

Note 1: "xx" defines voltage from 20V (SK12B) to 200V (SK150B)

| EXAMPLE | | | | | |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| SK16B R5 | SK16B | | R5 | | |
| SK16B R5G | SK16B | | R5 | G | Green compound |
| SK16BHR5 | SK16B | H | R5 | | AEC-Q101 qualified |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE



FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

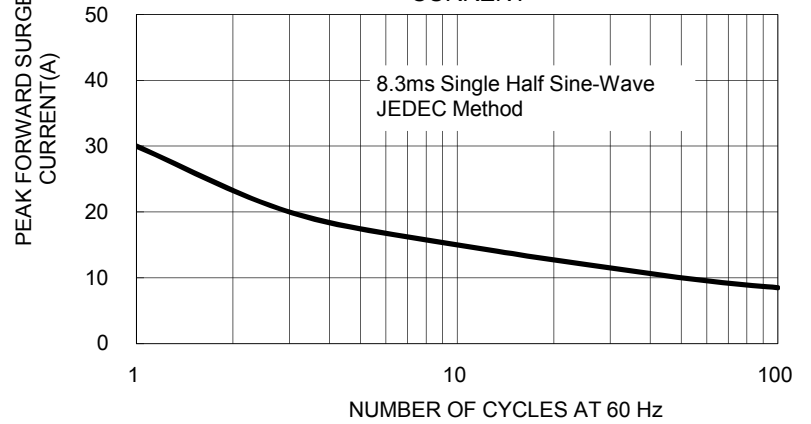


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

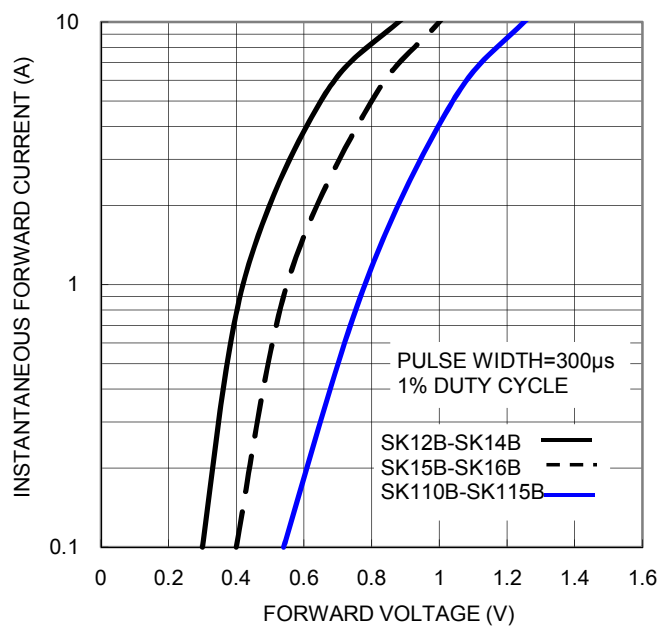


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

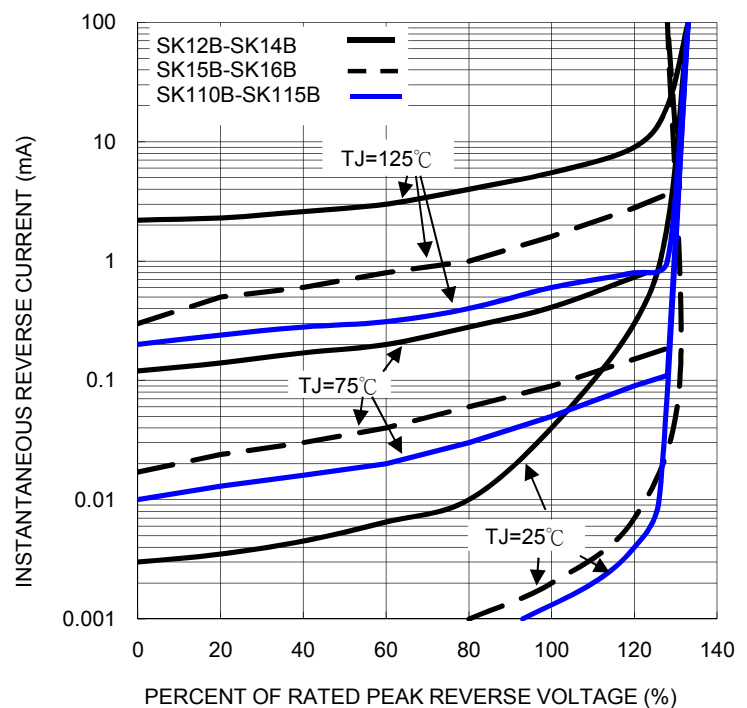


FIG. 5 TYPICAL JUNCTION CAPACITANCE

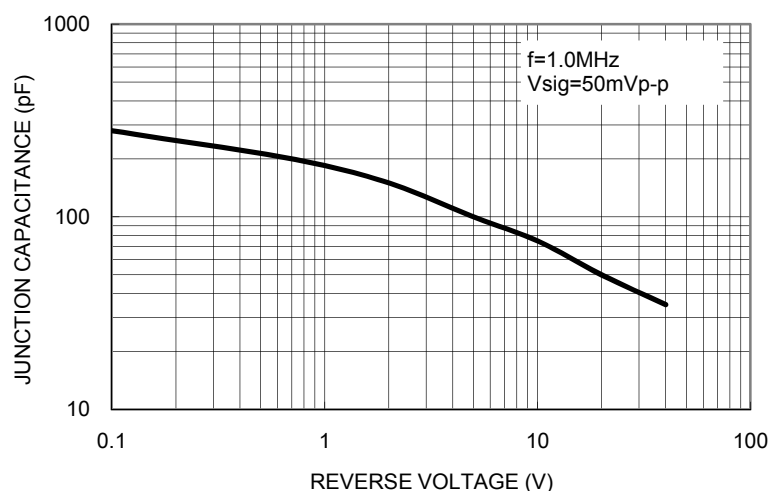
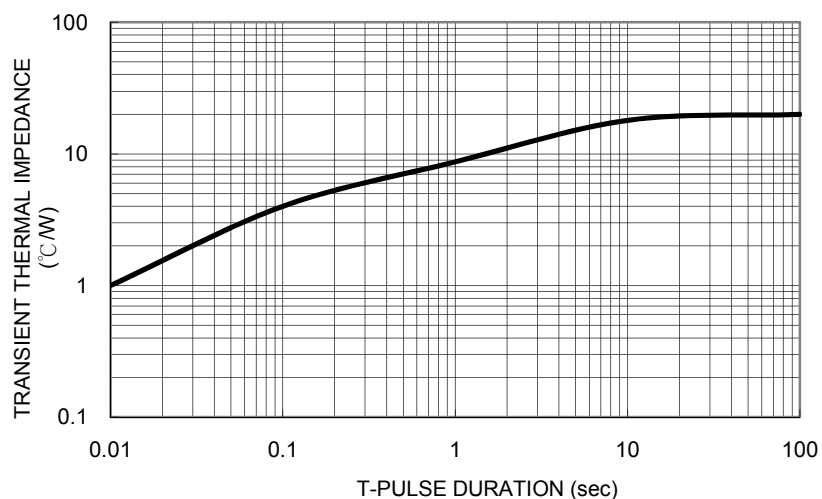
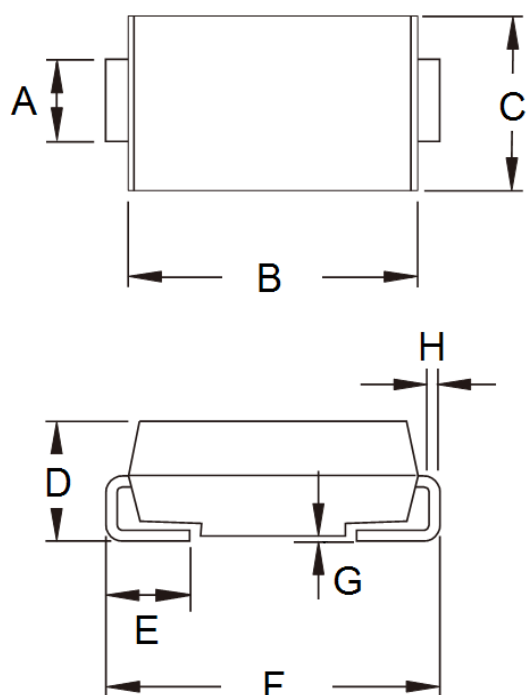


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS

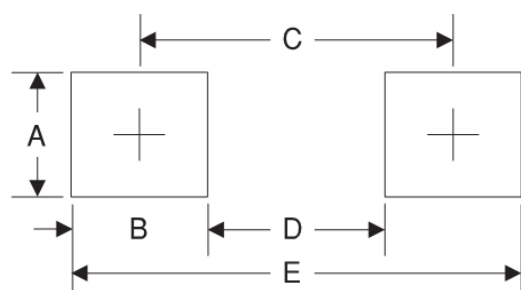


PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.95 | 2.10 | 0.077 | 0.083 |
| B | 4.25 | 4.75 | 0.167 | 0.187 |
| C | 3.48 | 3.73 | 0.137 | 0.147 |
| D | 1.99 | 2.61 | 0.078 | 0.103 |
| E | 0.90 | 1.41 | 0.035 | 0.056 |
| F | 5.10 | 5.30 | 0.201 | 0.209 |
| G | 0.10 | 0.20 | 0.004 | 0.008 |
| H | 0.15 | 0.31 | 0.006 | 0.012 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 2.3 | 0.091 |
| B | 2.5 | 0.098 |
| C | 4.3 | 0.169 |
| D | 1.8 | 0.071 |
| E | 6.8 | 0.268 |

MARKING DIAGRAM



- P/N = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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