

2A, 20V - 150V Surface Mount Schottky Barrier Rectifiers

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage 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



MECHANICAL DATA

Case: DO-214AC (SMA)

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part No. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

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

Meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.07 g (approximately)

DO-214AC (SMA)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | | |
|---|--------------------|-----------------------|--------|--------|--------|--------|--------------|---------|---------|------|----|
| PARAMETER | SYMBOL | SK 22A | SK 23A | SK 24A | SK 25A | SK 26A | SK 29A | SK 210A | SK 215A | 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)} | 2 | | | | | | | | A | |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 50 | | | | | | | | A | |
| Maximum instantaneous forward voltage (Note 1) @ 2 A | V _F | 0.50 | | | 0.70 | | 0.85 | | 0.95 | V | |
| Maximum reverse current @ rated V _R | I _R | T _J =25°C | | | | | 0.5 | | | | mA |
| | | T _J =100°C | | | | | 10 | | | | |
| | | T _J =125°C | | | | | 5 | | | | |
| Voltage Rate of Change (Rated V _R) | dV/dt | - | | | | | | | | 2.0 | |
| Non-repetitive peak reverse avalanche energy L=40mH max prior to surge, Inductive load switched off | E _{RSM} | 10000 | | | | | | | | V/μs | |
| Typical thermal resistance | R _{θJA} | 20 | | | | | | | | mJ | |
| 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. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE | PACKING |
| SK2xxA (Note 1) | H | R3 | G | SMA | 1,800 / 7" Plastic reel |
| | | R2 | | SMA | 7,500 / 13" Paper reel |
| | | M2 | | SMA | 7,500 / 13" Plastic reel |
| | | F3 | | Folded SMA | 1,800 / 7" Plastic reel |
| | | F2 | | Folded SMA | 7,500 / 13" Paper reel |
| | | F4 | | Folded SMA | 7,500 / 13" Plastic reel |
| | | E3 | | Clip SMA | 1,800 / 7" Plastic reel |
| | | E2 | | Clip SMA | 7,500 / 13" Plastic reel |

Note 1: "xx" defines voltage from 20V (SK22A) to 150V (SK215A)

*: Optional available

| EXAMPLE | | | | | |
|------------------|----------|-----------------|--------------|---------------------|-----------------------------------|
| EXAMPLE PART NO. | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| SK26AHR3G | SK26A | H | R3 | G | AEC-Q101 qualified Green compound |

RATINGS AND CHARACTERISTICS CURVES (T_A=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
DO-214AC (SMA)



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.27 | 1.58 | 0.050 | 0.062 |
| B | 4.06 | 4.60 | 0.160 | 0.181 |
| C | 2.29 | 2.83 | 0.090 | 0.111 |
| D | 1.99 | 2.50 | 0.078 | 0.098 |
| E | 0.90 | 1.41 | 0.035 | 0.056 |
| F | 4.95 | 5.33 | 0.195 | 0.210 |
| 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 | 1.68 | 0.066 |
| B | 1.52 | 0.060 |
| C | 3.93 | 0.155 |
| D | 2.41 | 0.095 |
| E | 5.45 | 0.215 |

MARKING DIAGRAM



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

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