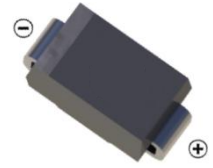
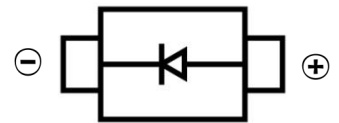


SCHOTTKY BARRIER DIODE
FEATURES

- Small Surface Mount device
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications


SMB
MECHANICAL DATA

- Case: SMB(DO-214AA)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.088 grams (approximate)


MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

| Parameter | Symbol | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B | Unit |
|--|------------------|-----------|-------|-------|-------|-----------|-------|--------|--------|--------|------|
| Repetitive peak reverse | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| DC Reverse Voltage | V _R | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| RMS Reverse Voltage | V _{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | V |
| Non-Repetitive Peak Forward Surge Current @ t = 8.3 ms | I _{FSM} | 150 | | | | | | | | | A |
| Mean rectifying current | I _F | 5.0 | | | | | | | | | A |
| Thermal Resistance | R _{θJA} | 60 | | | | | | | | | °C/W |
| Thermal Resistance | R _{θJL} | 20 | | | | | | | | | °C/W |
| Junction Temperature | T _J | -55 ~+125 | | | | -55 ~+150 | | | | | °C |
| Storage Temperature | T _{STG} | -55 ~+150 | | | | | | | | | °C |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

| Parameter | Symbol | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B | Unit | Conditions |
|---------------------------------------|----------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------------|--------------------|
| Forward voltage | V _F | 0.55 | | | 0.70 | | 0.85 | | 0.95 | | V | I _F =5A |
| Reverse current T _A =25°C | I _R | 0.5 | | | | 0.2 | | | | | mA | V=V _R |
| Reverse current T _A =100°C | I _R | 20 | | | 10 | | | | | mA | | |
| Junction capacitance | C _J | 500 | | | 350 | | | | | pF | V=4V, f=1MHz | |

Notes: Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.27" x 0.27" (7.0 mm x 7.0 mm)copper pad areas

SCHOTTKY BARRIER DIODE

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

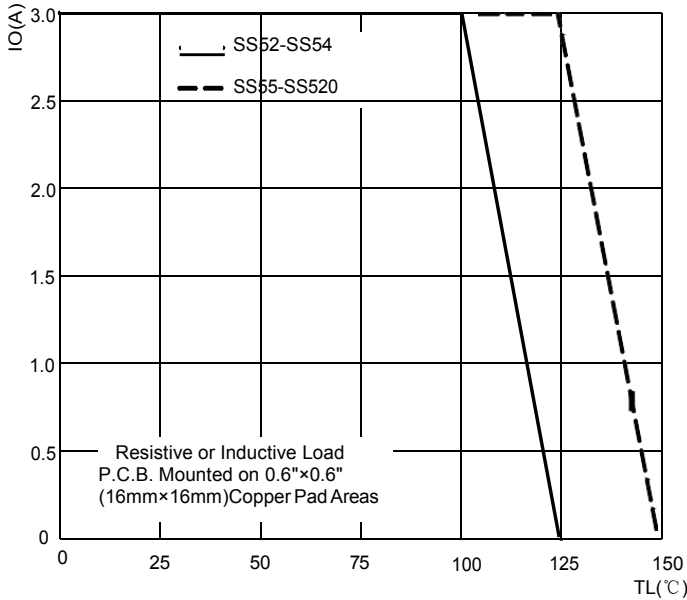


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

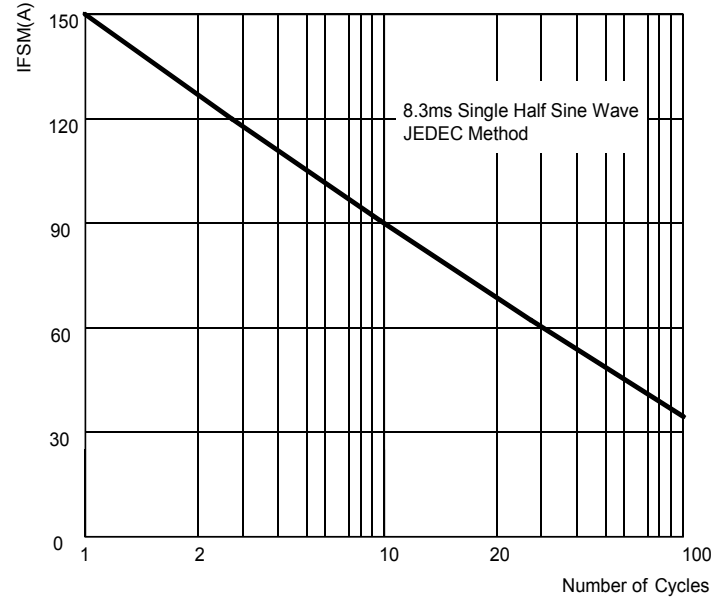


FIG.3: TYPICAL FORWARD CHARACTERISTICS

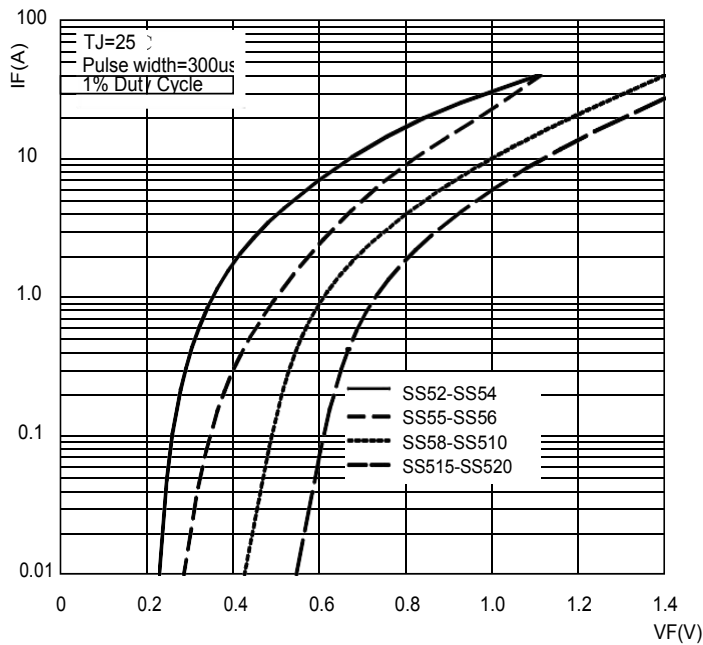
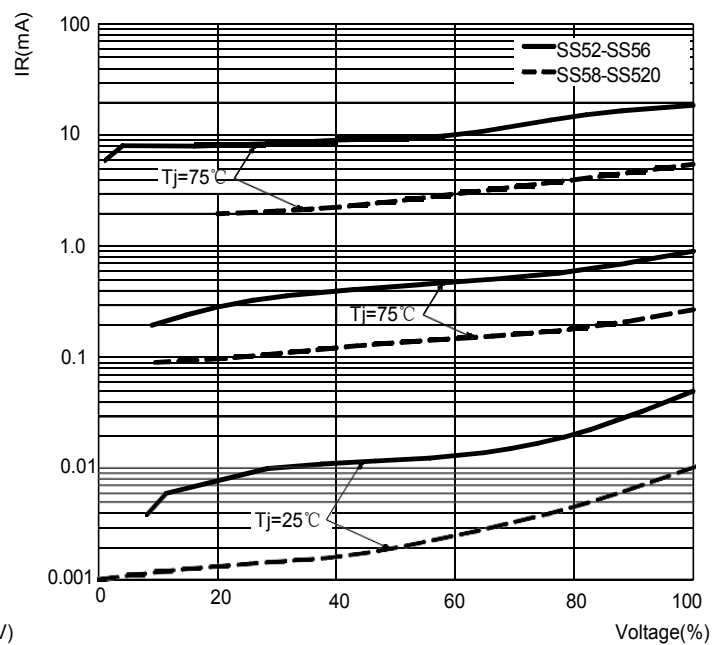
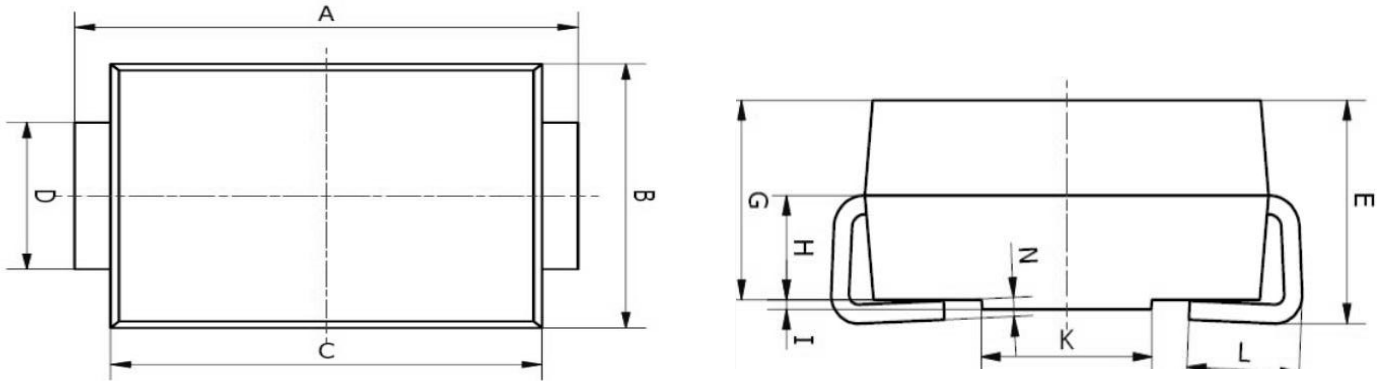


FIG.4: TYPICAL REVERSE CHARACTERISTICS



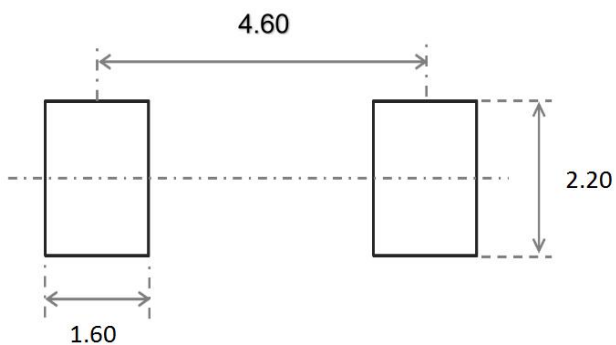
SCHOTTKY BARRIER DIODE

SMB Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 5.00 | 5.45 | 0.197 | 0.215 |
| B | 3.20 | 4.00 | 0.126 | 0.157 |
| C | 4.30 | 4.70 | 0.169 | 0.185 |
| D | 1.80 | 2.20 | 0.071 | 0.087 |
| E | 2.20 | 2.50 | 0.087 | 0.098 |
| G | 1.90 | 2.30 | 0.075 | 0.090 |
| H | 0.95 | 1.25 | 0.037 | 0.049 |
| I | 0.05 | 0.15 | 0.002 | 0.006 |
| K | 1.70 | 2.10 | 0.067 | 0.083 |
| L | 0.90 | 1.60 | 0.035 | 0.063 |
| N | 0.10 | 0.30 | 0.004 | 0.012 |

SMB Suggested Pad Layout



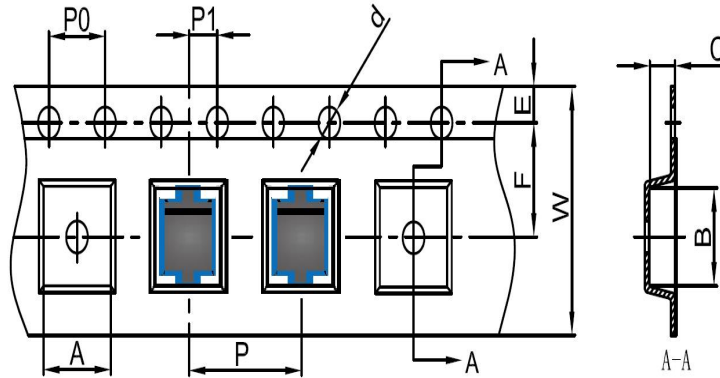
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SCHOTTKY BARRIER DIODE

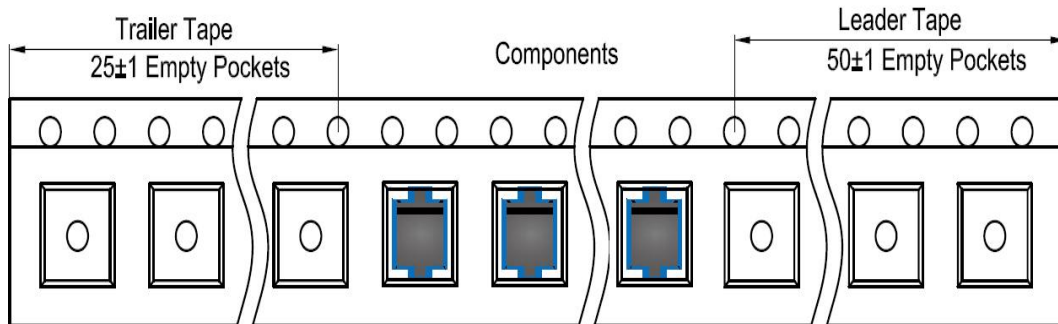
SMB Tape and Reel

SMB Embossed Carrier Tape

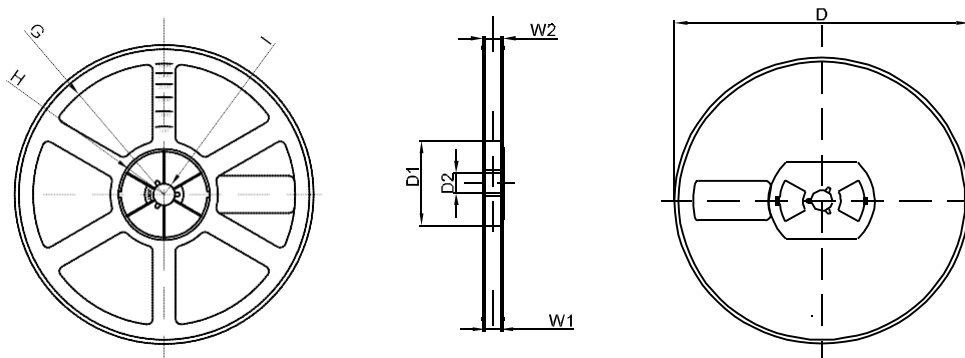


| DIMENSIONS ARE IN MILLIMETER | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| TYPE | A | B | C | d | E | F | P0 | P | P1 | W |
| SMB | 4.10 | 5.50 | 2.58 | Ø1.50 | 1.75 | 5.50 | 4.00 | 8.00 | 2.00 | 12.00 |
| TOLERANCE | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

SMB Tape Leader and Trailer



SMB Reel



| DIMENSIONS ARE IN MILLIMETER | | | | | | | | |
|------------------------------|------|------|-------|------|--------|-------|-------|-------|
| REEL OPTION | D | D1 | D2 | G | H | I | W1 | W2 |
| 13" DIA | Ø330 | 75.0 | 13.00 | R165 | R37.50 | R6.50 | 12.40 | 17.60 |
| TOLERANCE | ±2 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 |

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