

■ FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

■ TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

■ MECHANICAL DATA

- **Package:** DO-214AA (SMB)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■ MAXIMUM RATINGS (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B |
|---|------------------|------|-----------|-------|-------|-------|-----------|-------|--------|--------|--------|
| Device marking code | | | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B |
| Repetitive peak reverse voltage | V _{RRM} | V | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 |
| Average rectified output current @60Hz sine wave, resistance load, TL (FIG.1) | I _o | A | 5.0 | | | | | | | | |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _a =25°C | I _{FSM} | A | 100 | | | | | | | | |
| Storage temperature | T _{stg} | °C | -55 ~+150 | | | | | | | | |
| Junction temperature | T _j | °C | -55~+125 | | | | -55 ~+150 | | | | |

■ ELECTRICAL CHARACTERISTICS (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B |
|---|------------------|------|-----------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =5.0A | 0.60 | | | 0.70 | | 0.85 | | 0.90 | |
| Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM} | I _{RRM} | mA | T _a =25°C | 0.5 | | | | 0.1 | | | | |
| | | | T _a =100°C | 10 | | | | 5 | | | | |

■ THERMAL CHARACTERISTICS (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | SS52B | SS53B | SS54B | SS55B | SS56B | SS58B | SS510B | SS515B | SS520B |
|--------------------|-------------------|------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|
| Thermal resistance | R _{θJ-A} | °C/W | 58 ¹⁾ | | | | | | | | |
| | R _{θJ-L} | | 20 ¹⁾ | | | | | | | | |

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

■ **PACKAGING INFORMATION**

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| SS52B-SS520B | F1 | Approximate 0.096 | 3000 | 6000 | 48000 | 13" reel |
| SS52B-SS520B | F2 | Approximate 0.096 | 750 | 3000 | 24000 | 7" reel |
| SS52B-SS520B | F3 | Approximate 0.096 | 500 | 2000 | 16000 | 7" reel |

■ **CHARACTERISTICS (TYPICAL)**

FIG1: Io-TL Curve

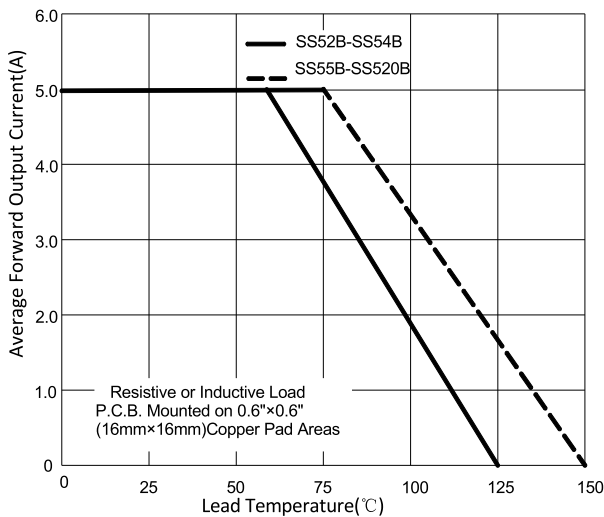


FIG2: Surge Forward Current Capability

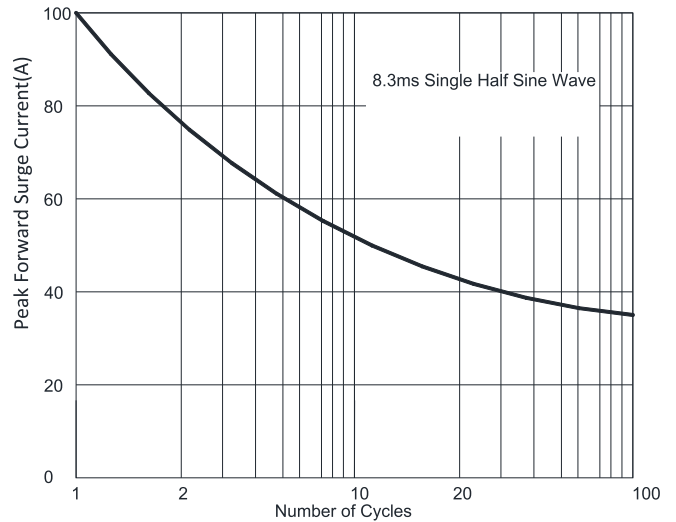


FIG3: Forward Voltage

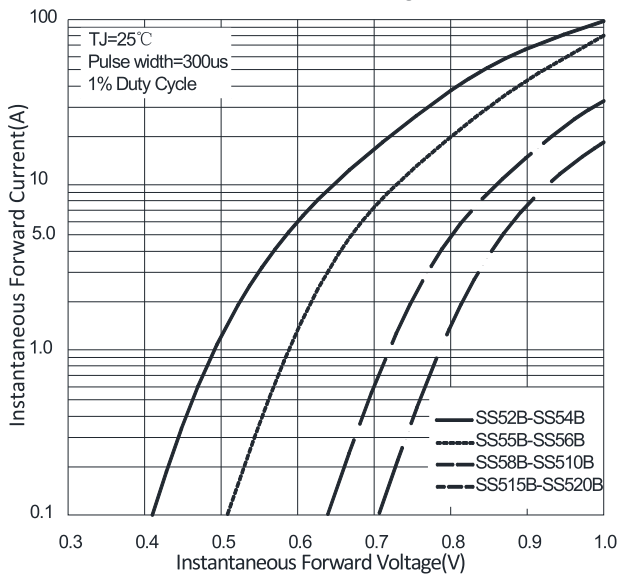
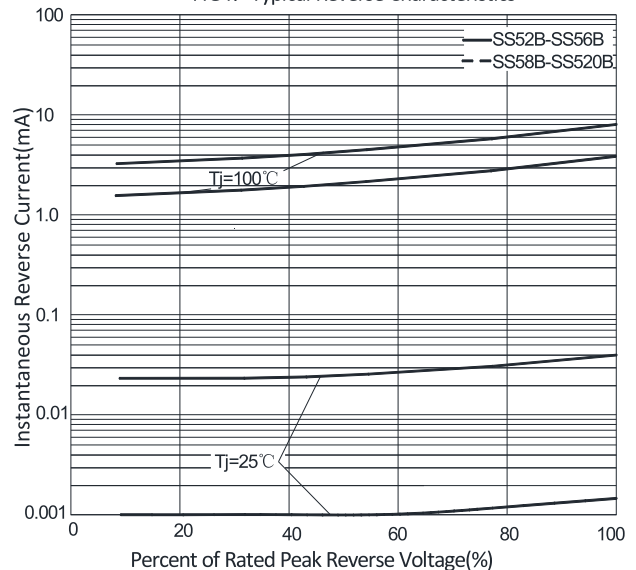
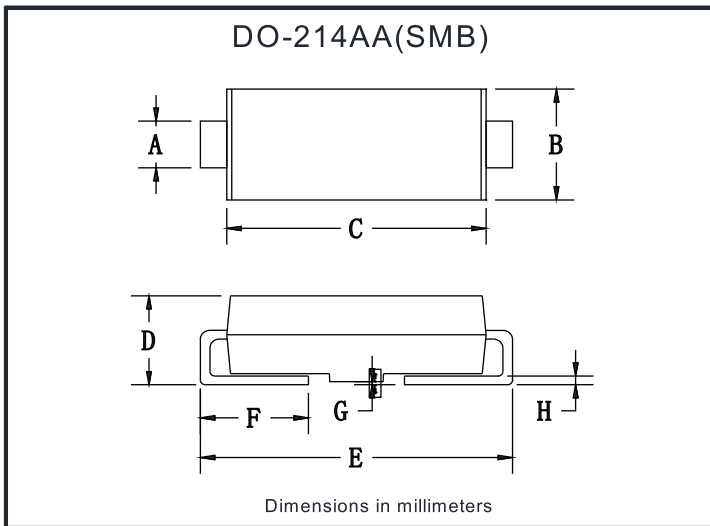


FIG4: Typical Reverse Characteristics

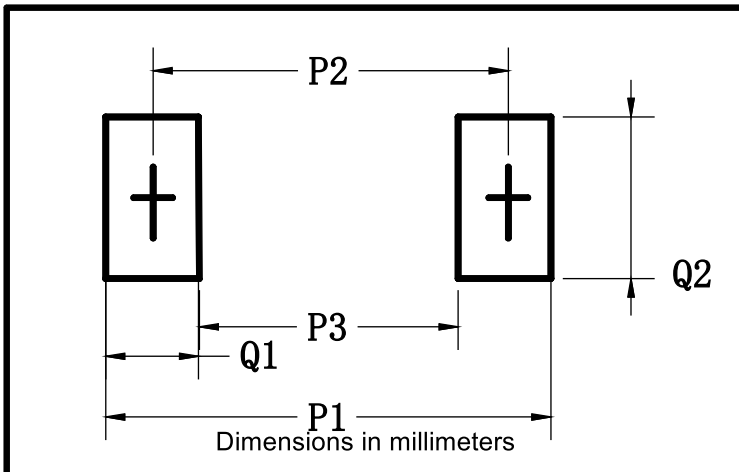


■ **OUTLINE DIMENSIONS**



| DO-214AA(SMB) | | |
|---------------|------|------|
| Dim | Min | Max |
| A | 1.85 | 2.15 |
| B | 3.30 | 3.94 |
| C | 4.05 | 4.75 |
| D | 1.99 | 2.61 |
| E | 5.21 | 5.59 |
| F | 0.90 | 1.41 |
| G | 0.10 | 0.20 |
| H | 0.15 | 0.31 |

■ **SUGGESTED PAD LAYOUT**



| DO-214AA(SMB) | |
|---------------|-------------|
| Dim | Millimeters |
| P1 | 6.8 |
| P2 | 4.3 |
| P3 | 1.8 |
| Q1 | 2.5 |
| Q2 | 2.3 |