



THE DATASHEET OF CDBB540-G



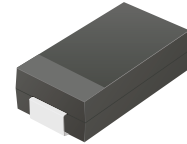
CDBB540-HF Thru. CDBB5100-HF

Reverse Voltage: 40 to 100 Volts

Forward Current: 5.0 Amp

RoHS Device

Halogen Free

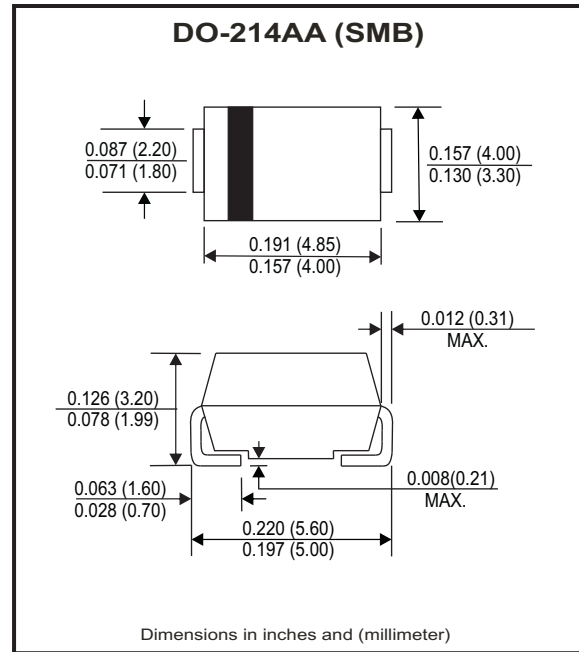


Features

- Low Profile surface mount applications in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guard ring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

Mechanical data

- Epoxy: UL94-V0 rate flame retardant.
- Case: Molded plastic, DO-214AA / SMB
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.091 grams



Maximum Ratings and Electrical Characteristics

Ratings at $T_a=25^{\circ}\text{C}$ unless otherwise noted.
Single phase, half wave, 60Hz, resistive or inductive loaded.
For capacitive load, derate current by 20% .

| Parameter | Symbol | CDBB 540-HF | CDBB 560-HF | CDBB 5100-HF | Units |
|--|-----------|-------------|-------------|--------------|--------------------|
| Max. Repetitive peak reverse voltage | V_{RRM} | 40 | 60 | 100 | V |
| Max. DC blocking voltage | V_{DC} | 40 | 60 | 100 | V |
| Max. RMS voltage | V_{RMS} | 28 | 42 | 70 | V |
| Max. instantaneous forward voltage @5.0A, $T_A=25^{\circ}\text{C}$ | V_F | 0.55 | 0.75 | 0.81 | V |
| Operating Temperature | T_J | -50 to +150 | | | $^{\circ}\text{C}$ |

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | Units |
|----------------------------|--|-----------------|------|------|------|-----------------------------|
| Forward rectified current | see Fig. 1 | I_o | | | 5.0 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 125 | A |
| Reverse Current | $V_R = V_{RRM}$ $T_A=25^{\circ}\text{C}$ | I_R | | | 0.5 | mA |
| | $V_R = V_{RRM}$ $T_A=100^{\circ}\text{C}$ | I_R | | | 20 | mA |
| Thermal Resistance | Junction to ambient | $R_{\theta JA}$ | | 24 | | $^{\circ}\text{C}/\text{W}$ |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage | C_J | | 380 | | pF |
| Storage temperature | | T_{STG} | -50 | | +175 | $^{\circ}\text{C}$ |

Company reserves the right to improve product design , functions and reliability without notice.

REV:D

RATING AND CHARACTERISTIC CURVES (CDBB540-HF Thru. CDBB5100-HF)

Fig.1 - Typical Forward Current Derating Curve

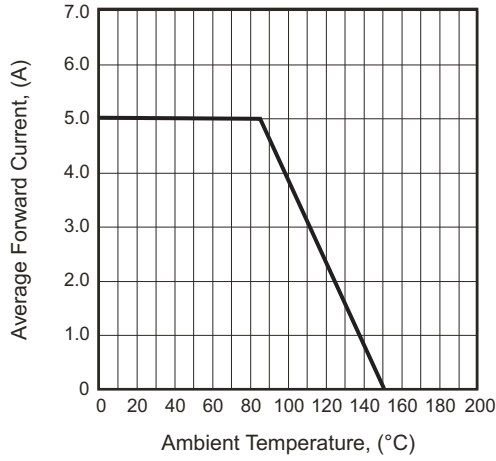


Fig.2 - Typical Forward Characteristics

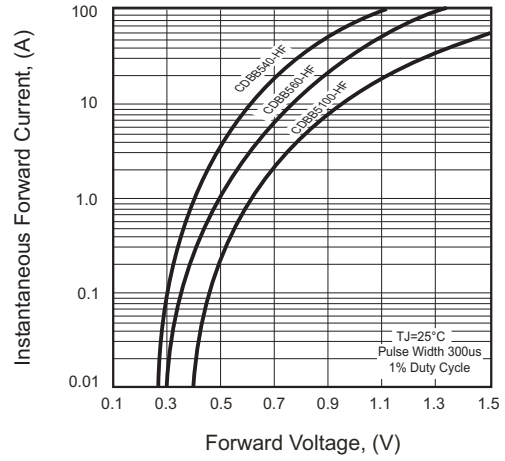


Fig.3 - Maximum Non-repetitive Forward Surge Current

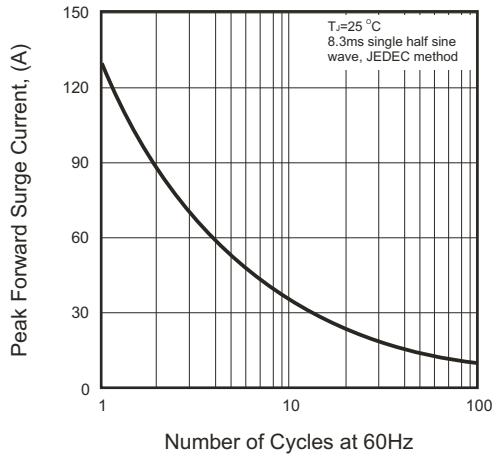


Fig.4 - Typical Junction Capacitance

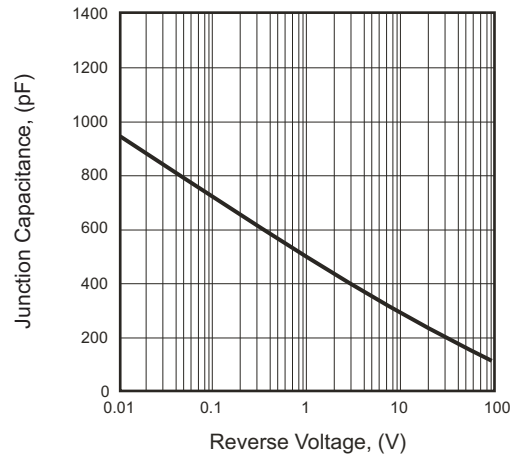
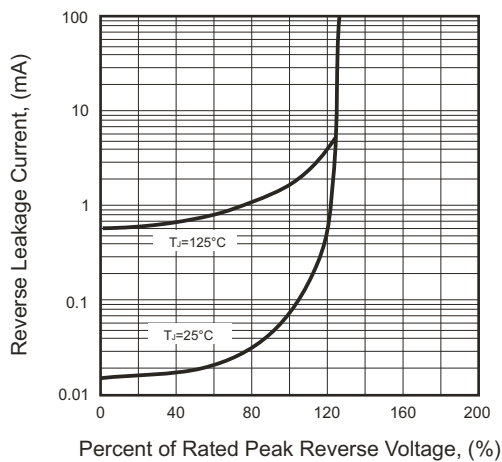
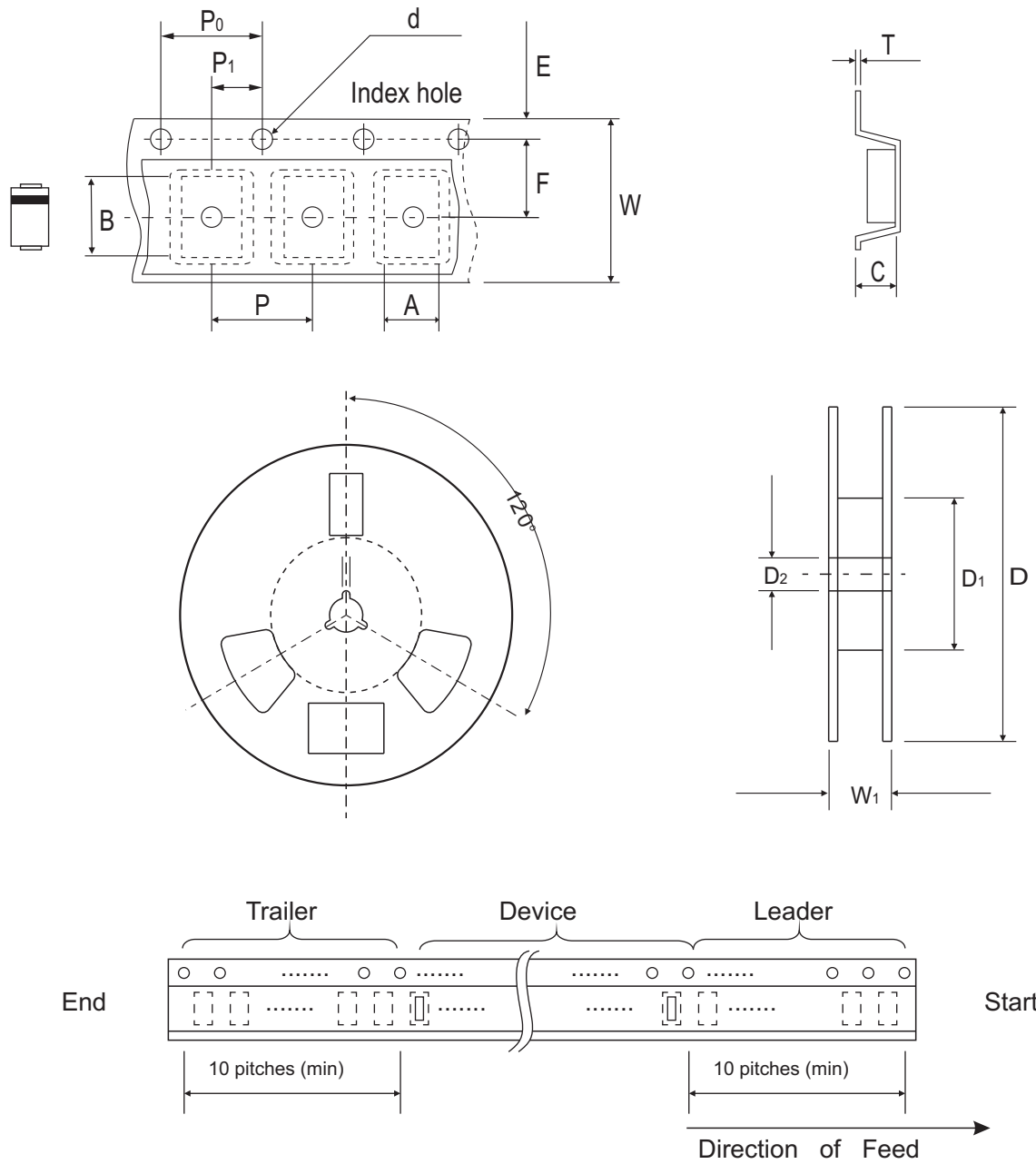


Fig.5 - Typical Reverse Characteristics



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Reel Taping Specification



| DO-214AA (SMB) | SYMBOL | A | B | C | d | D | D1 | D2 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
| | (mm) | 4.00 ± 0.10 | 5.90 ± 0.10 | 3.00 ± 0.10 | 1.50 ± 0.10 | 330 ± 2.00 | 50.0 MIN. | 13.50 ± 0.50 |
| | (inch) | 0.157 ± 0.004 | 0.232 ± 0.004 | 0.118 ± 0.004 | 0.059 ± 0.004 | 12.99 ± 0.079 | 1.969 MIN. | 0.531 ± 0.020 |

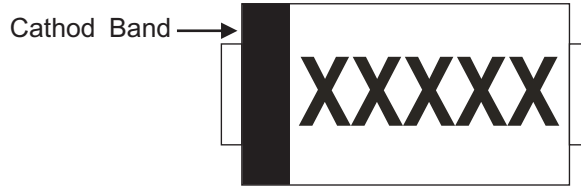
| DO-214AA (SMB) | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.10 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.60 ± 0.10 | 12.0 ± 0.30 | 18.4 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.004 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.236 ± 0.004 | 0.472 ± 0.012 | 0.724 ± 0.040 |

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Marking Code

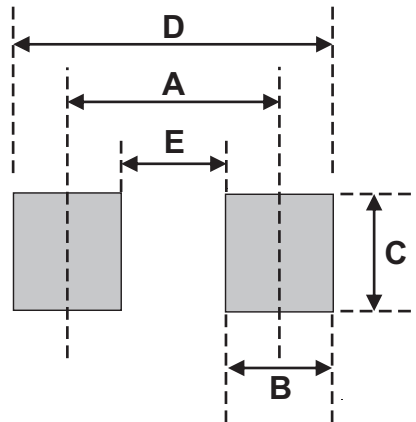
| Part Number | Marking Code |
|-------------|--------------|
| CDBB540-HF | SS54 |
| CDBB560-HF | SS56 |
| CDBB5100-HF | SS510 |



XXXX / XXXXX = Product type marking code

Suggested PAD Layout

| SIZE | DO-214AA (SMB) | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 4.30 | 0.169 |
| B | 2.50 | 0.098 |
| C | 2.30 | 0.091 |
| D | 6.80 | 0.268 |
| E | 1.80 | 0.071 |



Standard Packaging

| Case Type | REEL PACK | |
|----------------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| DO-214AA (SMB) | 3,000 | 13 |

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