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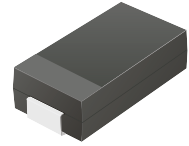


CZRB3005-G Thru CZRB3200-G

Voltage: 6.2 to 200 Volts

Power: 3 Watts

RoHS Device

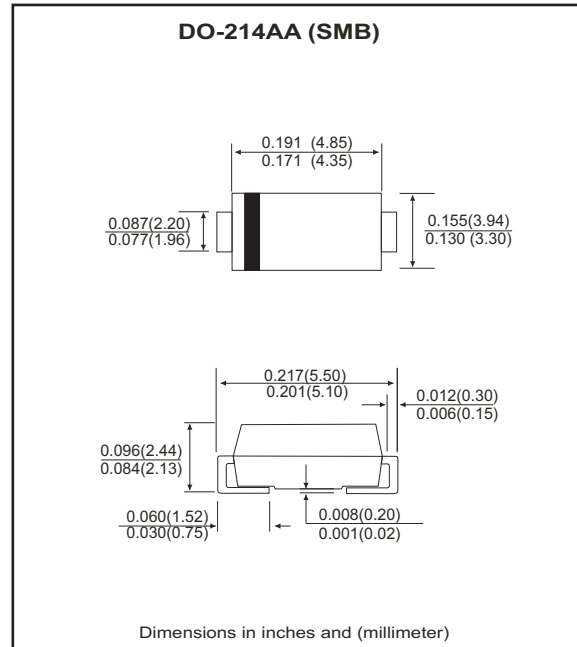


Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating.

Mechanical data

- Epoxy: UL 94V-0 rate flame retardant
- Case: DO-214AA(SMB),Molded plastic,
- Lead: Solderable per MIL-STD-750, method 2026 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting position: Any
- Weight: 0.1 grams



Ratings AND Electrical Characteristics

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------------------|
| Forward Voltage Drop at $I_F = 200 \text{ mA}$ | V_F | 1.5 | V |
| DC Power Dissipation at $T_L = 50^\circ\text{C}$ (Note 1) | P_D | 3 | W |
| Junction temperature range | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |

(1) T_L = Lead temperature at 3/8" (9.5mm) from body.

Electrical Characteristics(Ta = 25°C)

| Part Number | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current | Marking Code |
|-------------|-----------------------|-------|-------------------------|-----------|------|---------------------------------|------|--------------------------|--------------|
| | VZ @ IZT | IZT | ZZT @ IZT | ZZK @ IZK | IZK | IR @ VR | | IZM | |
| | (V) | (mA) | (Ohm) | (Ohm) | (mA) | (uA) | (V) | (mA) | |
| CZRB3005-G | 6.2 | 121.0 | 1.5 | 700 | 1.0 | 50.0 | 3.0 | 435 | 3A0 |
| CZRB3006-G | 6.8 | 110.0 | 2.0 | 700 | 1.0 | 50.0 | 4.0 | 393 | 3A1 |
| CZRB3007-G | 7.5 | 100.0 | 2.0 | 700 | 0.5 | 50.0 | 5.0 | 360 | 3A2 |
| CZRB3008-G | 8.2 | 91.0 | 2.3 | 700 | 0.5 | 50.0 | 6.0 | 330 | 3A3 |
| CZRB3009-G | 9.1 | 82.0 | 2.4 | 700 | 0.5 | 50.0 | 7.0 | 297 | 3A4 |
| CZRB3010-G | 10.0 | 75.0 | 3.5 | 700 | 0.25 | 50.0 | 7.6 | 270 | 3A5 |
| CZRB3011-G | 11.0 | 68.0 | 4.0 | 700 | 0.25 | 50.0 | 8.4 | 225 | 3A6 |
| CZRB3012-G | 12.0 | 63.0 | 4.5 | 700 | 0.25 | 1.0 | 9.1 | 246 | 3A7 |
| CZRB3013-G | 13.0 | 58.0 | 4.5 | 700 | 0.25 | 0.5 | 9.9 | 208 | 3A8 |
| CZRB3014-G | 14.0 | 53.0 | 5.0 | 700 | 0.25 | 0.5 | 10.6 | 193 | 3A9 |
| CZRB3015-G | 15.0 | 50.0 | 5.5 | 700 | 0.25 | 0.5 | 11.4 | 180 | 3B0 |
| CZRB3016-G | 16.0 | 47.0 | 5.5 | 700 | 0.25 | 0.5 | 12.2 | 169 | 3B1 |
| CZRB3017-G | 17.0 | 44.0 | 6.0 | 750 | 0.25 | 0.5 | 13.0 | 159 | 3B2 |
| CZRB3018-G | 18.0 | 42.0 | 6.0 | 750 | 0.25 | 0.5 | 13.7 | 150 | 3B3 |
| CZRB3019-G | 19.0 | 40.0 | 7.0 | 750 | 0.25 | 0.5 | 14.4 | 142 | 3B4 |
| CZRB3020-G | 20.0 | 37.0 | 7.0 | 750 | 0.25 | 0.5 | 15.2 | 135 | 3B5 |
| CZRB3022-G | 22.0 | 34.0 | 8.0 | 750 | 0.25 | 0.5 | 16.7 | 123 | 3B6 |
| CZRB3024-G | 24.0 | 31.0 | 9.0 | 750 | 0.25 | 0.5 | 18.2 | 112 | 3B7 |
| CZRB3027-G | 27.0 | 28.0 | 10.0 | 750 | 0.25 | 0.5 | 20.6 | 100 | 3B8 |
| CZRB3028-G | 28.0 | 27.0 | 12.0 | 750 | 0.25 | 0.5 | 21.0 | 96 | 3B9 |
| CZRB3030-G | 30.0 | 25.0 | 16.0 | 1000 | 0.25 | 0.5 | 22.5 | 90 | 3C0 |
| CZRB3033-G | 33.0 | 23.0 | 20.0 | 1000 | 0.25 | 0.5 | 25.1 | 82 | 3C1 |
| CZRB3036-G | 36.0 | 21.0 | 22.0 | 1000 | 0.25 | 0.5 | 27.4 | 75 | 3C2 |
| CZRB3039-G | 39.0 | 19.0 | 28.0 | 1000 | 0.25 | 0.5 | 29.7 | 69 | 3C3 |
| CZRB3043-G | 43.0 | 17.0 | 33.0 | 1500 | 0.25 | 0.5 | 32.7 | 63 | 3C4 |
| CZRB3047-G | 47.0 | 16.0 | 38.0 | 1500 | 0.25 | 0.5 | 35.6 | 57 | 3C5 |
| CZRB3051-G | 51.0 | 15.0 | 45.0 | 1500 | 0.25 | 0.5 | 38.8 | 53 | 3C6 |
| CZRB3056-G | 56.0 | 13.0 | 50.0 | 2000 | 0.25 | 0.5 | 42.6 | 48 | 3C7 |
| CZRB3062-G | 62.0 | 12.0 | 55.0 | 2000 | 0.25 | 0.5 | 47.1 | 44 | 3C8 |
| CZRB3068-G | 68.0 | 11.0 | 70.0 | 2000 | 0.25 | 0.5 | 51.7 | 40 | 3C9 |
| CZRB3075-G | 75.0 | 10.0 | 85.0 | 2000 | 0.25 | 0.5 | 56.0 | 36 | 3F0 |
| CZRB3082-G | 82.0 | 9.1 | 95.0 | 3000 | 0.25 | 0.5 | 62.2 | 33 | 3F1 |
| CZRB3091-G | 91.0 | 8.2 | 115.0 | 3000 | 0.25 | 0.5 | 69.2 | 30 | 3F2 |
| CZRB3100-G | 100.0 | 7.5 | 160.0 | 3000 | 0.25 | 0.5 | 76.0 | 27 | 3F3 |

Notes:

- (1) The type number listed have a standard tolerance on th nominal zener voltage of $\pm 5\%$.
- (2) The reverse surge current is a non-repetitive,8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method.

Electrical Characteristics(Ta = 25°C)

| Part Number | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current | Marking Code |
|-------------|-----------------------|------|-------------------------|-----------|------|---------------------------------|-------|--------------------------|--------------|
| | VZ @ IZT | IZT | ZZT @ IZT | ZZK @ IZK | IZK | IR @ VR | | IZM | |
| | (V) | (mA) | (Ohm) | (Ohm) | (mA) | (uA) | (V) | (mA) | |
| CZRB3110-G | 110.0 | 6.8 | 225.0 | 4000 | 0.25 | 0.5 | 83.6 | 25 | 3F4 |
| CZRB3120-G | 120.0 | 6.3 | 300.0 | 4500 | 0.25 | 0.5 | 91.2 | 22 | 3F5 |
| CZRB3130-G | 130.0 | 5.8 | 375.0 | 5000 | 0.25 | 0.5 | 98.8 | 21 | 3F6 |
| CZRB3140-G | 140.0 | 5.3 | 475.0 | 5000 | 0.25 | 0.5 | 106.4 | 19 | 3F7 |
| CZRB3150-G | 150.0 | 5.0 | 550.0 | 6000 | 0.25 | 0.5 | 114.0 | 18 | 3F8 |
| CZRB3160-G | 160.0 | 4.7 | 625.0 | 6500 | 0.25 | 0.5 | 121.6 | 17 | 3F9 |
| CZRB3170-G | 170.0 | 4.4 | 650.0 | 7000 | 0.25 | 0.5 | 130.4 | 16 | 3G1 |
| CZRB3180-G | 180.0 | 4.2 | 700.0 | 7000 | 0.25 | 0.5 | 136.8 | 15 | 3G2 |
| CZRB3190-G | 190.0 | 4.0 | 800.0 | 8000 | 0.25 | 0.5 | 144.8 | 14 | 3G3 |
| CZRB3200-G | 200.0 | 3.7 | 875.0 | 8000 | 0.25 | 0.5 | 152.0 | 13 | 3G4 |

Notes:

- (1) The type number listed have a standard tolerance on th nominal zener voltage of $\pm 5\%$.
- (2) The reverse surge current is a non-repetitive,8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method.

RATING AND CHARACTERISTIC CURVES (CZRB3005-G Thru CZRB3200B-G)

Fig.1 Power temperature derating current

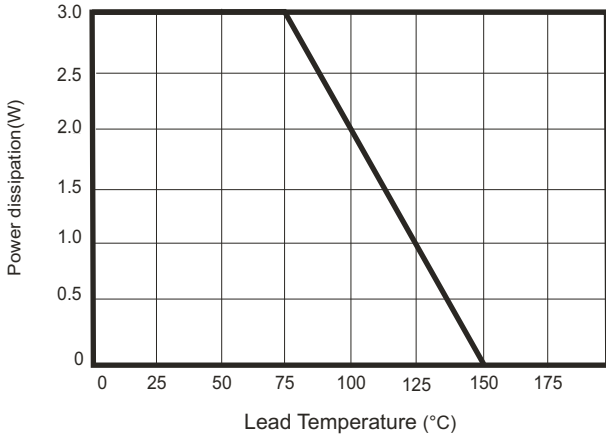


Fig.2 Temperature Coefficients v.s. Zener Voltage

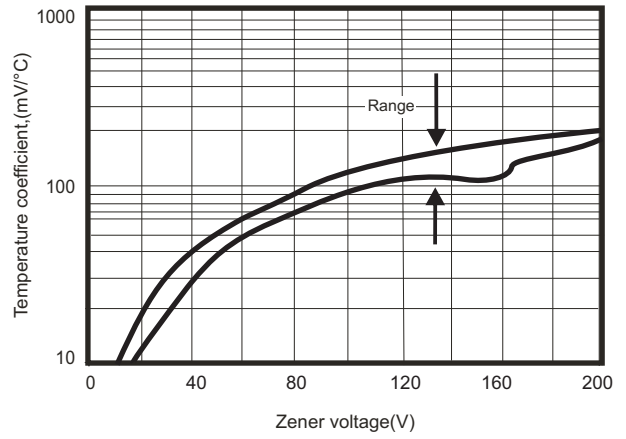


Fig.3 Typical thermal resistance v.s. lead length

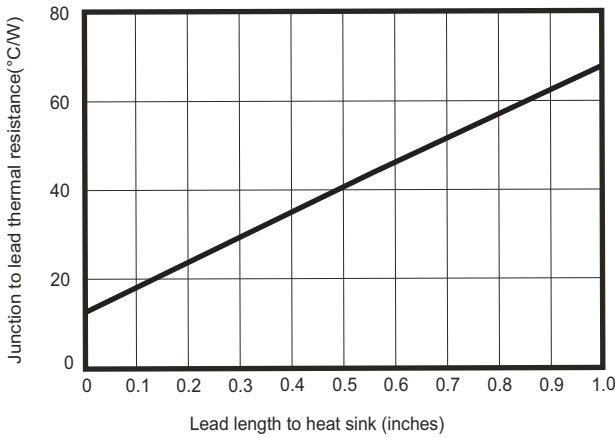


Fig.4 Maximum surge power

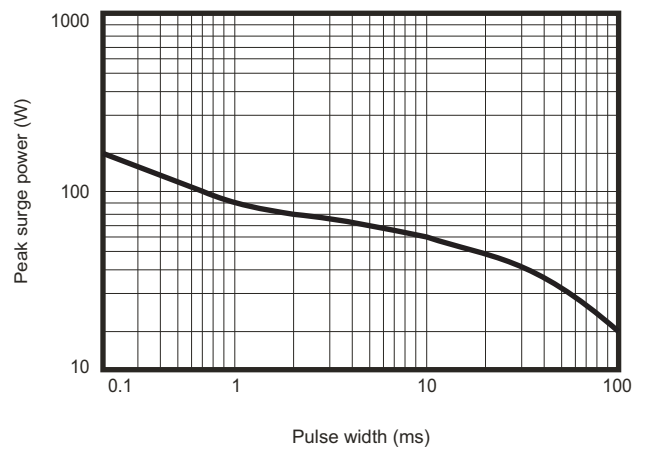
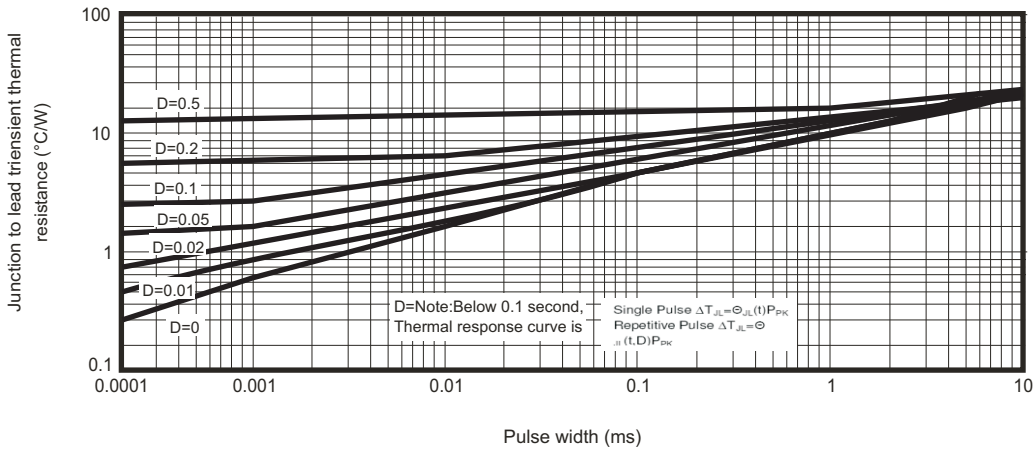
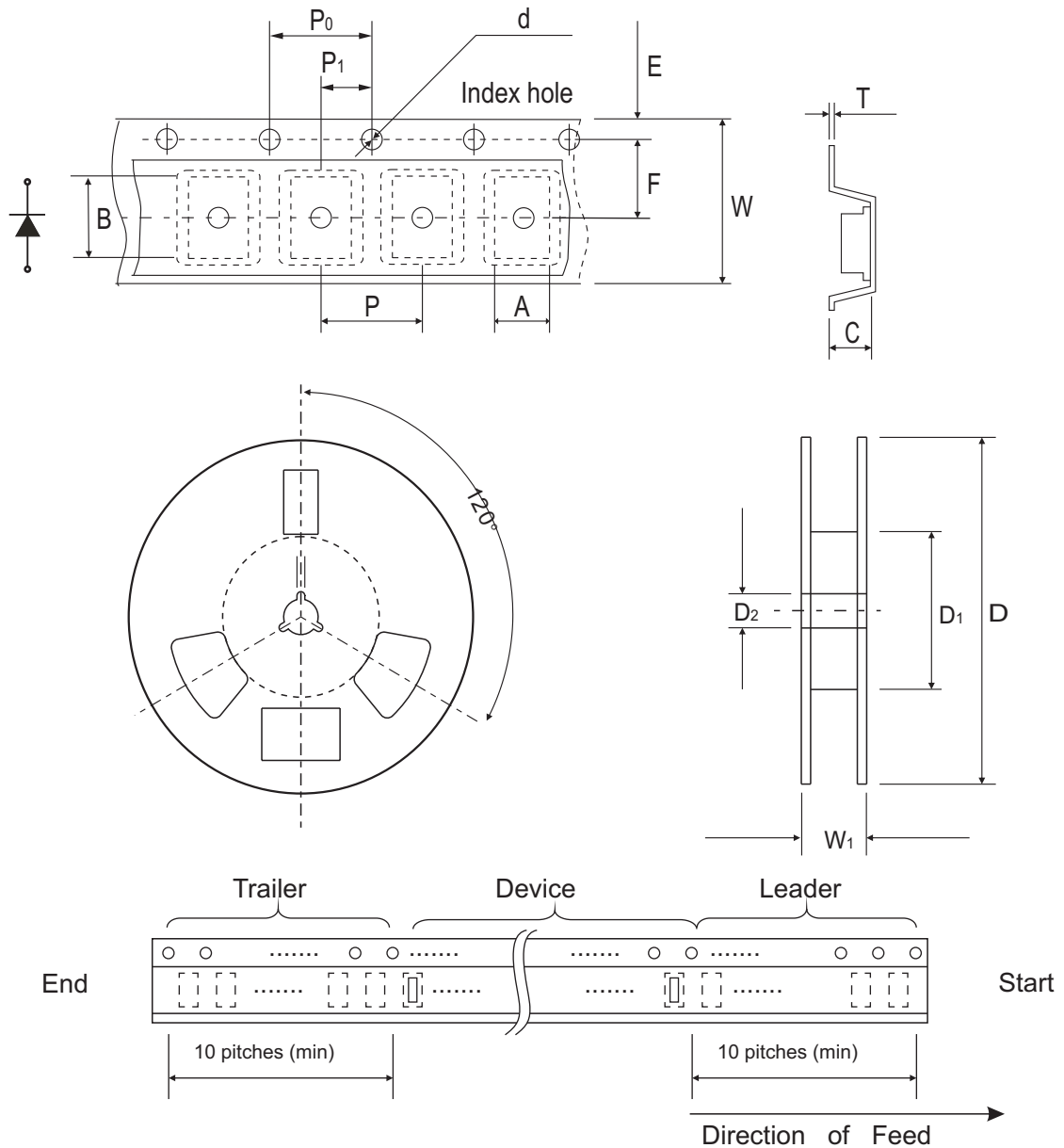


Fig.5 Typical thermal response L, lead length=3/8 inch



Reel Taping Specification



| DO-214AA (SMB) | SYMBOL | A | B | C | d | D | D1 | D2 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
| | (mm) | 3.67 ± 0.10 | 5.69 ± 0.10 | 2.67 ± 0.10 | 1.55 ± 0.10 | 330 ± 2.00 | 50.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.144 ± 0.004 | 0.224 ± 0.004 | 0.105 ± 0.004 | 0.061 ± 0.004 | 12.99 ± 0.079 | 1.969 MIN. | 0.512 ± 0.008 |

| DO-214AA (SMB) | SYMBOL | E | F | P | P0 | P1 | t | W | W1 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|-------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.40(MAX) | 12.0 ± 0.30 | 18.4 (max) |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.016 (max) | 0.472 ± 0.012 | 0.724 (max) |

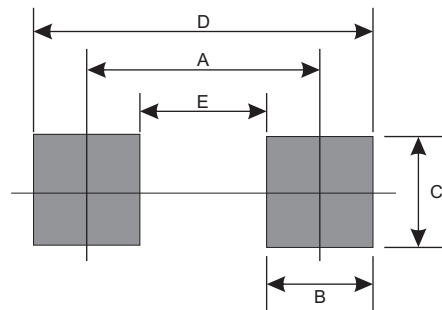
Marking Code



1. XXX : Marking code(see Page. 2~3)
2. : Cathod Band

Suggested PAD Layout

| SIZE | SMB | |
|------|------|--------|
| | (mm) | (inch) |
| A | 4.50 | 0.177 |
| B | 1.50 | 0.059 |
| C | 3.60 | 0.142 |
| D | 6.00 | 0.236 |
| E | 3.00 | 0.118 |



Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|-----------|--------------|-----------|
| | (Pcs) | (inch) |
| SMB | 3,000 | 13 |