

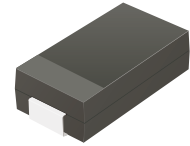
CZRB5338B-HF Thru. CZRB5388B-HF

Voltage: 5.1V to 200V

Power: 5 W

RoHS Device

Halogen Free

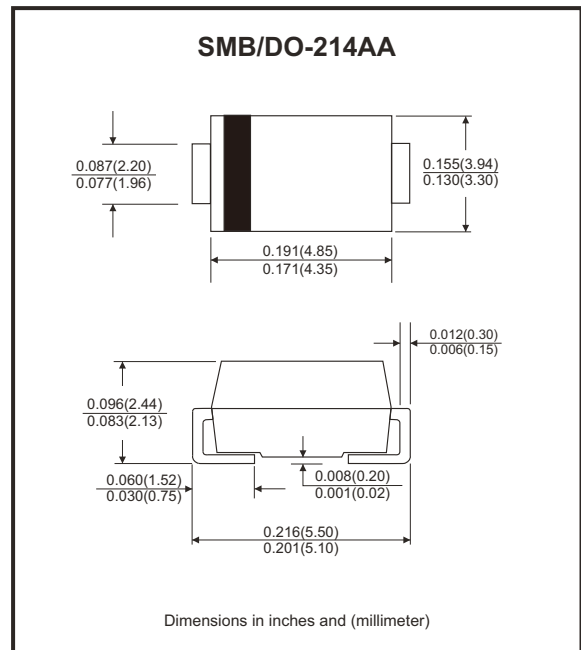


Features

- 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: Molded plastic.
- Lead: Solderable per MIL-STD-202, method 208 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting position: Any.



Circuit diagram



Maximum Ratings (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| DC Power dissipation at T _L = 75°C (Note 1) | P _D | 5.0 | W |
| Maximum forward voltage at I _F = 200 mA | V _F | 1.2 | V |
| Junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

Note: 1. Mounted on PCB with Cu-Pad size 20mm * 20mm.

Rating and Characteristics Curves (CZRB5338B-HF Thru. CZRB5388B-HF)

Fig.1 - Power Temperature Derating Curve

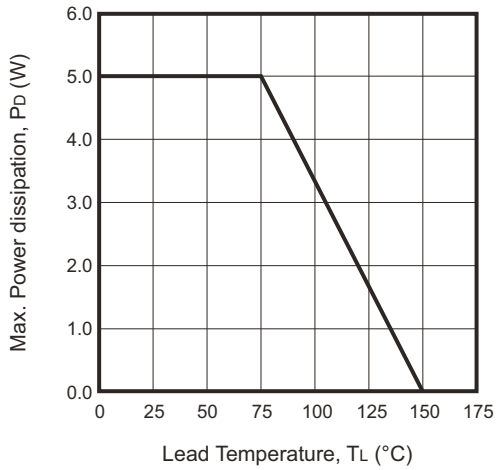


Fig.2 - Temperature Coefficients v.s. Zener Voltage

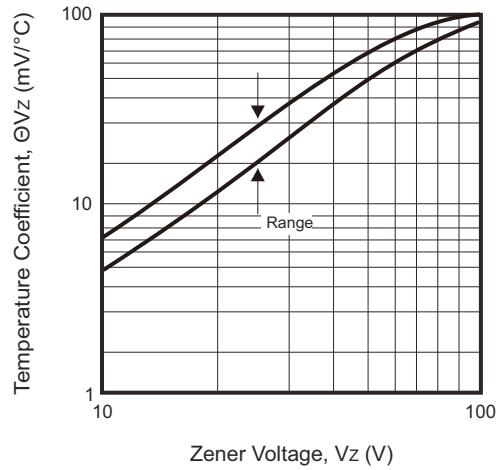


Fig.3 - Typical Thermal Resistance v.s. Lead Length

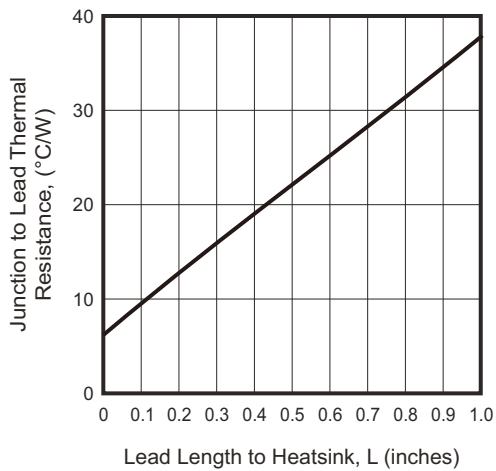


Fig.4 - Maximum Surge Power

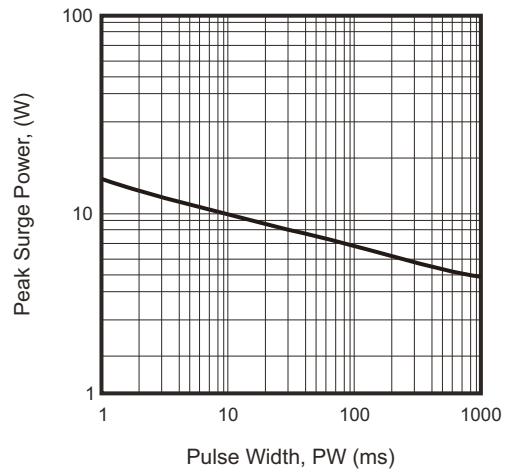
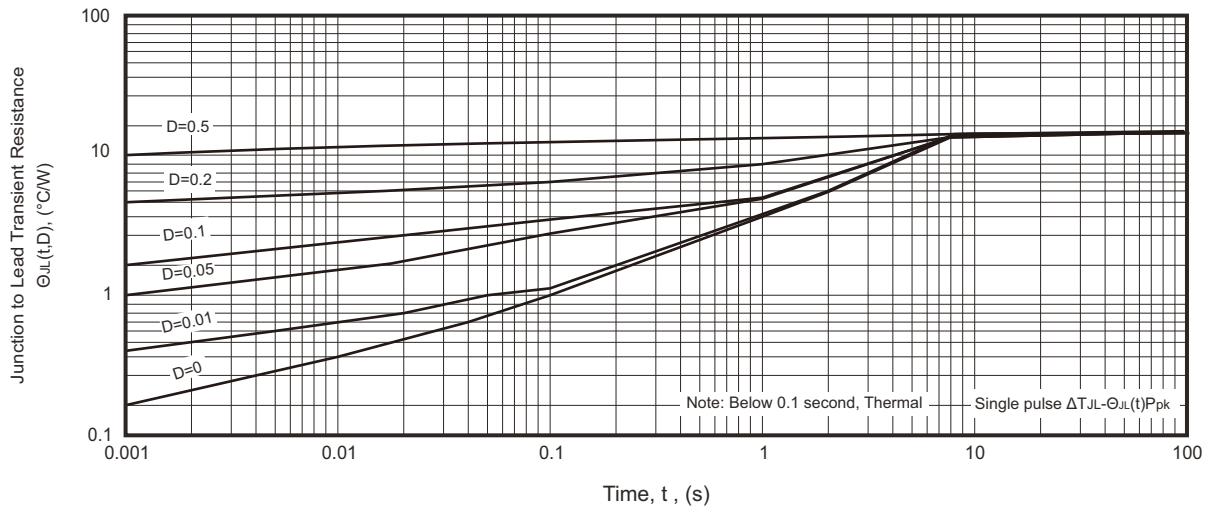


Fig.5 - Typical Thermal Response L, Lead Length=3/8inch



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

REV:C

Electrical Characteristics (TA=25°C unless otherwise noted)

| Part Number | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Marking Code |
|--------------|-----------------------|------|-------------------------|-----------|------|---------------------------------|------|--------------|
| | Vz @ IzT | IzT | ZzT @ IzT | Zzk @ IzK | IzK | IR @ VR | | |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | |
| CZRB5338B-HF | 5.1 | 240 | 1.5 | 400 | 1 | 1.0 | 1.0 | 338B |
| CZRB5339B-HF | 5.6 | 220 | 1.0 | 400 | 1 | 1.0 | 2.0 | 339B |
| CZRB5340B-HF | 6.0 | 200 | 1.0 | 300 | 1 | 1.0 | 3.0 | 340B |
| CZRB5341B-HF | 6.2 | 200 | 1.0 | 200 | 1 | 1.0 | 3.0 | 341B |
| CZRB5342B-HF | 6.8 | 175 | 1.0 | 200 | 1 | 10.0 | 5.2 | 342B |
| CZRB5343B-HF | 7.5 | 175 | 1.5 | 200 | 1 | 10.0 | 5.7 | 343B |
| CZRB5344B-HF | 8.2 | 150 | 1.5 | 200 | 1 | 10.0 | 6.2 | 344B |
| CZRB5345B-HF | 8.7 | 150 | 2.0 | 200 | 1 | 10.0 | 6.6 | 345B |
| CZRB5346B-HF | 9.1 | 150 | 2.0 | 150 | 1 | 7.5 | 6.9 | 346B |
| CZRB5347B-HF | 10.0 | 125 | 2.0 | 125 | 1 | 5.0 | 7.6 | 347B |
| CZRB5348B-HF | 11.0 | 125 | 2.5 | 125 | 1 | 5.0 | 8.4 | 348B |
| CZRB5349B-HF | 12.0 | 100 | 2.5 | 125 | 1 | 2.0 | 9.1 | 349B |
| CZRB5350B-HF | 13.0 | 100 | 2.5 | 100 | 1 | 1.0 | 9.9 | 350B |
| CZRB5351B-HF | 14.0 | 100 | 2.5 | 75 | 1 | 1.0 | 10.6 | 351B |
| CZRB5352B-HF | 15.0 | 75 | 2.5 | 75 | 1 | 1.0 | 11.5 | 352B |
| CZRB5353B-HF | 16.0 | 75 | 2.5 | 75 | 1 | 1.0 | 12.2 | 353B |
| CZRB5354B-HF | 17.0 | 70 | 2.5 | 75 | 1 | 0.5 | 12.9 | 354B |
| CZRB5355B-HF | 18.0 | 65 | 2.5 | 75 | 1 | 0.5 | 13.7 | 355B |
| CZRB5356B-HF | 19.0 | 65 | 3.0 | 75 | 1 | 0.5 | 14.4 | 356B |
| CZRB5357B-HF | 20.0 | 65 | 3.0 | 75 | 1 | 0.5 | 15.2 | 357B |
| CZRB5358B-HF | 22.0 | 50 | 3.5 | 75 | 1 | 0.5 | 16.7 | 358B |
| CZRB5359B-HF | 24.0 | 50 | 3.5 | 100 | 1 | 0.5 | 18.2 | 359B |
| CZRB5360B-HF | 25.0 | 50 | 4.0 | 110 | 1 | 0.5 | 19.0 | 360B |
| CZRB5361B-HF | 27.0 | 50 | 5.0 | 120 | 1 | 0.5 | 20.6 | 361B |
| CZRB5362B-HF | 28.0 | 50 | 6.0 | 130 | 1 | 0.5 | 21.2 | 362B |
| CZRB5363B-HF | 30.0 | 40 | 8.0 | 140 | 1 | 0.5 | 22.8 | 363B |

Notes:

- (1) The type number listed have a standard tolerance on the 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.

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Electrical Characteristics (TA=25°C unless otherwise noted)

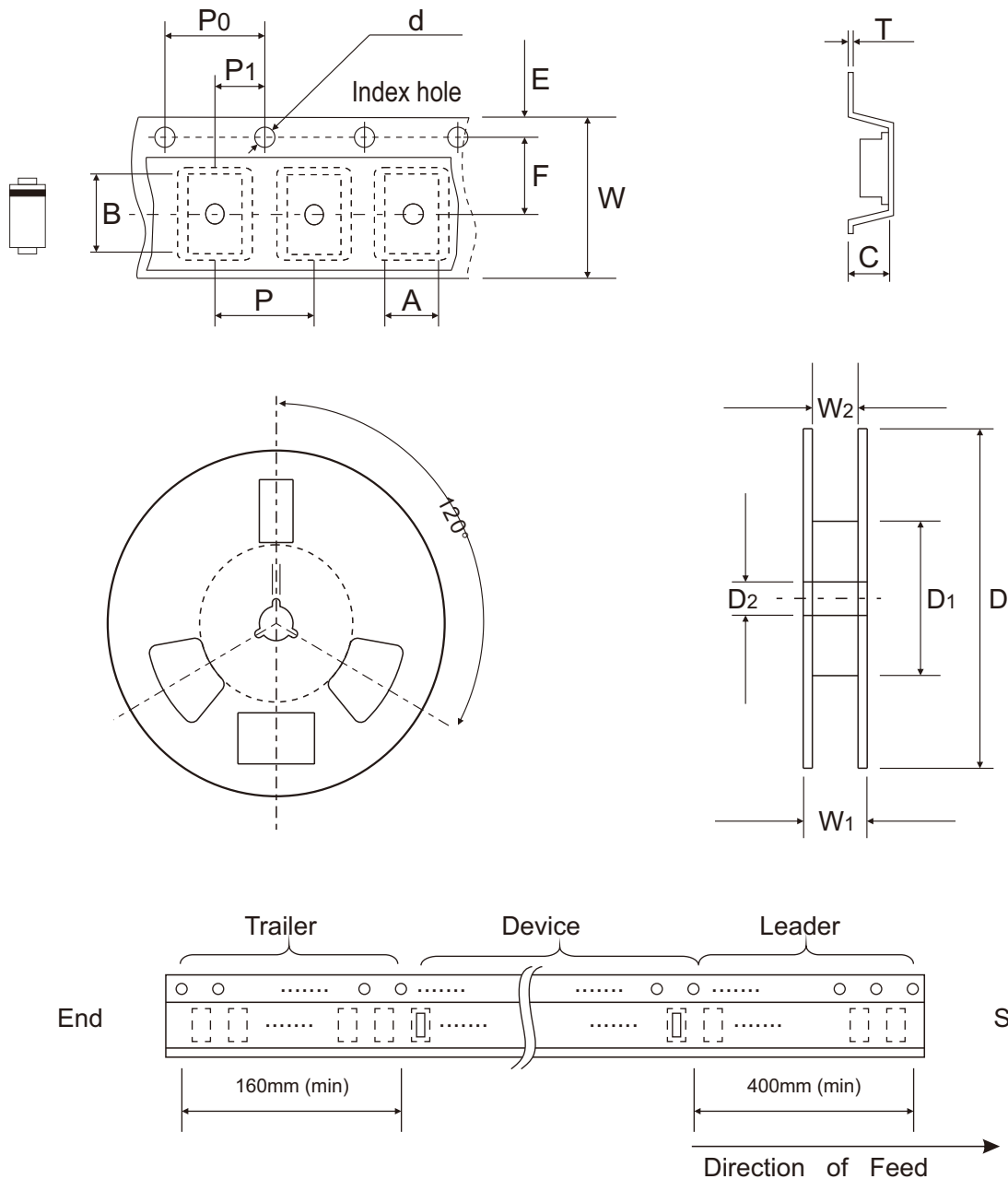
| Part Number | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Marking Code |
|--------------|-----------------------|------|-------------------------|-----------|------|---------------------------------|-------|--------------|
| | Vz @ IZT | IZT | ZzT @ IZT | ZzK @ IZK | IZK | IR @ VR | | |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | |
| CZRB5364B-HF | 33.0 | 40 | 10.0 | 150 | 1 | 0.5 | 25.1 | 364B |
| CZRB5365B-HF | 36.0 | 30 | 11.0 | 160 | 1 | 0.5 | 27.4 | 365B |
| CZRB5366B-HF | 39.0 | 30 | 14.0 | 170 | 1 | 0.5 | 29.7 | 366B |
| CZRB5367B-HF | 43 | 30 | 20 | 190 | 1 | 0.5 | 32.7 | 367B |
| CZRB5368B-HF | 47 | 25 | 25 | 210 | 1 | 0.5 | 35.8 | 368B |
| CZRB5369B-HF | 51 | 25 | 27 | 230 | 1 | 0.5 | 38.8 | 369B |
| CZRB5370B-HF | 56 | 20 | 35 | 280 | 1 | 0.5 | 42.6 | 370B |
| CZRB5371B-HF | 60 | 20 | 40 | 350 | 1 | 0.5 | 42.5 | 371B |
| CZRB5372B-HF | 62 | 20 | 42 | 400 | 1 | 0.5 | 47.1 | 372B |
| CZRB5373B-HF | 68 | 20 | 44 | 500 | 1 | 0.5 | 51.7 | 373B |
| CZRB5374B-HF | 75 | 20 | 45 | 620 | 1 | 0.5 | 56.0 | 374B |
| CZRB5375B-HF | 82 | 15 | 65 | 720 | 1 | 0.5 | 62.2 | 375B |
| CZRB5376B-HF | 87 | 15 | 75 | 760 | 1 | 0.5 | 66.0 | 376B |
| CZRB5377B-HF | 91 | 15 | 75 | 760 | 1 | 0.5 | 69.2 | 377B |
| CZRB5378B-HF | 100 | 12 | 90 | 800 | 1 | 0.5 | 76.0 | 378B |
| CZRB5379B-HF | 110 | 12 | 125 | 1000 | 1 | 0.5 | 83.6 | 379B |
| CZRB5380B-HF | 120 | 10 | 170 | 1150 | 1 | 0.5 | 91.2 | 380B |
| CZRB5381B-HF | 130 | 10 | 190 | 1250 | 1 | 0.5 | 98.8 | 381B |
| CZRB5382B-HF | 140 | 8 | 230 | 1500 | 1 | 0.5 | 106.0 | 382B |
| CZRB5383B-HF | 150 | 8 | 330 | 1500 | 1 | 0.5 | 114.0 | 383B |
| CZRB5384B-HF | 160 | 8 | 350 | 1650 | 1 | 0.5 | 122.0 | 384B |
| CZRB5385B-HF | 170 | 8 | 380 | 1750 | 1 | 0.5 | 129.0 | 385B |
| CZRB5386B-HF | 180 | 5 | 430 | 1750 | 1 | 0.5 | 137.0 | 386B |
| CZRB5387B-HF | 190 | 5 | 450 | 1850 | 1 | 0.5 | 144.0 | 387B |
| CZRB5388B-HF | 200 | 5 | 480 | 1850 | 1 | 0.5 | 152.0 | 388B |

Notes:

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 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.

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Reel Taping Specification



| DO-214AA (SMB) | SYMBOL | A | B | C | d | D | D1 | D2 | E |
|-------------------|--------|------------|---|---|---------------|--------|--------------|--------------------------|---------------|
| | (mm) | See Note 1 | | | 1.55 ± 0.05 | 330.00 | 50.00 (Min.) | 13.00 + 0.50 - 0.20 | 1.75 ± 0.10 |
| | (inch) | See Note 1 | | | 0.061 ± 0.002 | 12.992 | 1.969 (Min.) | 0.512 + 0.020 - 0.008 | 0.069 ± 0.004 |

| DO-214AA (SMB) | SYMBOL | F | P | P0 | P1 | T | W | W1 | W2 |
|-------------------|--------|---------------|---------------|---------------|---------------|--------------|---------------|--------------|--------------------------|
| | (mm) | 5.50 ± 0.05 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.40 (Max.) | 12.00 ± 0.10 | 18.40 (Max.) | 12.40 + 2.00 - 0.00 |
| | (inch) | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.016 (Max.) | 0.472 ± 0.004 | 0.724 (Max.) | 0.488 + 0.079 - 0.000 |

Notes: 1. A, B, and C the clearance between the component and the cavity must be within 0.5mm max. for 8mm tape and 12mm tape, 1.0mm max. for 16mm tape and 24mm tape.

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Marking Code

| Part Number | Marking Code |
|------------------------------------|---------------|
| CZRB5338B-HF Thru. CZRB5388B-HF | See page. 3~4 |

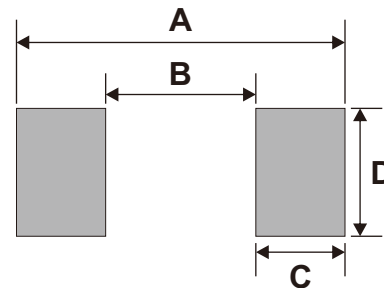


1. XXXX : Marking code (see Page.3~4)

2. : CathodBand

Suggested PAD Layout

| SIZE | DO-214AA(SMB) | |
|------|---------------|-----------|
| | (mm) | (inch) |
| A | 5.60 REF | 0.220 REF |
| B | 2.16 MAX | 0.085 MAX |
| C | 1.52 MIN | 0.060 MIN |
| D | 2.18 MIN | 0.086 MIN |



Standard Packaging

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