

SMD Zener Diode

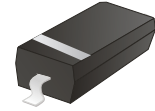
CZRW5223B-HF Thru CZRW5256B-HF

Voltage: 2.7 to 30 Volts

Power: 350 mWatts

RoHS Device

Halogen Free

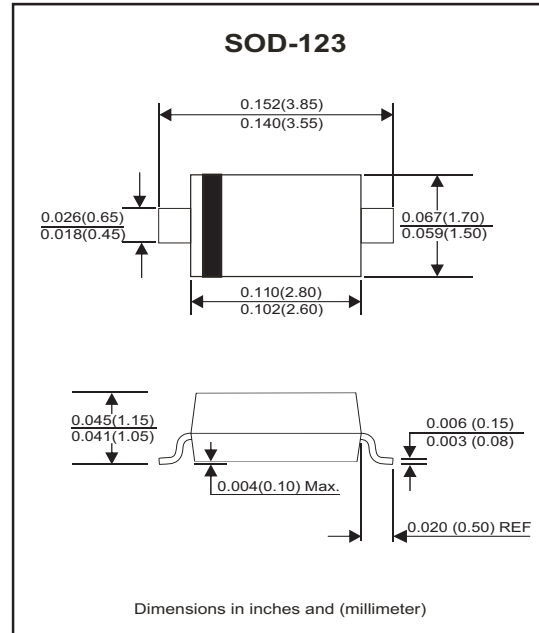


Features

- For surface mounted applications.
- General purpose, medium current
- Ideally suited for automated assembly processes.

Mechanical data

- Case: SOD-123, Molded plastic.
- Terminals: Solder Plated, solderable per MIL-STD-750, method 2026.
- Polarity: Cathode band.
- Weight: 0.01 gram (approx.).



Maximum Ratings (@Ta=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Forward Voltage (Note 2) @ If=10mA | V _F | 0.9 | V |
| Power Dissipation (Note 1) | P _D | 350 | mW |
| Thermal Resistance, Junction to Ambient Air | R _{θJA} | 357 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

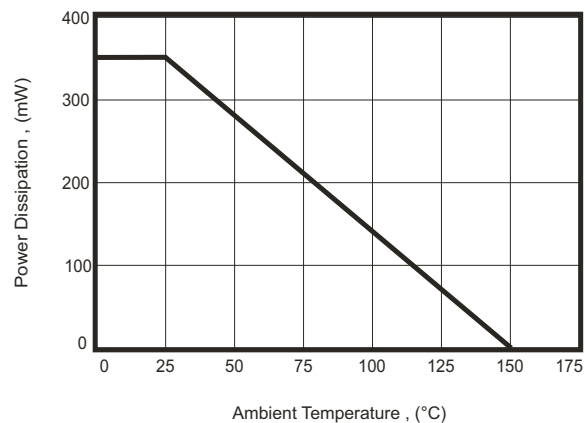
Notes: 1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Tested with pulses, T_p ≤ 1.0ms

Electrical Characteristics(Ta = 25°C)

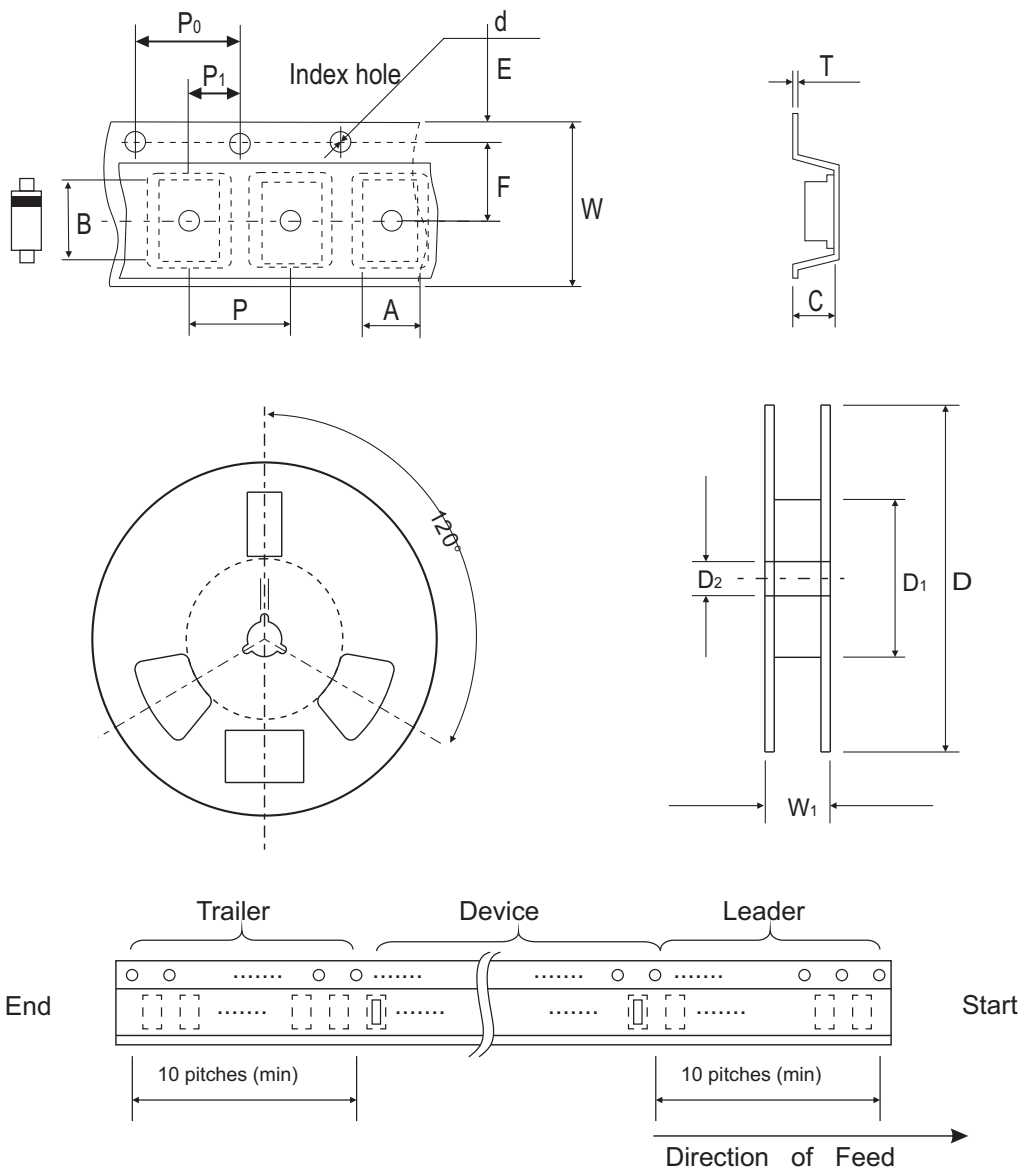
| Part Number | Zener Voltage | | | Operating resistance | | Rising operating resistance | | Reverse current | | Marking Code |
|--------------|---------------|-----|-------|----------------------|---------|-----------------------------|---------|-----------------|-------|--------------|
| | Vz(V)@IzT | | | ZzT(Ohm) | | Zzk(Ohm) | | Ir(uA) | | |
| | Min | Nom | Max | Max | IzT(mA) | Max | Izk(mA) | Max | Vr(V) | |
| CZRW5223B-HF | 2.57 | 2.7 | 2.84 | 30 | 20 | 1300 | 0.25 | 75 | 1.0 | .C3 |
| CZRW5225B-HF | 2.85 | 3.0 | 3.15 | 30 | 20 | 1600 | 0.25 | 50 | 1.0 | .C5 |
| CZRW5226B-HF | 3.14 | 3.3 | 3.47 | 28 | 20 | 1600 | 0.25 | 25 | 1.0 | .G1 |
| CZRW5227B-HF | 3.42 | 3.6 | 3.78 | 24 | 20 | 1700 | 0.25 | 15 | 1.0 | .G2 |
| CZRW5228B-HF | 3.71 | 3.9 | 4.10 | 23 | 20 | 1900 | 0.25 | 10 | 1.0 | .G3 |
| CZRW5229B-HF | 4.09 | 4.3 | 4.52 | 22 | 20 | 2000 | 0.25 | 5 | 1.0 | .G4 |
| CZRW5230B-HF | 4.47 | 4.7 | 4.94 | 19 | 20 | 1900 | 0.25 | 5 | 2.0 | .G5 |
| CZRW5231B-HF | 4.85 | 5.1 | 5.36 | 17 | 20 | 1600 | 0.25 | 5 | 2.0 | .E1 |
| CZRW5232B-HF | 5.32 | 5.6 | 5.88 | 11 | 20 | 1600 | 0.25 | 5 | 3.0 | .E2 |
| CZRW5233B-HF | 5.70 | 6.0 | 6.30 | 7 | 20 | 1600 | 0.25 | 5 | 3.5 | .E3 |
| CZRW5234B-HF | 5.89 | 6.2 | 6.51 | 7 | 20 | 1000 | 0.25 | 5 | 4.0 | .E4 |
| CZRW5235B-HF | 6.46 | 6.8 | 7.14 | 5 | 20 | 750 | 0.25 | 3 | 5.0 | .E5 |
| CZRW5236B-HF | 7.13 | 7.5 | 7.88 | 6 | 20 | 500 | 0.25 | 3 | 6.0 | .F1 |
| CZRW5237B-HF | 7.79 | 8.2 | 8.61 | 8 | 20 | 500 | 0.25 | 3 | 6.5 | .F2 |
| CZRW5238B-HF | 8.27 | 8.7 | 9.14 | 8 | 20 | 600 | 0.25 | 3 | 6.5 | .F3 |
| CZRW5239B-HF | 8.65 | 9.1 | 9.56 | 10 | 20 | 600 | 0.25 | 3 | 7.0 | .F4 |
| CZRW5240B-HF | 9.50 | 10 | 10.50 | 17 | 20 | 600 | 0.25 | 3 | 8.0 | .F5 |
| CZRW5241B-HF | 10.45 | 11 | 11.55 | 22 | 20 | 600 | 0.25 | 2 | 8.4 | .H1 |
| CZRW5242B-HF | 11.40 | 12 | 12.60 | 30 | 20 | 600 | 0.25 | 1 | 9.1 | .H2 |
| CZRW5243B-HF | 12.35 | 13 | 13.65 | 13 | 9.5 | 600 | 0.25 | 0.5 | 9.9 | .H3 |
| CZRW5244B-HF | 13.30 | 14 | 14.70 | 15 | 9.0 | 600 | 0.25 | 0.1 | 10 | .H4 |
| CZRW5245B-HF | 14.25 | 15 | 15.75 | 16 | 8.5 | 600 | 0.25 | 0.1 | 11 | .H5 |
| CZRW5246B-HF | 15.20 | 16 | 16.80 | 17 | 7.8 | 600 | 0.25 | 0.1 | 12 | .J1 |
| CZRW5248B-HF | 17.10 | 18 | 18.90 | 21 | 7.0 | 600 | 0.25 | 0.1 | 14 | .J3 |
| CZRW5250B-HF | 19.00 | 20 | 21.00 | 25 | 6.2 | 600 | 0.25 | 0.1 | 15 | .J5 |
| CZRW5251B-HF | 20.90 | 22 | 23.10 | 29 | 5.6 | 600 | 0.25 | 0.1 | 17 | .K1 |
| CZRW5252B-HF | 22.80 | 24 | 25.20 | 33 | 5.2 | 600 | 0.25 | 0.1 | 18 | .K2 |
| CZRW5253B-HF | 23.75 | 25 | 26.25 | 35 | 5.0 | 600 | 0.25 | 0.1 | 19 | .K3 |
| CZRW5254B-HF | 25.65 | 27 | 28.35 | 41 | 5.0 | 600 | 0.25 | 0.1 | 21 | .K4 |
| CZRW5255B-HF | 26.60 | 28 | 29.40 | 44 | 4.5 | 600 | 0.25 | 0.1 | 21 | .K5 |
| CZRW5256B-HF | 28.50 | 30 | 31.50 | 49 | 4.2 | 600 | 0.25 | 0.1 | 23 | .M1 |

RATING AND CHARACTERISTIC CURVES (CZRW5223B-HF Thru CZRW5256B-HF)

Fig.1 - Power Derating Curve



Reel Taping Specification



| SOD-123 | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 1.85 ± 0.10 | 3.94 ± 0.10 | 1.57 ± 0.10 | 1.55 ± 0.10 | 178 ± 1.00 | 54.40 ± 0.40 | 13.0 ± 0.20 |
| | (inch) | 0.073 ± 0.004 | 0.155 ± 0.004 | 0.062 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.039 | 2.142 ± 0.016 | 0.512 ± 0.008 |

| SOD-123 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00+0.30/-0.10 | 9.50 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.158 ± 0.004 | 0.158 ± 0.004 | 0.079 ± 0.004 | 0.315+0.012/-0.004 | 0.374 ± 0.039 |

Marking Code

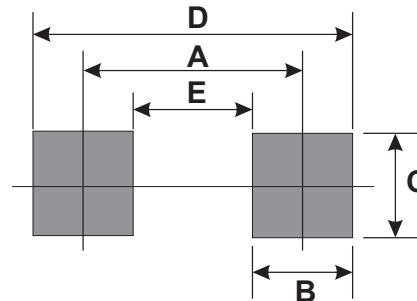
| Part Number | Marking Code |
|----------------------|--------------|
| CZRW5223B ~ 5256B-HF | .XX |



Product type marking code (see page.2)

Suggested PAD Layout

| SIZE | SOD-123 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 3.35 | 0.132 |
| B | 0.80 | 0.031 |
| C | 1.00 | 0.039 |
| D | 4.15 | 0.163 |
| E | 2.55 | 0.100 |



Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|-----------|--------------|-----------|
| | (Pcs) | (inch) |
| SOD-123 | 3,000 | 7 |