

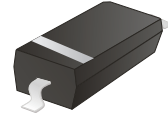
# CZRW5223B-HF Thru CZRW5256B-HF

Voltage: 2.7 to 30 Volts

Power: 350 mWatts

RoHS Device

Halogen Free

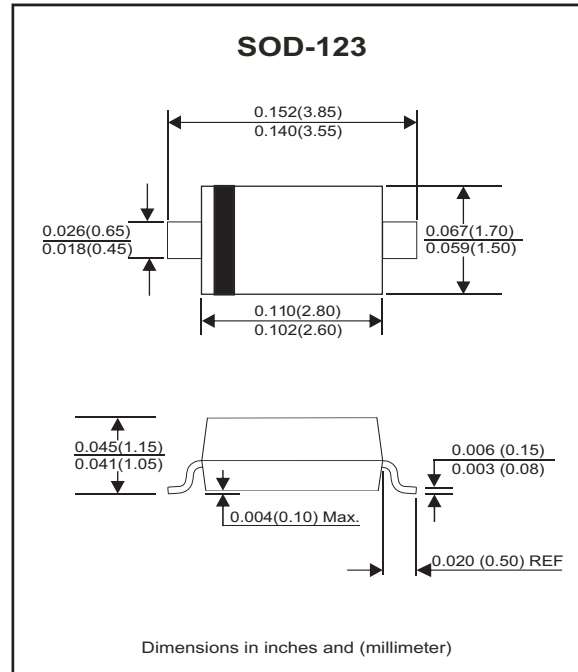


## Features

- 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) @ I <sub>F</sub> =10mA | V <sub>F</sub>                    | 0.9         | V    |
| Power Dissipation (Note 1)                      | P <sub>D</sub>                    | 350         | mW   |
| Thermal Resistance, Junction to Ambient Air     | R <sub>θJA</sub>                  | 357         | °C/W |
| Operating and Storage Temperature Range         | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

Notes: 1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.

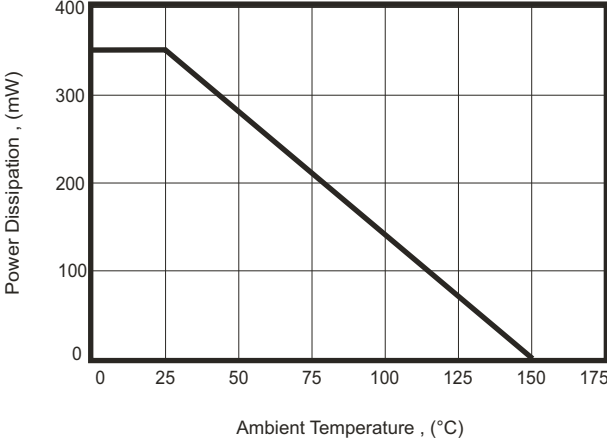
2. Tested with pulses, T<sub>p</sub> ≤ 1.0ms

## Electrical Characteristics(Ta = 25°C)

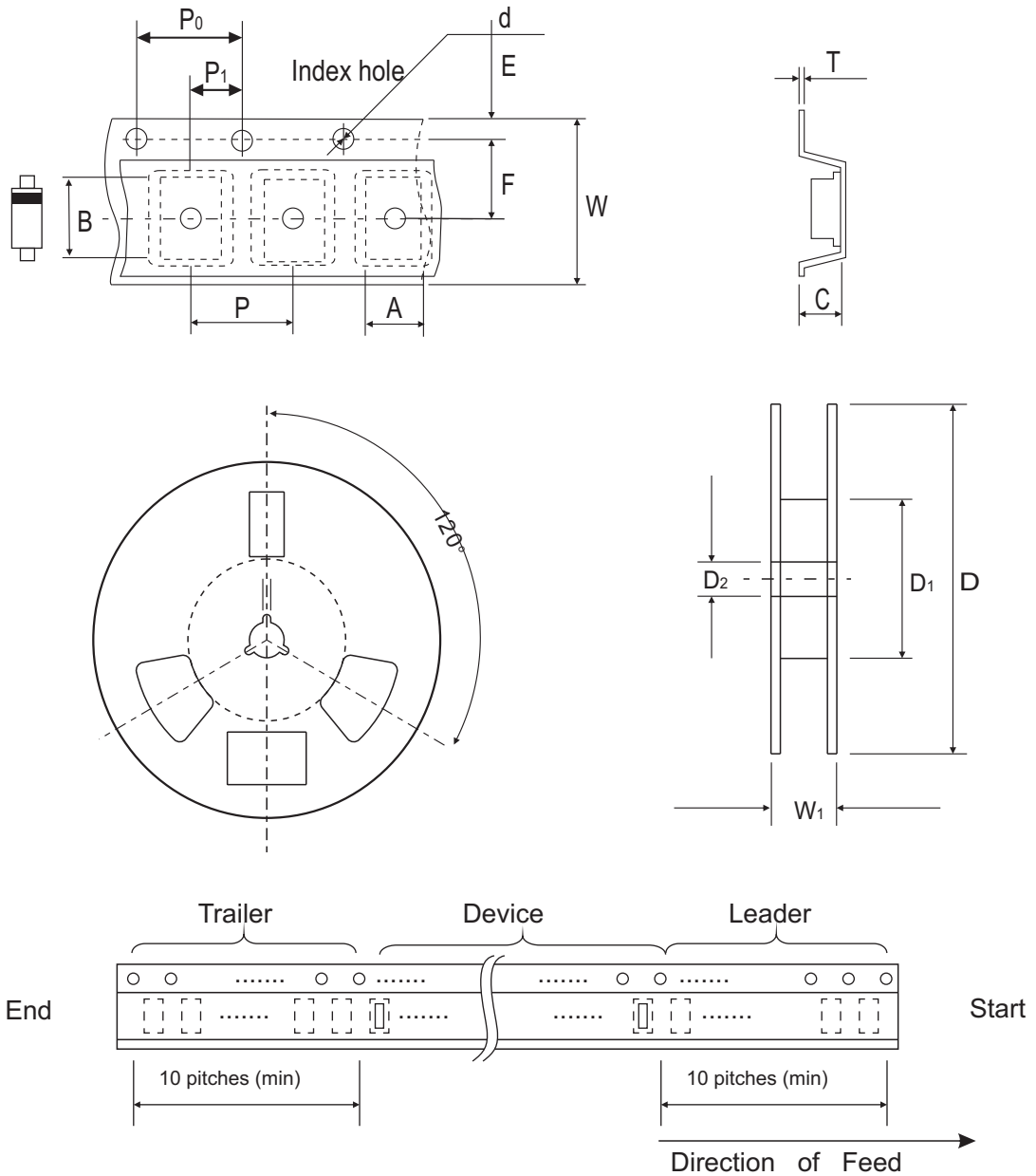
| Part Number  | Zener Voltage |     |       | Operating resistance |         | Rising operating resistance |         | Reverse current |       | Marking Code |
|--------------|---------------|-----|-------|----------------------|---------|-----------------------------|---------|-----------------|-------|--------------|
|              | 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

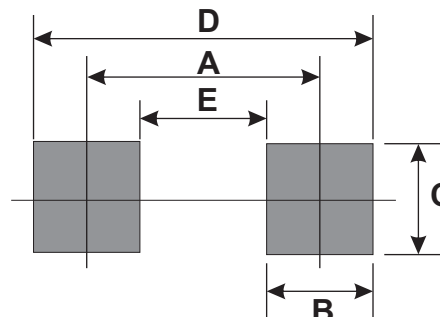
| Part Number          | Marking Code |
|----------------------|--------------|
| CZRW5223B ~ 5256B-HF | .XX          |



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         |