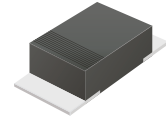


## CDBMH120-G Thru. CDBMH1150-G

Reverse Voltage: 20 to 150 Volts

Forward Current: 1.0 Amp

RoHS Device

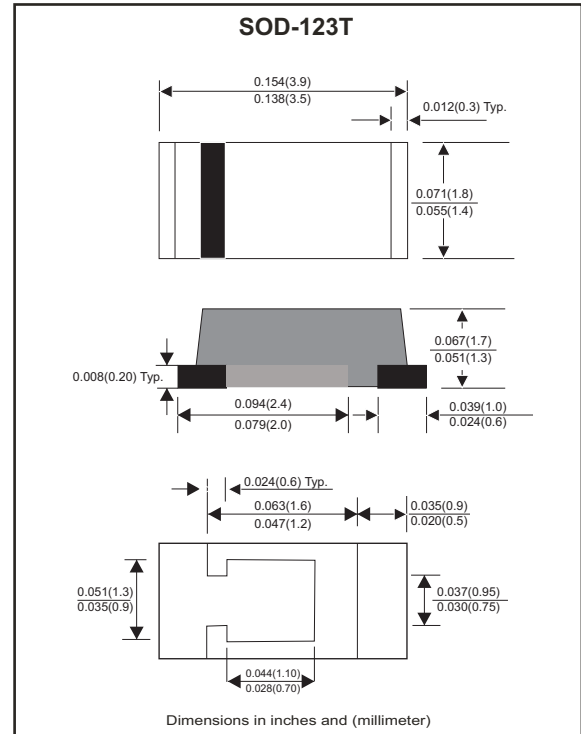


### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Heat Sink bottom.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### Mechanical data

- Case: Molded plastic.SOD-123T/ Mini SMA.
- Terminals: Plated terminals, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position: Any
- Weight: 0.018 gram(approx.).



### Maximum Ratings (at T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                                         |                                                        | Symbol           | CDBMH<br>120-G | CDBMH<br>130-G | CDBMH<br>140-G | CDBMH<br>150-G | CDBMH<br>160-G | CDBMH<br>180-G | CDBMH<br>1100-G | CDBMH<br>1150-G | Unit |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|------|
| Max. Repetitive peak reverse voltage                                                              |                                                        | V <sub>RRM</sub> | 20             | 30             | 40             | 50             | 60             | 80             | 100             | 150             | V    |
| Max. Continuous reverse voltage                                                                   |                                                        | V <sub>R</sub>   | 20             | 30             | 40             | 50             | 60             | 80             | 100             | 150             | V    |
| Max. RMS voltage                                                                                  |                                                        | V <sub>RMS</sub> | 14             | 21             | 28             | 35             | 42             | 56             | 70              | 105             | V    |
| Max. averaged forward current (see fig.1)                                                         |                                                        | I <sub>O</sub>   | 1.0            |                |                |                |                |                |                 |                 | A    |
| Maximum Instantaneous forward voltage at I <sub>F</sub> =1.0A                                     |                                                        | V <sub>F</sub>   | 0.50           |                |                | 0.70           |                | 0.85           |                 | 0.92            | V    |
| Max. Forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |                                                        | I <sub>FSM</sub> | 30             |                |                |                |                |                |                 |                 | A    |
| Max.Reverse current                                                                               | V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =25°C  | I <sub>R</sub>   | 0.2            |                |                |                |                |                |                 |                 | mA   |
|                                                                                                   | V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =100°C | I <sub>R</sub>   | 10             |                |                |                |                |                |                 |                 |      |
| Typ. Thermal resistance (Junction to case)                                                        |                                                        | R <sub>θJC</sub> | 45             |                |                |                |                |                |                 |                 | °C/W |
| Typ. Diode Junction capacitance (Note 1)                                                          |                                                        | C <sub>J</sub>   | 120            |                |                |                |                |                |                 |                 | pF   |
| Operating temperature                                                                             |                                                        | T <sub>J</sub>   | -55 to +125    |                |                | -55 to +150    |                |                |                 |                 | °C   |
| Storage temperature range                                                                         |                                                        | T <sub>STG</sub> | -65 to +175    |                |                |                |                |                |                 |                 | °C   |

Note : 1. F=1MHz and applied 4V DC reverse voltage

## Rating and Characteristic Curves (CDBMH120-G Thru. CDBMH1150-G)

Fig.1- Typical Current Derating Curve

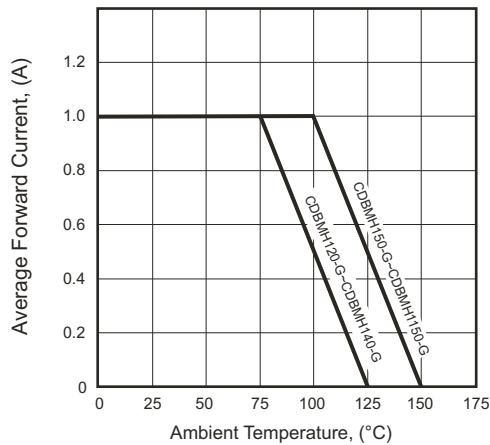


Fig.2 - Typical Forward Characteristics

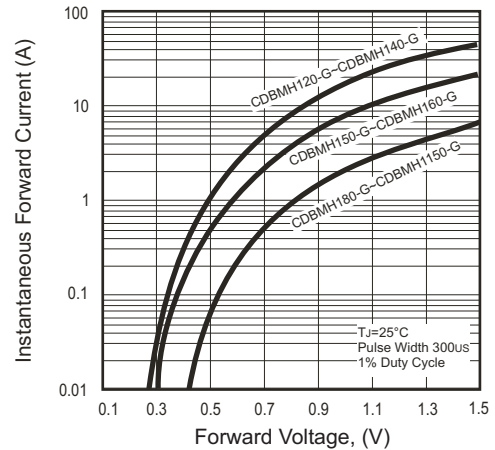


Fig.3 - Maximum Non-repetitive Forward Surge Current

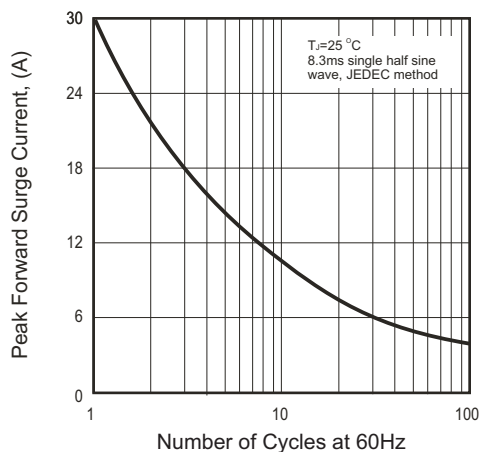


Fig.4 - Typical Junction Capacitance

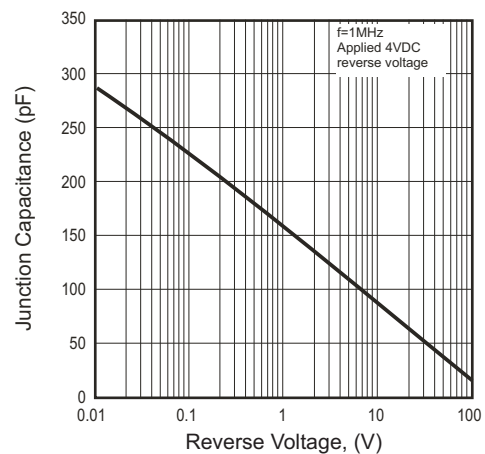
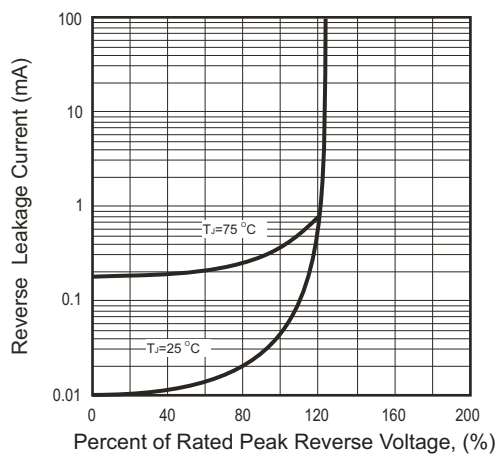
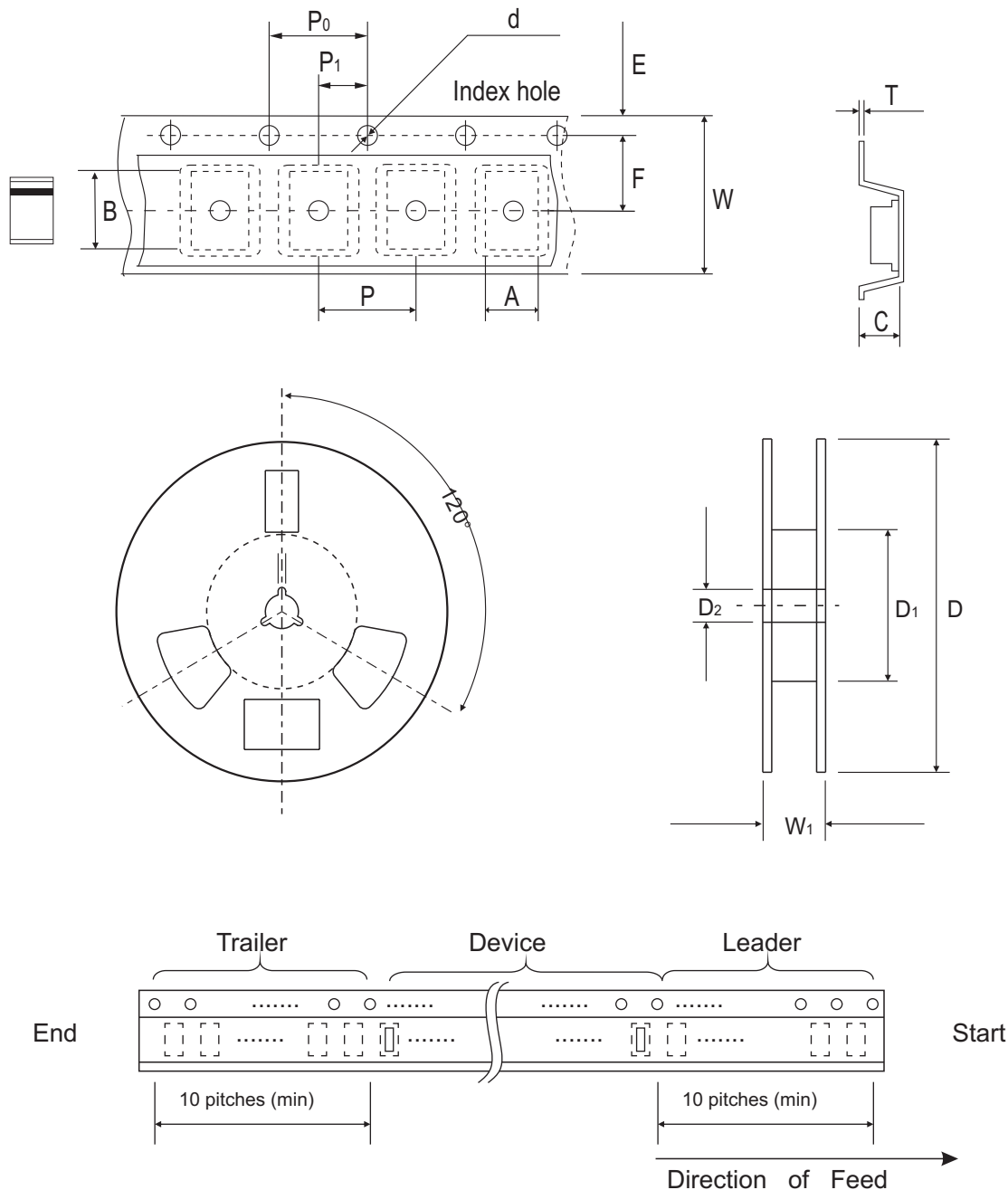


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification



| Mini-SMA/SOD-123T | SYMBOL | A                | B                | C                | d                 | D                 | D1         | D2                |
|-------------------|--------|------------------|------------------|------------------|-------------------|-------------------|------------|-------------------|
|                   | (mm)   | $1.90 \pm 0.10$  | $3.90 \pm 0.10$  | $1.68 \pm 0.10$  | $1.50 \pm 0.10$   | $178 \pm 2.00$    | 62.0 MIN.  | $13.0 \pm 0.50$   |
|                   | (inch) | $0.075 \pm 0.04$ | $0.153 \pm 0.04$ | $0.066 \pm 0.04$ | $0.059 \pm 0.004$ | $7.008 \pm 0.079$ | 2.440 MIN. | $0.512 \pm 0.020$ |

| Mini-SMA/SOD-123T | SYMBOL | E                 | F                 | P                 | $P_0$             | $P_1$             | T                 | W                 | $W_1$             |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $0.23 \pm 0.10$   | $8.00 \pm 0.30$   | $11.40 \pm 1.0$   |
|                   | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.009 \pm 0.004$ | $0.314 \pm 0.012$ | $0.449 \pm 0.039$ |

## Pinning information

| Pin                                        | Simplified outline                                                                | Symbol                                                                             |
|--------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>PIN 1 Cathode</b><br><b>PIN 2 Anode</b> |  |  |

## Marking Code

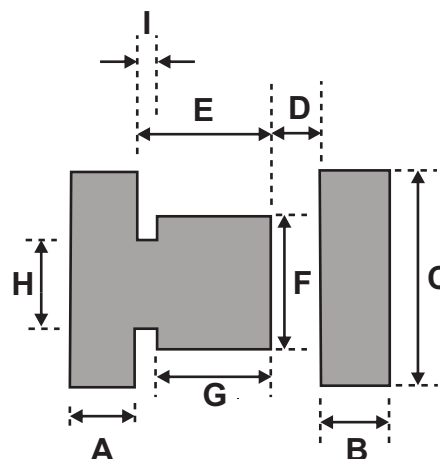
| Part Number | Marking Code |
|-------------|--------------|
| CDBMH120-G  | 12           |
| CDBMH130-G  | 13           |
| CDBMH140-G  | 14           |
| CDBMH150-G  | 15           |
| CDBMH160-G  | 16           |
| CDBMH180-G  | 18           |
| CDBMH1100-G | 10           |
| CDBMH1150-G | 115          |



xx / xxx = Product type marking code

## Suggested PAD Layout

| SIZE | Mini-SMA/SOD-123T |        |
|------|-------------------|--------|
|      | (mm)              | (inch) |
| A    | 1.00              | 0.040  |
| B    | 1.00              | 0.040  |
| C    | 1.70              | 0.067  |
| D    | 0.50              | 0.020  |
| E    | 1.50              | 0.060  |
| F    | 1.10              | 0.044  |
| G    | 0.90              | 0.035  |
| H    | 0.85              | 0.033  |
| I    | 0.60              | 0.024  |



## Standard Packaging

| Case Type             | REEL PACK       |                     |
|-----------------------|-----------------|---------------------|
|                       | REEL<br>( pcs ) | Reel Size<br>(inch) |
| Mini-SMA<br>/SOD-123T | 2,500           | 7                   |