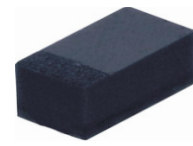


## CDSER4148-HF

RoHS Device  
Halogen Free

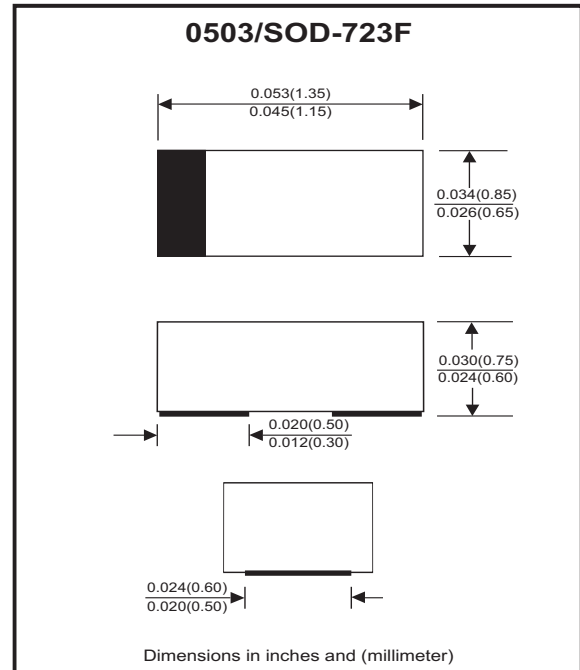


### Features

- High Speed.
- Designed for mounting on small surface.
- Extremely thin/leadless package.
- High mounting capability, strong surge withstand, high reliability.
- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

### Mechanical data

- Case: 0503/SOD-723F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.002 grams(approx.).



### Circuit diagram



### Maximum Rating (at TA=25 °C unless otherwise noted)

| Parameter                       | Conditions                | Symbol    | Min | Typ    | Max  | Unit |
|---------------------------------|---------------------------|-----------|-----|--------|------|------|
| Repetitive peak reverse voltage |                           | $V_{RRM}$ |     |        | 100  | V    |
| Reverse voltage                 |                           | $V_R$     |     |        | 75   | V    |
| Average forward current         |                           | $I_O$     |     |        | 150  | mA   |
| Forward current, surge peak     | $T_p=1\mu S$<br>$T_p=1mS$ | $I_{FSM}$ |     | 4<br>1 |      | A    |
| Power dissipation               |                           | $P_D$     |     |        | 150  | mW   |
| Operating temperature range     |                           | $T_J$     | -40 |        | +125 | °C   |
| Storage temperature range       |                           | $T_{STG}$ | -40 |        | +125 | °C   |

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

| Parameter                     | Conditions                                                                    | Symbol   | Min | Typ | Max       | Unit     |
|-------------------------------|-------------------------------------------------------------------------------|----------|-----|-----|-----------|----------|
| Forward voltage               | $I_F = 50\text{ mA DC}$                                                       | $V_F$    |     |     | 1.0       | V        |
| Reverse current               | $V_R = 20V$<br>$V_R = 75V$                                                    | $I_R$    |     |     | 25<br>2.5 | nA<br>uA |
| Capacitance between terminals | $f = 1\text{ MHz}$ , and 0 VDC reverse voltage                                | $C_T$    |     |     | 4         | pF       |
| Reverse recovery time         | $I_F = I_R = 10\text{ mA}$ , $R_L = 100\text{ ohms}$ , $I_{rr} = 1\text{ mA}$ | $T_{rr}$ |     |     | 4         | nS       |

## RATING AND CHARACTERISTIC CURVES (CDSER4148-HF)

Fig.1 - Forward Characteristics

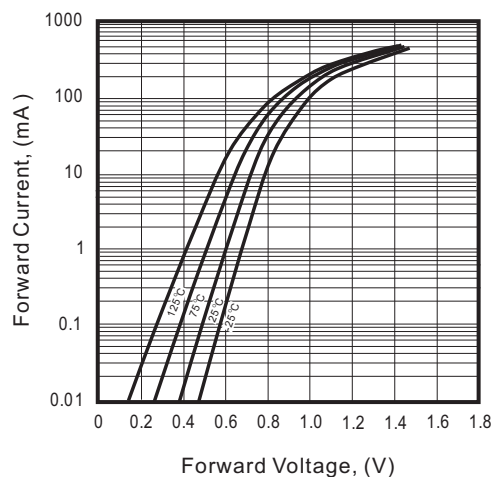


Fig.2 - Reverse Characteristics

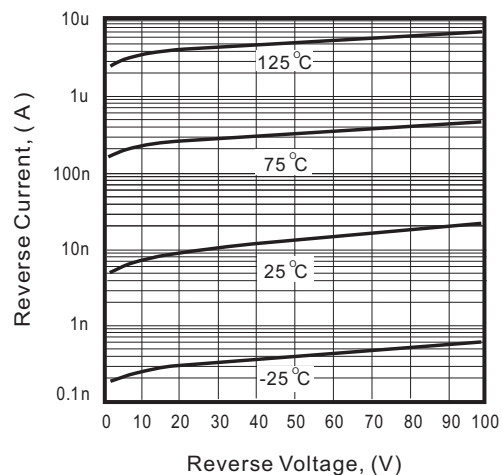


Fig.3 - Capacitance Between Terminals Characteristics

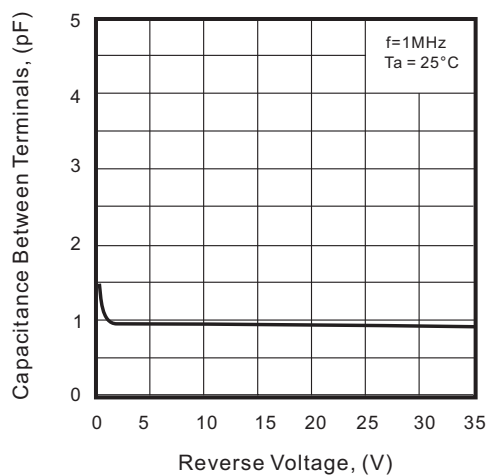
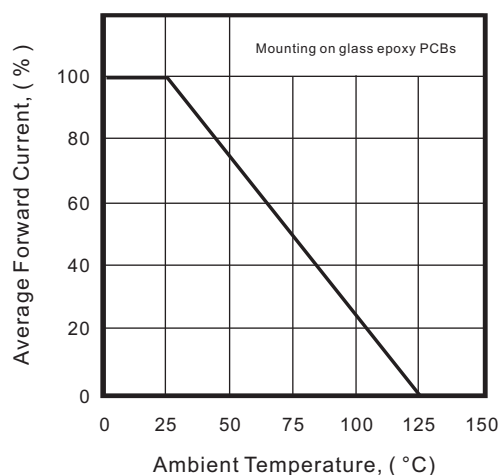
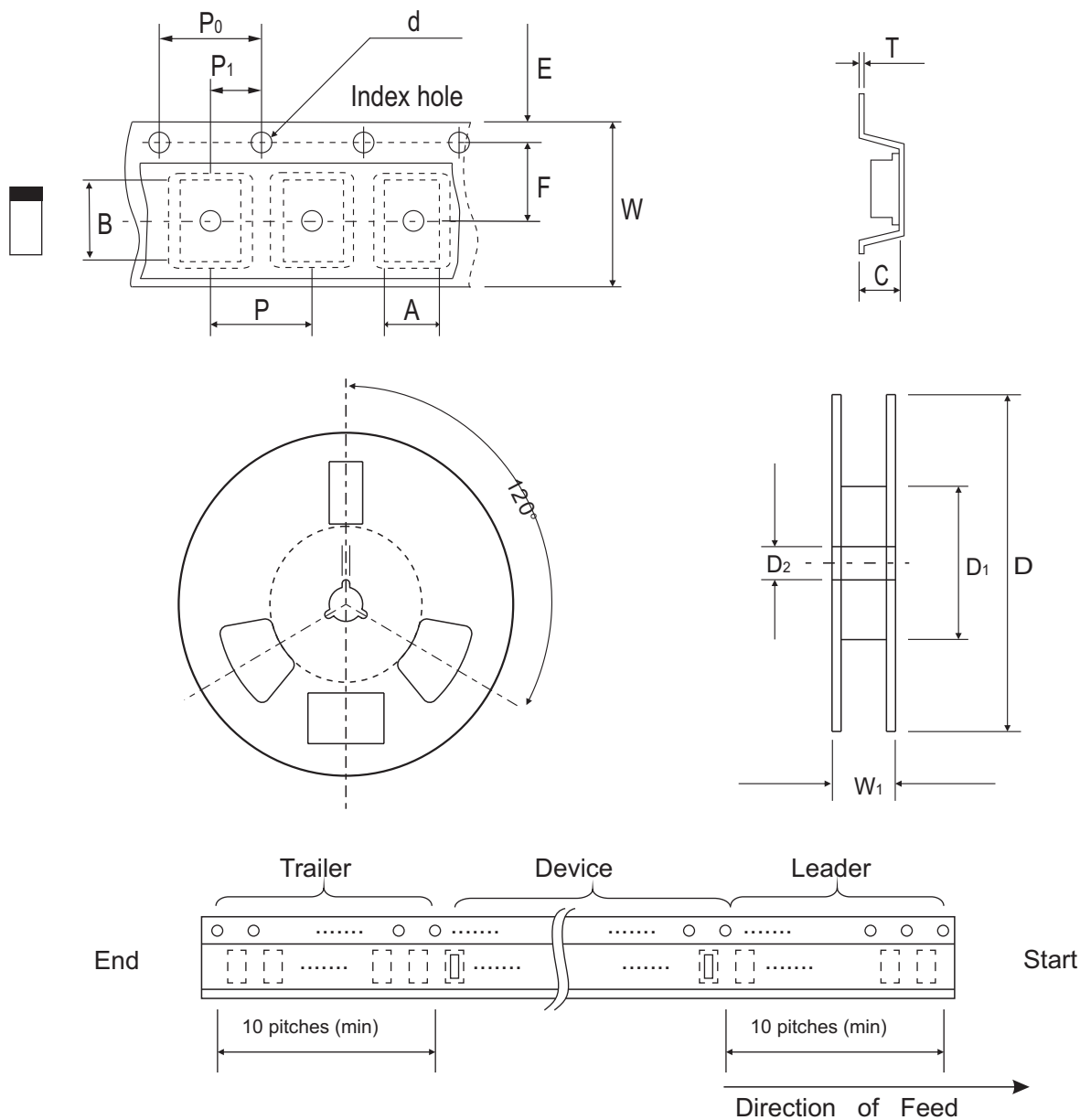


Fig.4 - Current Derating Curve



Reel Taping Specification



| 0503<br>(SOD-723F) | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
|                    | (mm)   | 0.90 ± 0.10   | 1.46 ± 0.10   | 0.80 ± 0.10   | 1.55 ± 0.05   | 178 ± 1      | 60.0 MIN.      | 13.0 ± 0.20    |
|                    | (inch) | 0.035 ± 0.004 | 0.057 ± 0.004 | 0.031 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN.     | 0.512 ± 0.008  |

| 0503<br>(SOD-723F) | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T             | W             | W <sub>1</sub> |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
|                    | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.05    | 0.22 ± 0.05   | 8.00 ± 0.20   | 13.5 MAX.      |
|                    | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.002  | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX.     |

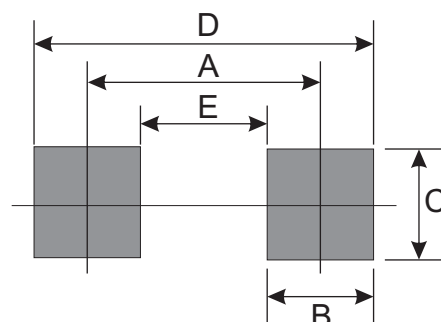
## Marking Code

| Part Number  | Marking Code |
|--------------|--------------|
| CDSER4148-HF | S3           |



## Suggested PAD Layout

| SIZE | 0503/SOD-723F |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 0.85          | 0.033  |
| B    | 0.55          | 0.022  |
| C    | 0.85          | 0.033  |
| D    | 1.40          | 0.055  |
| E    | 0.30          | 0.012  |



## Standard Packaging

| Case Type     | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
|               | (Pcs)        | (inch)    |
| 0503/SOD-723F | 4,000        | 7         |

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