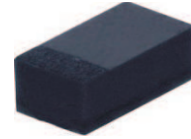


## CPDER24V0U-HF

**RoHS Device**  
**Halogen Free**



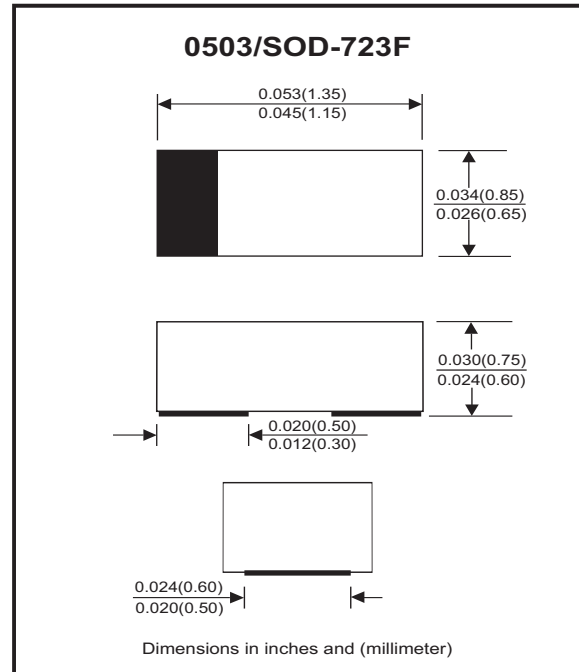
### Features

- Uni-directional ESD protection.
- Ultra small SMD package:0503.
- High component density.

### Mechanical data

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

### Circuit Diagram



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

| Parameter                   | Conditions                                     | Symbol | Min  | Typ | Max      | Unit |
|-----------------------------|--|--------|------|-----|----------|------|
| Forward voltage             | FI = 10mA                                      | VF     |      | 0.8 | 1.2      | V    |
| Diode breakdown voltage     | IR = 1mA                                       | VBD    | 26.5 |     |          | V    |
| Leakage current             | VR = 24V                                       | IL     |      |     | 0.25     | uA   |
| Junction capacitance        | VR = 0V, f = 1MHz                              | CT     |      |     | 35       | pF   |
| ESD capability              | IEC 61000-4-2(air)<br>IEC 61000-4-2(contact)   | ESD    |      |     | 20<br>15 | kV   |
| Clamping voltage            | 1PP = 1A, TP = 8/20us<br>1PP = 3A, TP = 8/20us | VC     |      |     | 38<br>50 | V    |
| Peak pulse power            |  | PPP    |      |     | 150      | W    |
| Operation temperature range |  | TJ     | -55  |     | 125      | °C   |
| Storage temperature range   |  | TSTG   | -55  |     | 150      | °C   |

## RATING AND CHARACTERISTIC CURVES (CPDER24V0U-HF)

Fig.1 - 8/20us Peak Pulse Current Wave Form Acc. IEC 61000-4-5

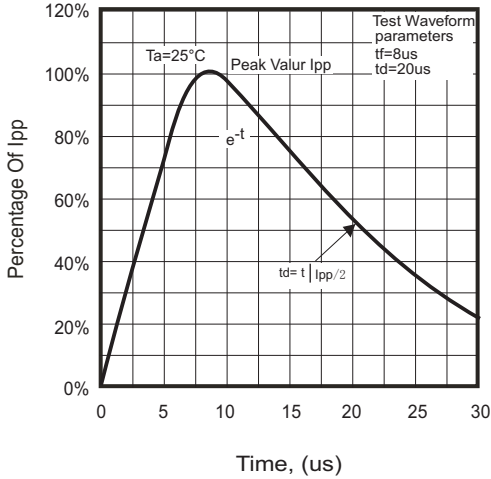


Fig.2 - Power Rating Derating Curve

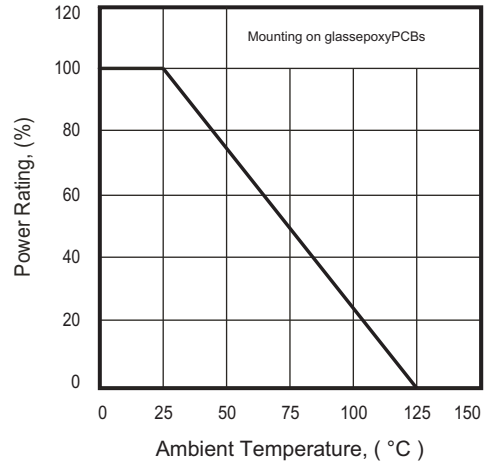


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

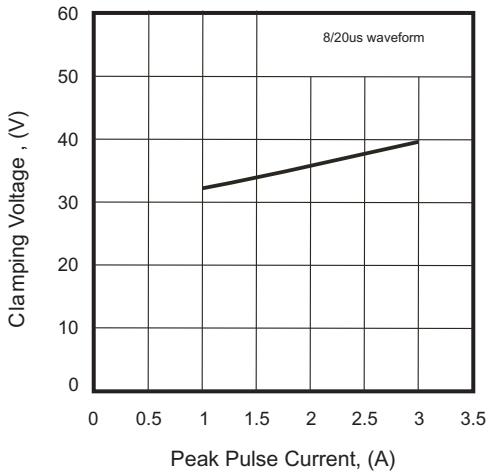


Fig.4 - Clamping Voltage Vs. Forward Peak Pulse Current

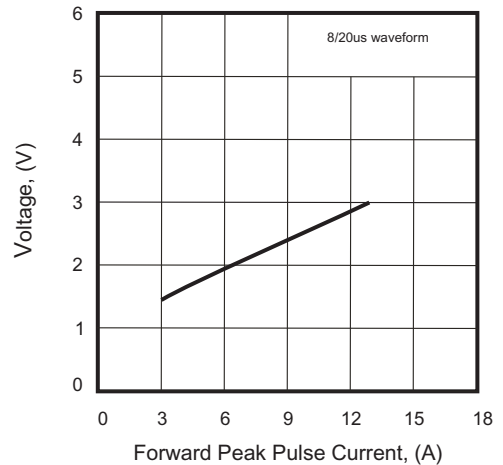
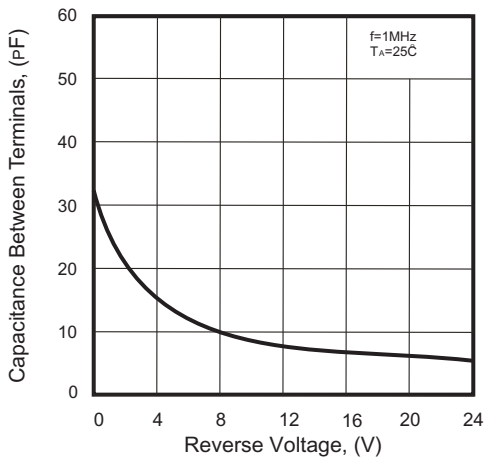
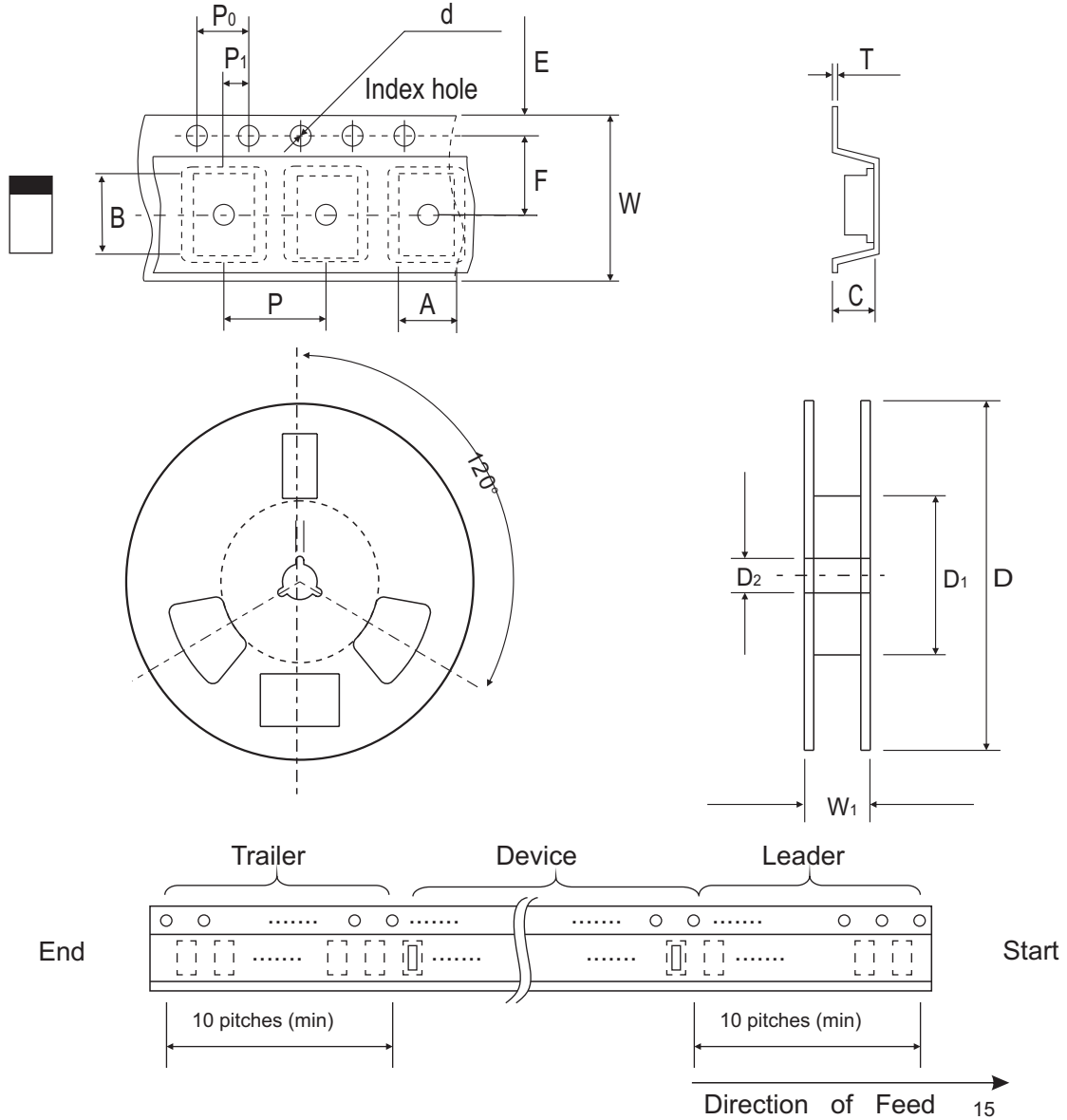


Fig.5 - Capacitance Between Terminals Characteristics



## 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.     |

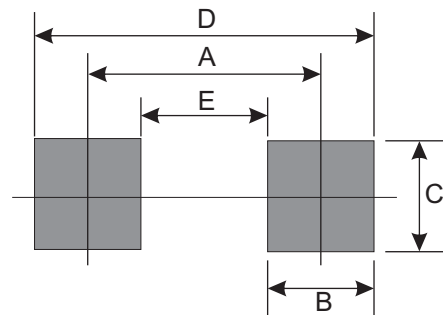
## Marking Code

| Part Number   | Marking Code |
|---------------|--------------|
| CPDER24V0U-HF | E24          |



## 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         |