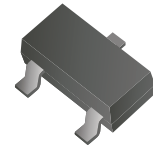


## CDBT-40/S/C/A-G

**Reverse Voltage: 40 Volts**

**Forward Current: 200 mA**

**RoHS Device**



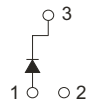
### Features

- Design for mounting on small surface.
- High speed switching application, circuit protection.
- Low forward voltage drop.

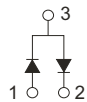
### Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Weight: 0.0078 grams(approx.).

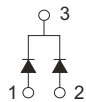
### Circuit diagram



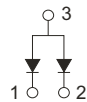
CDBT-40-G  
Marking Code: 43



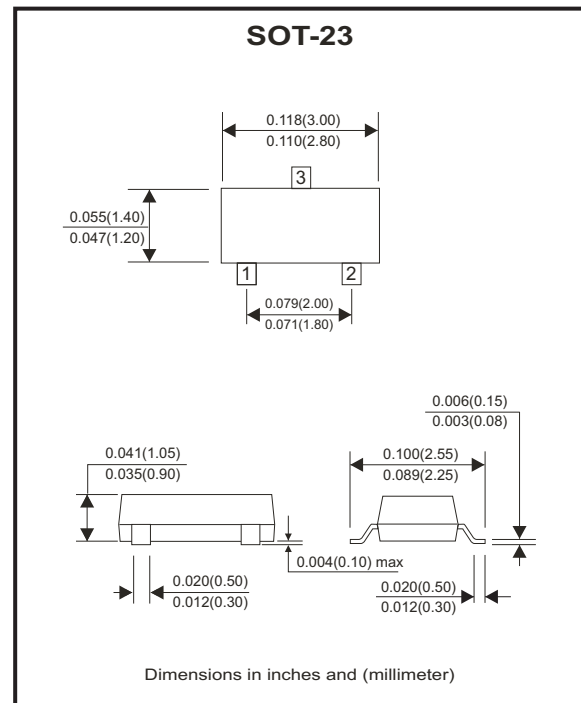
CDBT-40S-G  
Marking Code: 44



CDBT-40C-G  
Marking Code: 45



CDBT-40A-G  
Marking Code: 46



### Maximum Ratings (at Ta=25°C unless otherwise noted)

| Parameter                            | Symbol          | Conditions          | Value       | Unit |
|--------------------------------------|-----------------|---------------------|-------------|------|
| Peak repetitive peak reverse voltage | $V_{RRM}$       |                     |             |      |
| Working peak reverse voltage         | $V_{RWM}$       |                     | 40          | V    |
| DC blocking voltage                  | $V_R$           |                     |             |      |
| Forward continuous current           | $I_F$           |                     | 200         | mA   |
| Power dissipation                    | $P_D$           |                     | 200         | mW   |
| Thermal resistance                   | $R_{\theta JA}$ | Junction to ambient | 500         | °C/W |
| Junction temperature                 | $T_J$           |                     | 125         | °C   |
| Storage temperature range            | $T_{STG}$       |                     | -55 to +150 | °C   |

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

| Parameter                       | Symbol   | Conditions                                | Min. | Max. | Unit |
|---------------------------------|----------|-------------------------------------------|------|------|------|
| Reverse breakdown voltage       | $V_{BR}$ | $I_R=10\mu A$                             | 40   |      | V    |
| Reverse voltage leakage current | $I_R$    | $V_R=30V$                                 |      | 200  | nA   |
| Forward voltage                 | $V_F$    | $I_F=1mA$                                 |      | 380  | mV   |
|                                 |          | $I_F=40mA$                                |      | 1000 |      |
| Diode capacitance               | $C_D$    | $V_R=0V, f=1MHz$                          |      | 5    | pF   |
| Reverse recovery time           | $T_{rr}$ | $I_{rr}=1mA, I_F=I_R=10mA, R_L=100\Omega$ |      | 5    | nS   |

## RATING AND CHARACTERISTIC CURVES (CDBT-40/S/C/A-G)

Fig.1 - Forward Characteristics

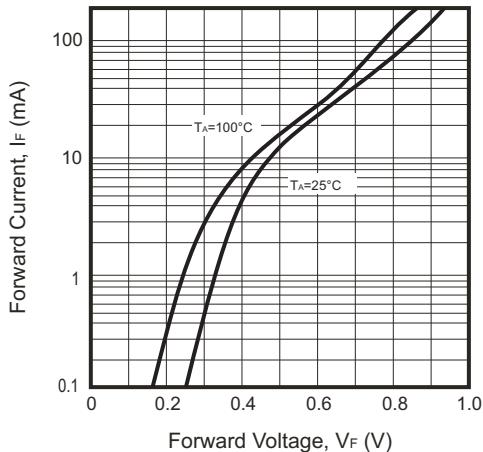


Fig.2 - Reverse Characteristics

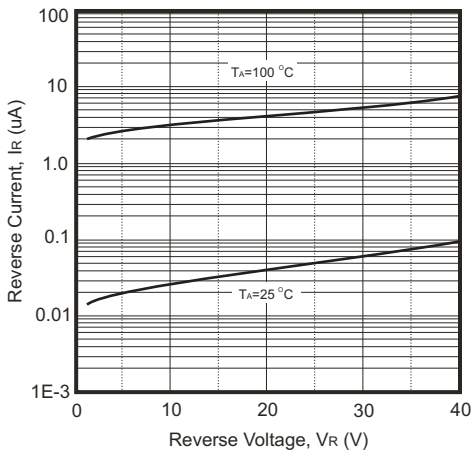


Fig.3 - Capacitance Characteristics

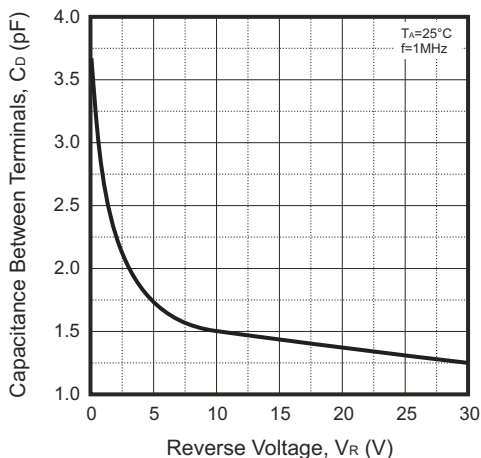
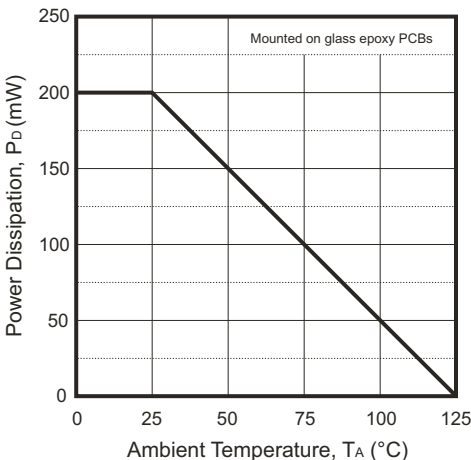
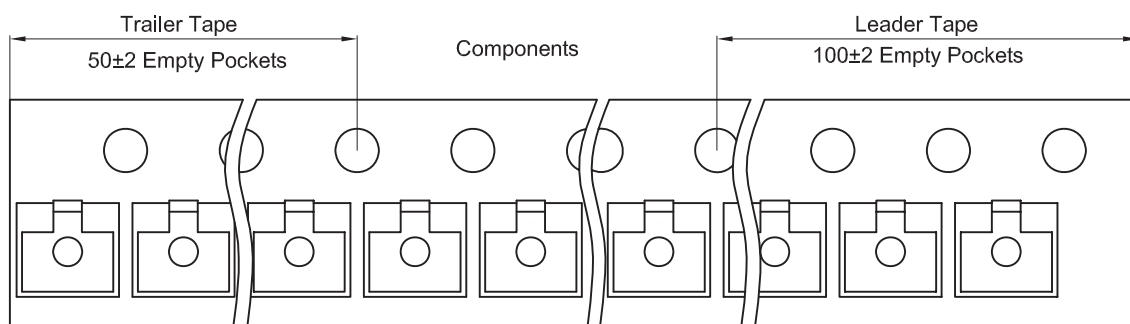
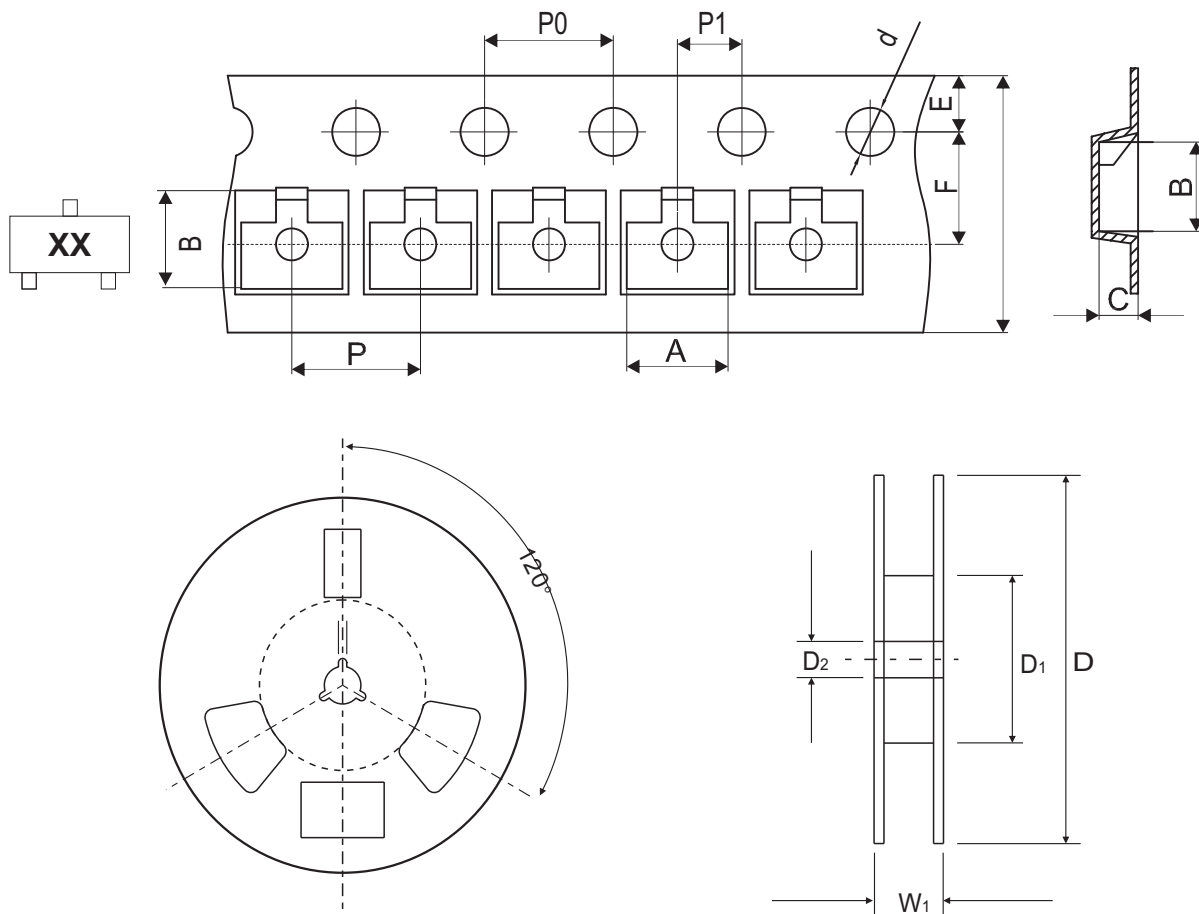


Fig.4 - Power Derating Curve



## Reel Taping Specification

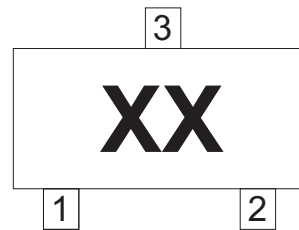


| SOT-23 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1                | D2                |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|        | (mm)   | $3.15 \pm 0.10$   | $2.77 \pm 0.10$   | $1.22 \pm 0.10$   | $1.50 \pm 0.10$   | $178.00 \pm 2.00$ | $54.40 \pm 1.00$  | $13.00 \pm 1.00$  |
|        | (inch) | $0.124 \pm 0.004$ | $0.109 \pm 0.004$ | $0.048 \pm 0.004$ | $0.059 \pm 0.004$ | $7.008 \pm 0.079$ | $2.142 \pm 0.039$ | $0.512 \pm 0.039$ |

| SOT-23 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                         | W1                |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------------|-------------------|
|        | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $8.00 + 0.30 / - 0.10$    | $12.30 \pm 1.00$  |
|        | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.315 + 0.012 / - 0.004$ | $0.484 \pm 0.039$ |

## Marking Code

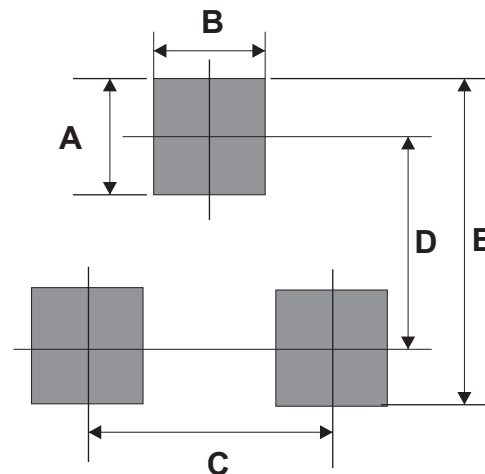
| Part Number | Marking Code |
|-------------|--------------|
| CDBT-40-G   | 43•          |
| CDBT-40S-G  | 44           |
| CDBT-40C-G  | 45           |
| CDBT-40A-G  | 46           |



XX• / XX = Product type marking code

## Suggested PAD Layout

| SIZE | SOT-23 |        |
|------|--------|--------|
|      | (mm)   | (inch) |
| A    | 0.80   | 0.031  |
| B    | 0.60   | 0.024  |
| C    | 1.90   | 0.075  |
| D    | 2.02   | 0.080  |
| E    | 2.82   | 0.111  |



## Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|-----------|--------------|-----------|
|           | (Pcs)        | (inch)    |
| SOT-23    | 3,000        | 7         |