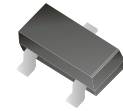


# CDBV3-54/S/C/A-G

**Reverse Voltage: 30 Volts**

**Forward Current: 200 mA**

**RoHS Device**



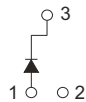
## Features

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

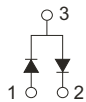
## Mechanical data

- Case: SOT-323, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Weight: 0.0055 gram (approx.).

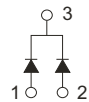
## Circuit diagram



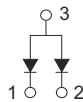
CDBV3-54-G



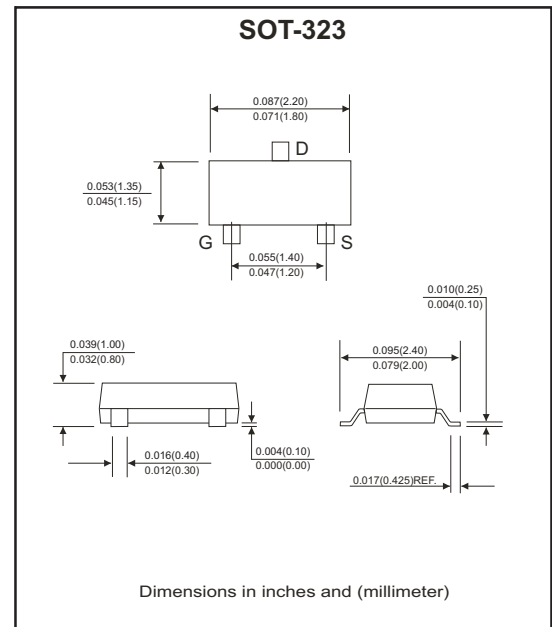
CDBV3-54S-G



CDBV3-54C-G



CDBV3-54A-G



## Maximum Ratings and Electrical Characteristics

(at Ta=25°C unless otherwise noted)

| Parameter                       | Symbol    | Conditions                                                                    | Value                                | Units   |
|---------------------------------|-----------|-------------------------------------------------------------------------------|--------------------------------------|---------|
| Repetitive peak reverse voltage | $V_{RRM}$ |                                                                               | 30                                   | V       |
| Reverse voltage                 | $V_R$     |                                                                               | 30                                   | V       |
| Forward current                 | $I_F$     |                                                                               | 200                                  | mA      |
| Peak surge forward current      | $I_{FSM}$ | T=1.0 sec                                                                     | 0.6                                  | A       |
| Power dissipation               | $P_D$     |                                                                               | 200                                  | mW      |
| Maximum forward voltage         | $V_F$     | @ $I_F=0.1mA$<br>@ $I_F=1mA$<br>@ $I_F=10mA$<br>@ $I_F=30mA$<br>@ $I_F=100mA$ | 0.24<br>0.32<br>0.40<br>0.50<br>1.00 | V       |
| Maximum reverse current         | $I_R$     | @ $V_R=25V$                                                                   | 2                                    | $\mu A$ |
| Maximum reverse recovery time   | $T_{rr}$  | $I_F=I_R=10mA$ , $R_L=100\Omega$                                              | 5                                    | nS      |
| Maximum diode capacitance       | $C_J$     | $V_R=1V$ , $f=1.0MHz$                                                         | 10                                   | pF      |
| Maximum junction temperature    | $T_J$     |                                                                               | 125                                  | °C      |
| Storage temperature             | $T_{STG}$ |                                                                               | -55 to +150                          | °C      |

Company reserves the right to improve product design , functions and reliability without notice.

REV:E

## RATING AND CHARACTERISTIC CURVES (CDBV3-54/S/C/A-G)

Fig.1 - Forward Characteristics

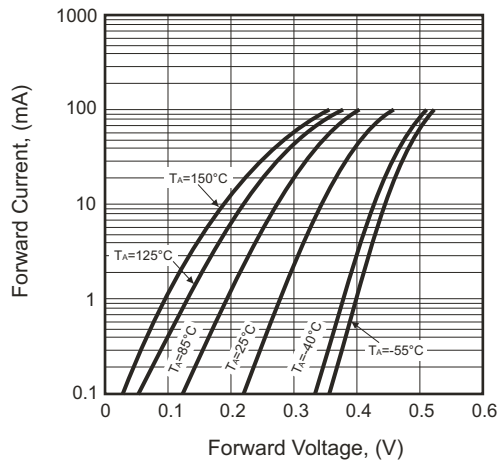


Fig.2 - Leakage Current

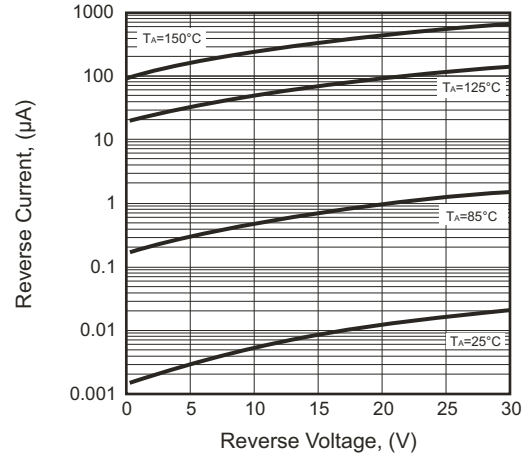


Fig.3 - Total Capacitance

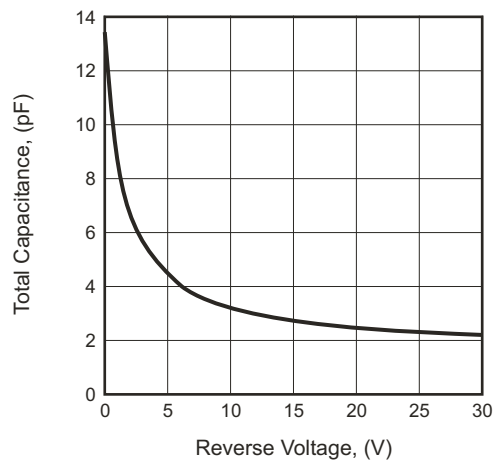
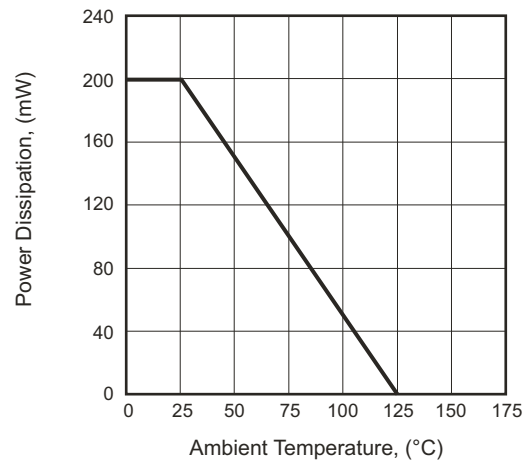
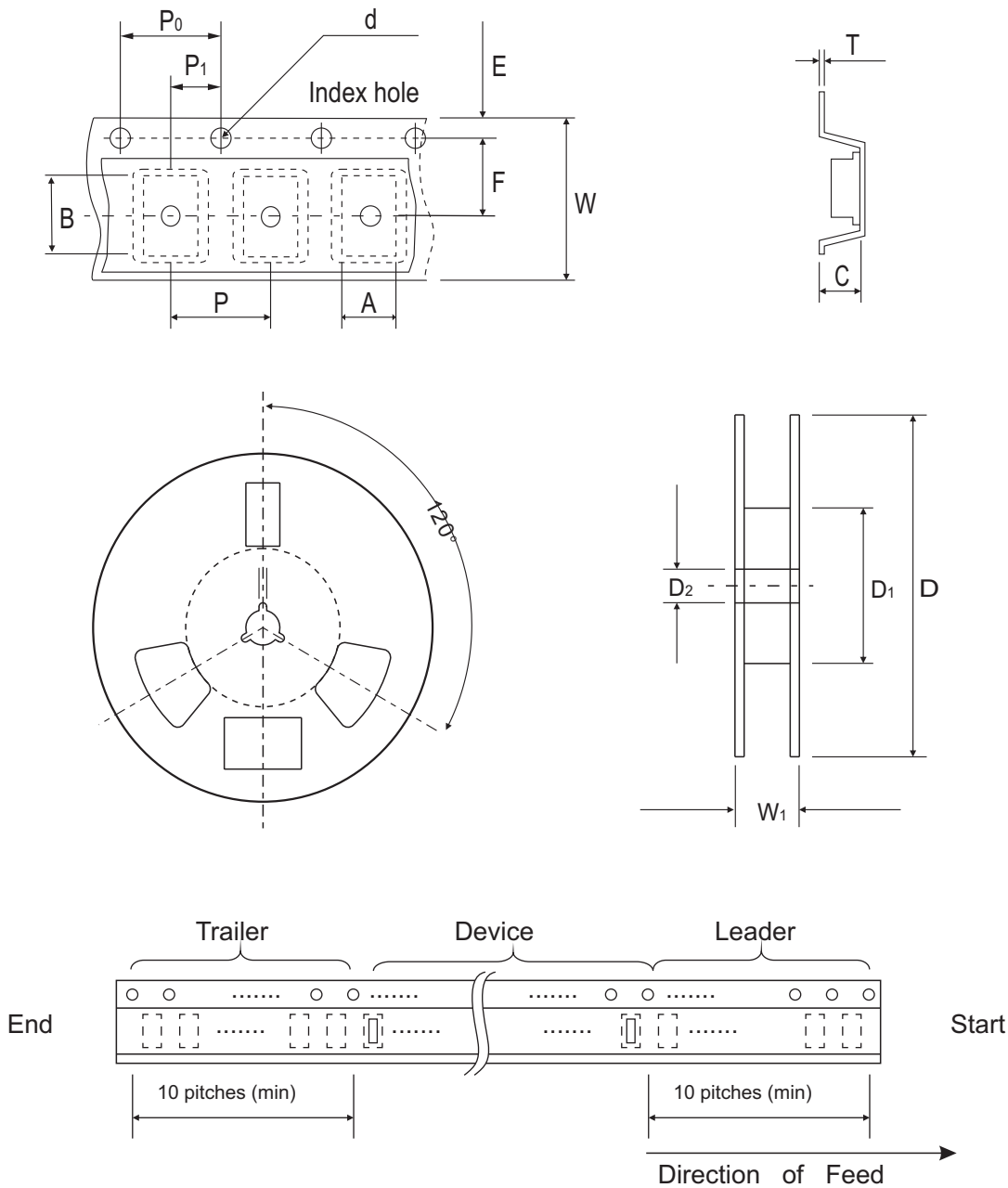


Fig.4 - Power Derating Curve



Reel Taping Specification

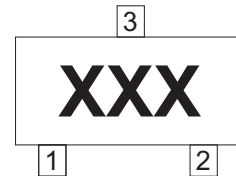


| SOT-323 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1         | D2                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-------------------|
|         | (mm)   | $2.20 \pm 0.10$   | $2.40 \pm 0.10$   | $1.15 \pm 0.10$   | $1.55 \pm 0.10$   | $178 \pm 1$       | 50.0 MIN.  | $13.0 \pm 0.20$   |
|         | (inch) | $0.087 \pm 0.004$ | $0.094 \pm 0.004$ | $0.045 \pm 0.004$ | $0.061 \pm 0.004$ | $7.008 \pm 0.040$ | 1.969 MIN. | $0.512 \pm 0.008$ |

| SOT-323 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                 | W1         |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|
|         | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $8.00 \pm 0.30$   | 14.4 MAX.  |
|         | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.315 \pm 0.012$ | 0.567 MAX. |

## Marking Code

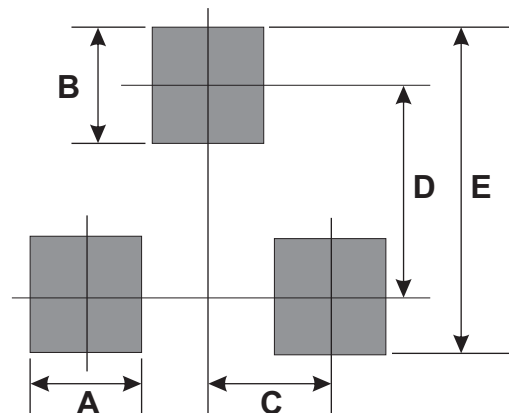
| Part Number | Marking Code |
|-------------|--------------|
| CDBV3-54-G  | KL5 , B4     |
| CDBV3-54A-G | KL6 , B7     |
| CDBV3-54C-G | KL7 , 5C     |
| CDBV3-54S-G | KL8 , B8     |



xxx = Product type marking code

## Suggested PAD Layout

| SIZE | SOT-323 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 0.70    | 0.028  |
| B    | 0.90    | 0.035  |
| C    | 0.65    | 0.025  |
| D    | 1.90    | 0.075  |
| E    | 2.80    | 0.110  |



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOT-323   | 3,000           | 7                   |