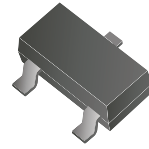


CDBT-54/S/C/A-G

Reverse Voltage: 30 Volts
Forward Current: 200 mA
RoHS Device



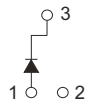
Features

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

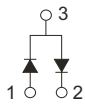
Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Approx. weight: 0.008 grams
- Packing 3,000 pieces per 7" reel.

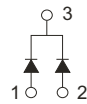
Circuit diagram



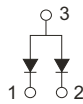
CDBT-54-G



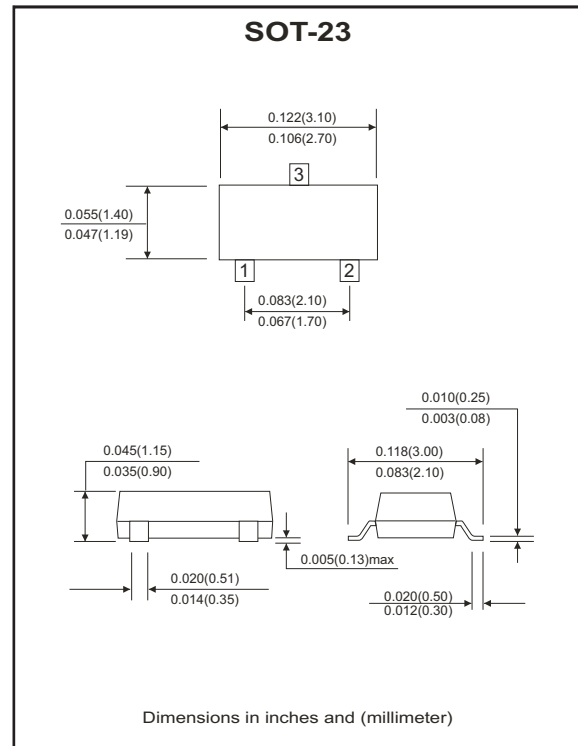
CDBT-54S-G



CDBT-54C-G



CDBT-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 | 600 | mA |
| Power dissipation | P _d | | 225 | mW |
| Maximum forward voltage | V _F | @I _F =0.1mA @I _F =1mA @I _F =10mA @I _F =30mA @I _F =100mA | 0.24 0.32 0.40 0.50 1.00 | V |
| Maximum reverse current | I _R | @V _R =25V | 2 | μA |
| Maximum reverse recovery time | T _{rr} | I _F =I _R =10mA, R _L =100Ω | 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 +125 | °C |

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

Fig.1- Forward characteristics

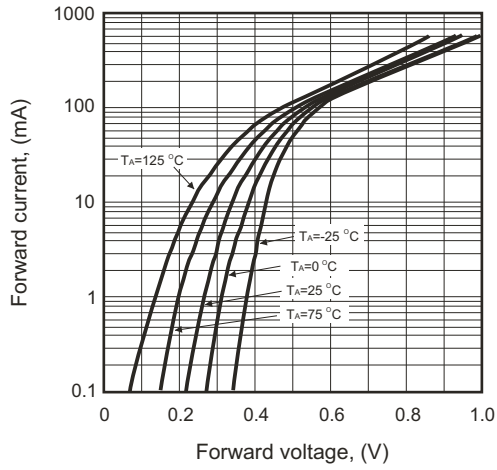


Fig.2- Reverse characteristics

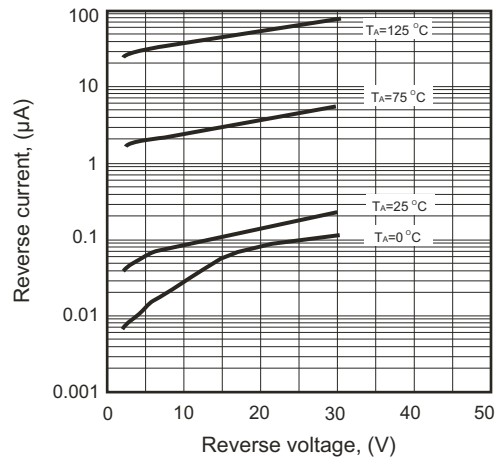


Fig.3- Capacitance between terminals characteristics

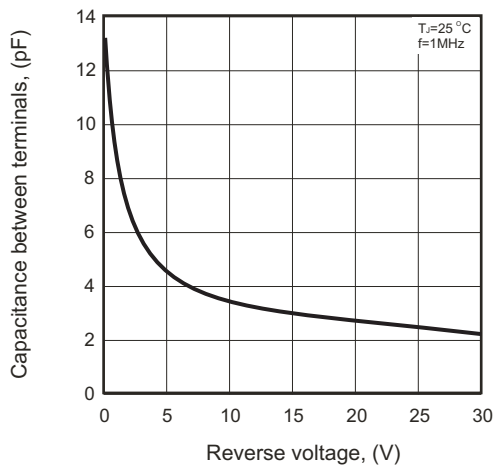
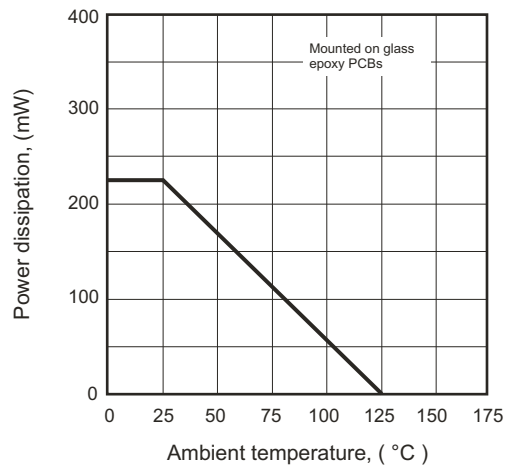
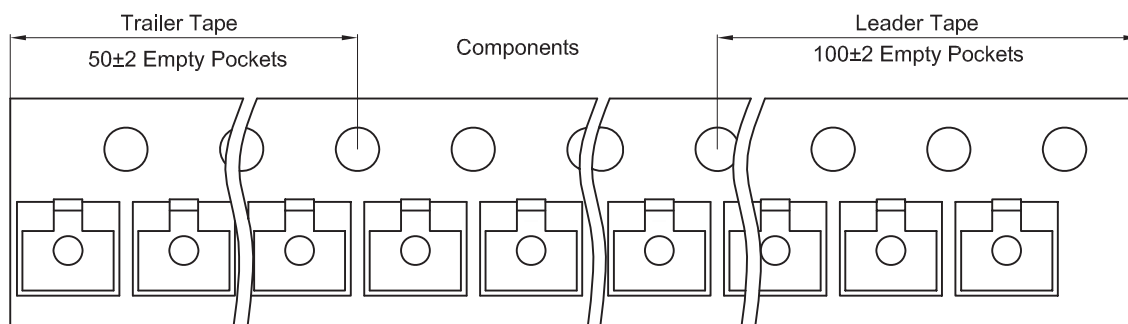
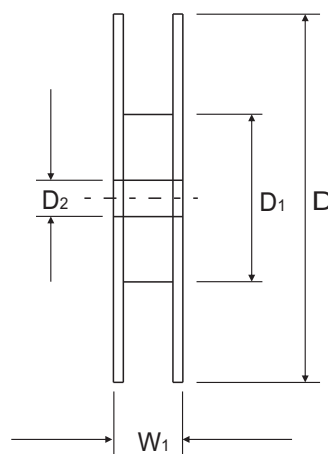
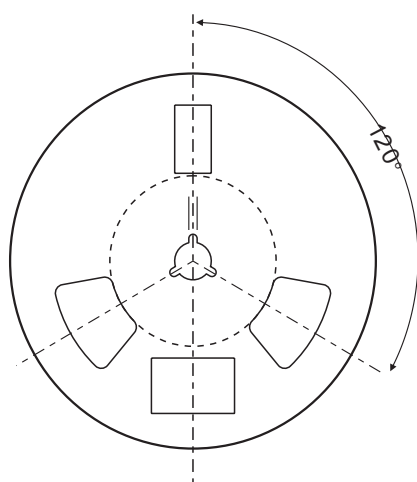
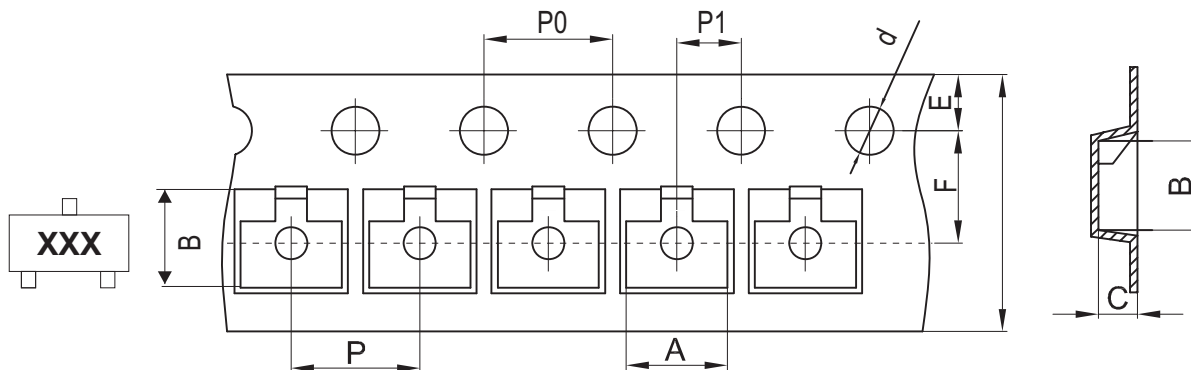


Fig.4- Power derating curve



Reel Taping Specification

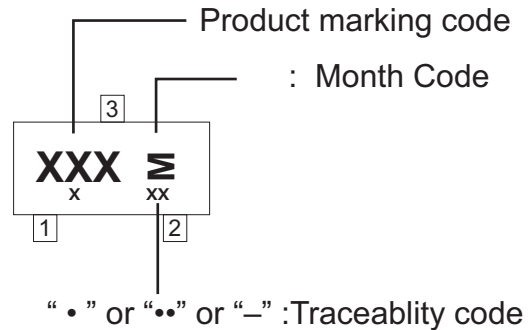


| SOT-23 | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 3.15 ± 0.10 | 2.77 ± 0.10 | 1.22 ± 0.10 | 1.50 ± 0.10 | 178 ± 2.00 | 54.40 ± 1.00 | 13.00 ± 1.00 |
| | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

| SOT-23 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|-------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00 + 0.30 / - 0.10 | 12.30 ± 1.0 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.315 + 0.012 / - 0.004 | 0.484 ± 0.039 |

Marking Code

| Part Number | Marking Code | |
|-------------|--------------|-------|
| CDBT-54-G | KL1 | JV3 ≍ |
| CDBT-54A-G | KL2 | B6 ≍ |
| CDBT-54C-G | KL3 | 5C ≍ |
| CDBT-54S-G | KL4 | LD3 ≍ |



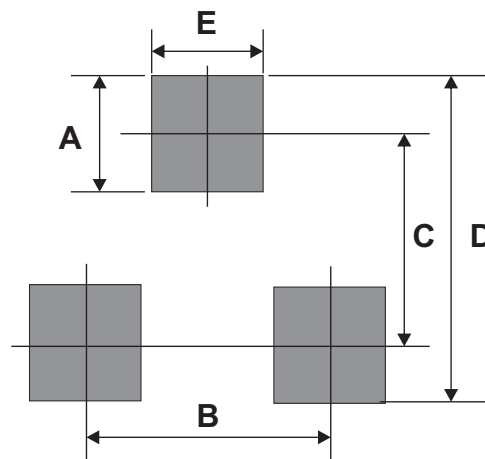
Month Code:

| Month | Odd Year (per A.D.) | Even Year (per A.D.) |
|-------|---------------------|----------------------|
| Jan | 1 | E |
| Feb | 2 | F |
| Wer | 3 | H |
| Apr | 4 | J |
| May | 5 | K |
| Jun | 6 | L |

| Month | Odd Year (per A.D.) | Even Year (per A.D.) |
|-------|---------------------|----------------------|
| Jul | 7 | N |
| Aug | 8 | P |
| Sep | 9 | U |
| Oct | T | X |
| Nov | V | Y |
| Dec | C | Z |

Suggested PAD Layout

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



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-23 | 3,000 | 7 |