

## CDBQC0240LR-HF

$I_o = 200 \text{ mA}$

$V_R = 40 \text{ Volts}$

RoHS Device

Halogen Free



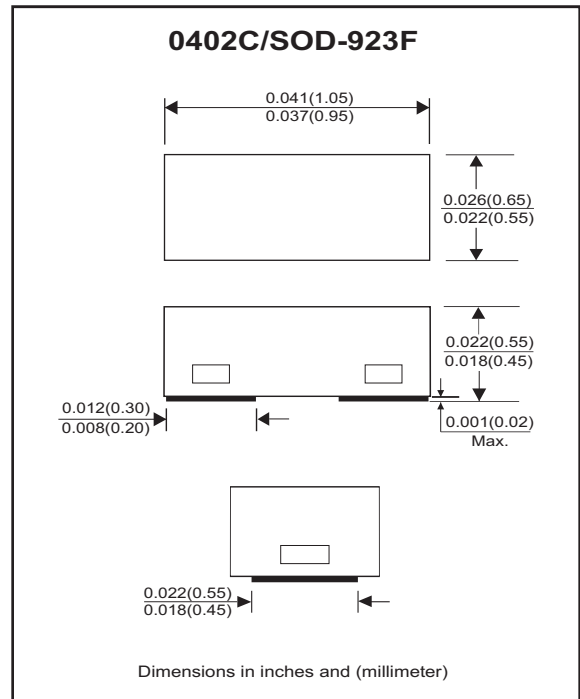
### Features

- Low reverse current, Low forward voltage.
- Designed for mounting on small surface.
- Extremely thin / leadless package.
- Majority carrier conduction.

### Mechanical data

- Case: 0402C / SOD-923F standard package, molded plastic.
- Terminals: Matte tin plated, solderable per MIL-STD-750, method 2026.
- Marking Code: cathode band & BX
- Mounting position: Any.
- Weight: 0.001 grams(approx.).

### Circuit diagram



### Maximum Rating (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                              | Conditions                                                                     | Symbol          | Min | Typ | Max  | Unit               |
|----------------------------------------|--------------------------------------------------------------------------------|-----------------|-----|-----|------|--------------------|
| Repetitive peak reverse voltage        |                                                                                | $V_{RRM}$       |     |     | 40   | V                  |
| Reverse voltage                        |                                                                                | $V_R$           |     |     | 40   | V                  |
| Average forward rectified current      |                                                                                | $I_o$           |     |     | 200  | mA                 |
| Peak forward surge current             | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) * 1cycle | $I_{FSM}$       |     |     | 3    | A                  |
| Power dissipation                      |                                                                                | $P_D$           |     |     | 320  | mW                 |
| Thermal resistance junction to ambient |                                                                                | $R_{\theta JA}$ |     |     | 310  | $^\circ\text{C/W}$ |
| Operating temperature range            |                                                                                | $T_J$           | -40 |     | +125 | $^\circ\text{C}$   |
| Storage temperature range              |                                                                                | $T_{STG}$       | -40 |     | +125 | $^\circ\text{C}$   |

### Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter       | Conditions                                      | Symbol | Min | Typ | Max  | Unit          |
|-----------------|-------------------------------------------------|--------|-----|-----|------|---------------|
| Forward voltage | $I_F = 10\text{mA}$                             | $V_F$  |     |     | 0.35 | V             |
|                 | $I_F = 100\text{mA}$                            | $V_F$  |     |     | 0.48 | V             |
|                 | $I_F = 200\text{mA}$                            | $V_F$  |     |     | 0.58 | V             |
| Reverse current | $V_R = 10\text{V}$                              | $I_R$  |     |     | 0.5  | $\mu\text{A}$ |
|                 | $V_R = 40\text{V}$                              | $I_R$  |     |     | 5    | $\mu\text{A}$ |
| Capacitance     | $f = 1 \text{ MHz}$ , and 1 VDC reverse voltage | $C_T$  |     | 9   |      | pF            |

RATING AND CHARACTERISTIC CURVES (CDBQC0240LR-HF)

Fig.1 - Forward Characteristics

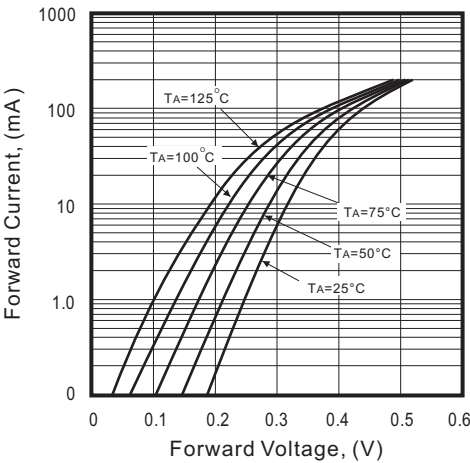


Fig.2 - Reverse Characteristics

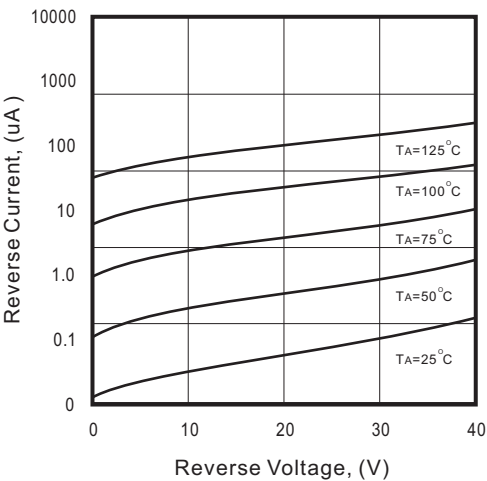


Fig.3 - Typical Capacitance Between Terminals Characteristics

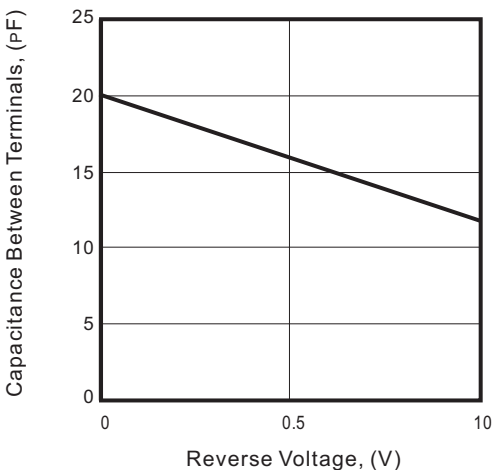
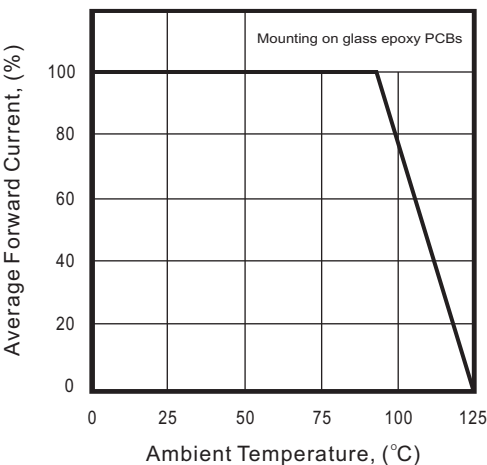
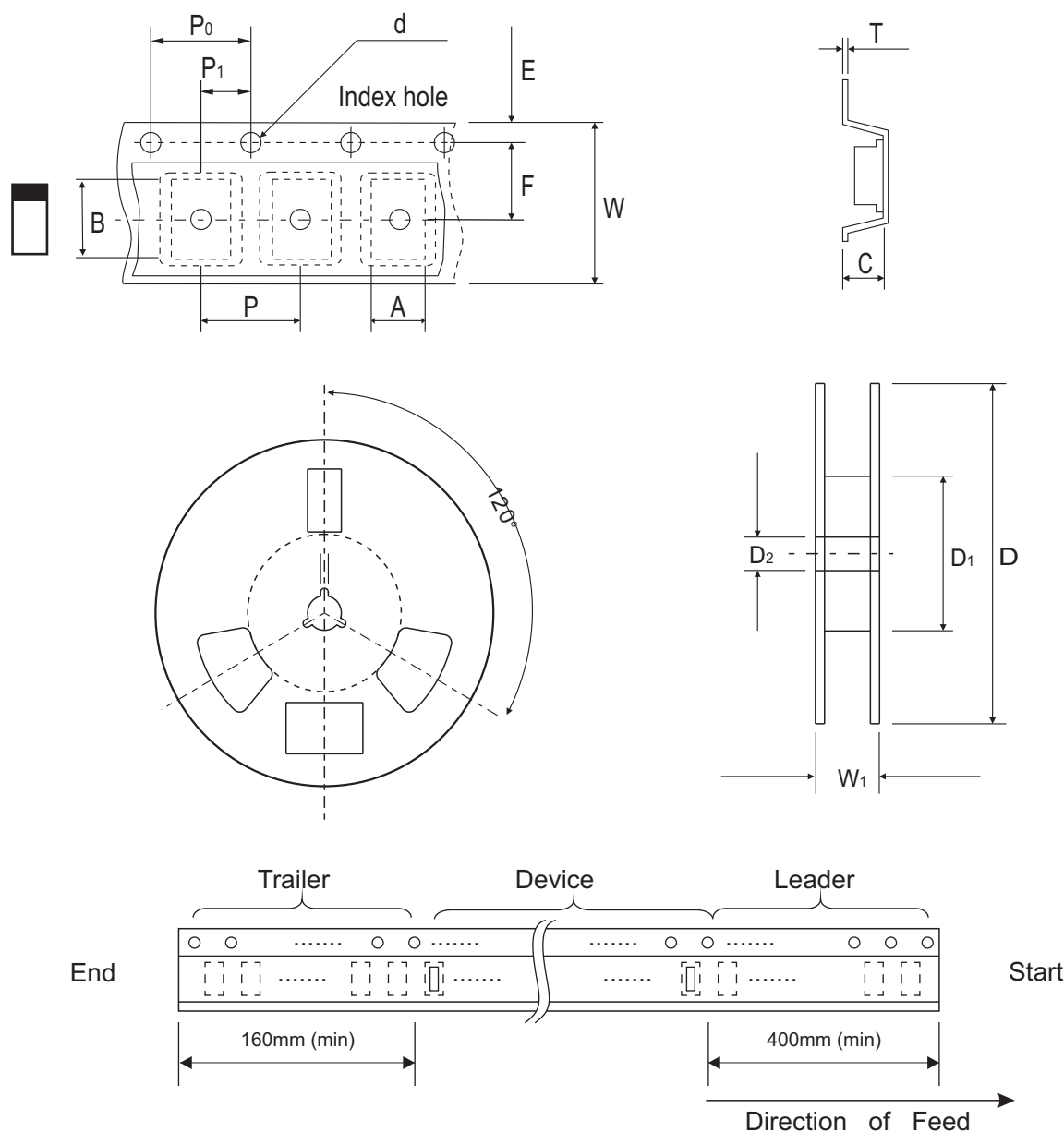


Fig.4 - Current Derating Curve



## Reel Taping Specification



| 0402C<br>(SOD-923F) | SYMBOL | A             | B             | C             | d                    | D             | D <sub>1</sub> | D <sub>2</sub> |
|---------------------|--------|---------------|---------------|---------------|----------------------|---------------|----------------|----------------|
|                     | (mm)   | 0.75 ± 0.05   | 1.17 ± 0.05   | 0.65 ± 0.05   | 1.50 + 0.10<br>- 0   | 178.00 ± 1.00 | 60.00 ± 0.50   | 13.50 ± 0.20   |
|                     | (inch) | 0.030 ± 0.002 | 0.046 ± 0.002 | 0.026 ± 0.002 | 0.059 + 0.004<br>- 0 | 7.008 ± 0.039 | 2.362 ± 0.020  | 0.531 ± 0.008  |

| 0402C<br>(SOD-923F) | 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 ± 0.10   | 4.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.10    | 0.20 + 0.02<br>- 0.05    | 8.00 ± 0.20   | 12.00 + 0.50<br>- 0  |
|                     | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.008 + 0.001<br>- 0.002 | 0.315 ± 0.008 | 0.472 + 0.020<br>- 0 |

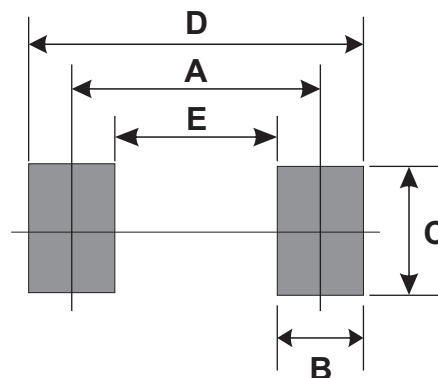
## Marking Code

| Part Number    | Marking Code |
|----------------|--------------|
| CDBQC0240LR-HF | BX           |



## Suggested PAD Layout

| SIZE | 0402C/SOD-923F |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 0.70           | 0.028  |
| B    | 0.40           | 0.016  |
| C    | 0.70           | 0.028  |
| D    | 1.10           | 0.043  |
| E    | 0.30           | 0.012  |



## Standard Packaging

| Case Type      | REEL PACK       |                     |
|----------------|-----------------|---------------------|
|                | REEL<br>( pcs ) | Reel Size<br>(inch) |
| 0402C/SOD-923F | 5,000           | 7                   |