

# SMD Schottky Barrier Diode

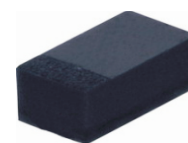


SMD Diodes Specialist

## CDBQR0140R (RoHS Device)

$I_o = 100 \text{ mA}$

$V_R = 40 \text{ Volts}$

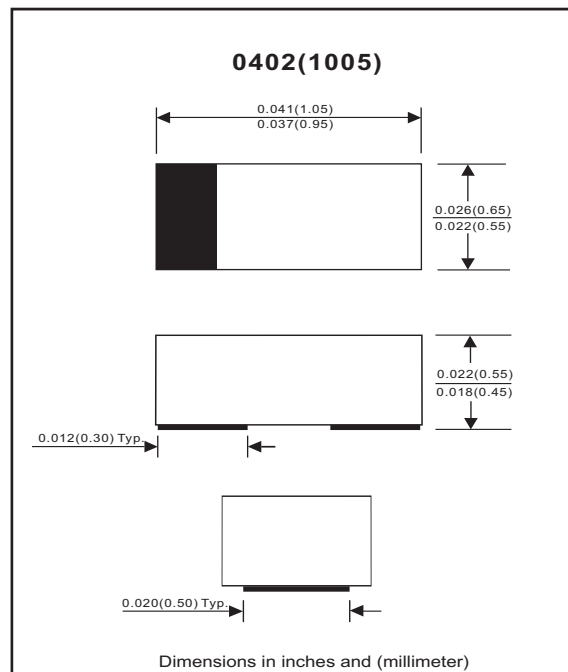


### Features

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

### Mechanical data

- Case: 0402(1005) standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code: Cathode band & B9
- Mounting position: Any.
- Weight: 0.001 gram(approx.).



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

| Parameter                         | Conditions                                                            | Symbol    | Min | Typ | Max  | Unit               |
|-----------------------------------|-----------------------------------------------------------------------|-----------|-----|-----|------|--------------------|
| Repetitive Peak reverse voltage   |                                                                       | $V_{RRM}$ |     |     | 45   | V                  |
| Reverse voltage                   |                                                                       | $V_R$     |     |     | 40   | V                  |
| Average forward rectified current |                                                                       | $I_o$     |     |     | 100  | mA                 |
| Forward current,surge peak        | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ |     |     | 1    | A                  |
| Power Dissipation                 |                                                                       | $P_D$     |     |     | 125  | mW                 |
| Storage temperature               |                                                                       | $T_{STG}$ | -40 |     | +125 | $^{\circ}\text{C}$ |
| Junction temperature              |                                                                       | $T_j$     |     |     | +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               | $I_F = 10\text{mA}$                              | $V_F$  |     |     | 0.45 | V             |
| Reverse current               | $V_R = 10\text{V}$                               | $I_R$  |     |     | 1    | $\mu\text{A}$ |
| Capacitance between terminals | $f = 1 \text{ MHz}$ , and 10 VDC reverse voltage | $C_T$  |     | 6   |      | pF            |

## RATING AND CHARACTERISTIC CURVES (CDBQR0140R)

Fig. 1 - Forward characteristics

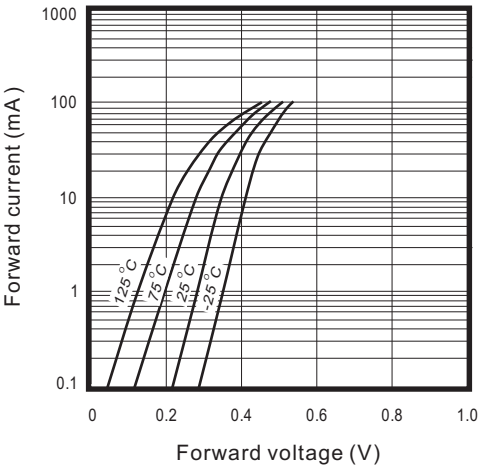


Fig. 2 - Reverse characteristics

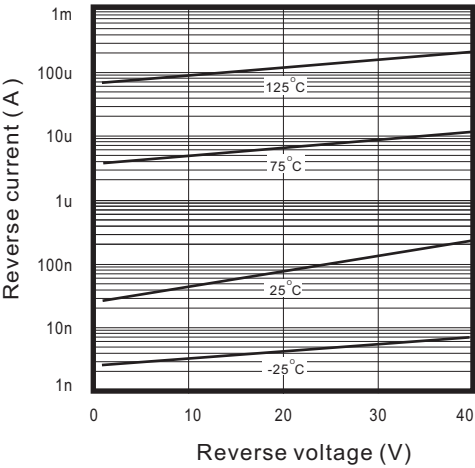


Fig. 3 - Capacitance between terminals characteristics

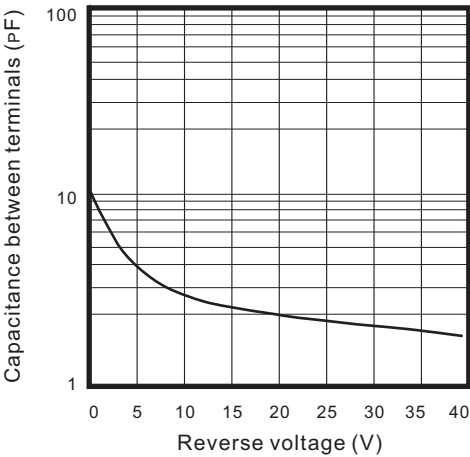
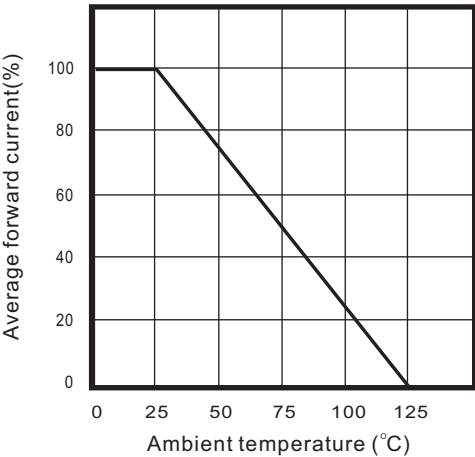
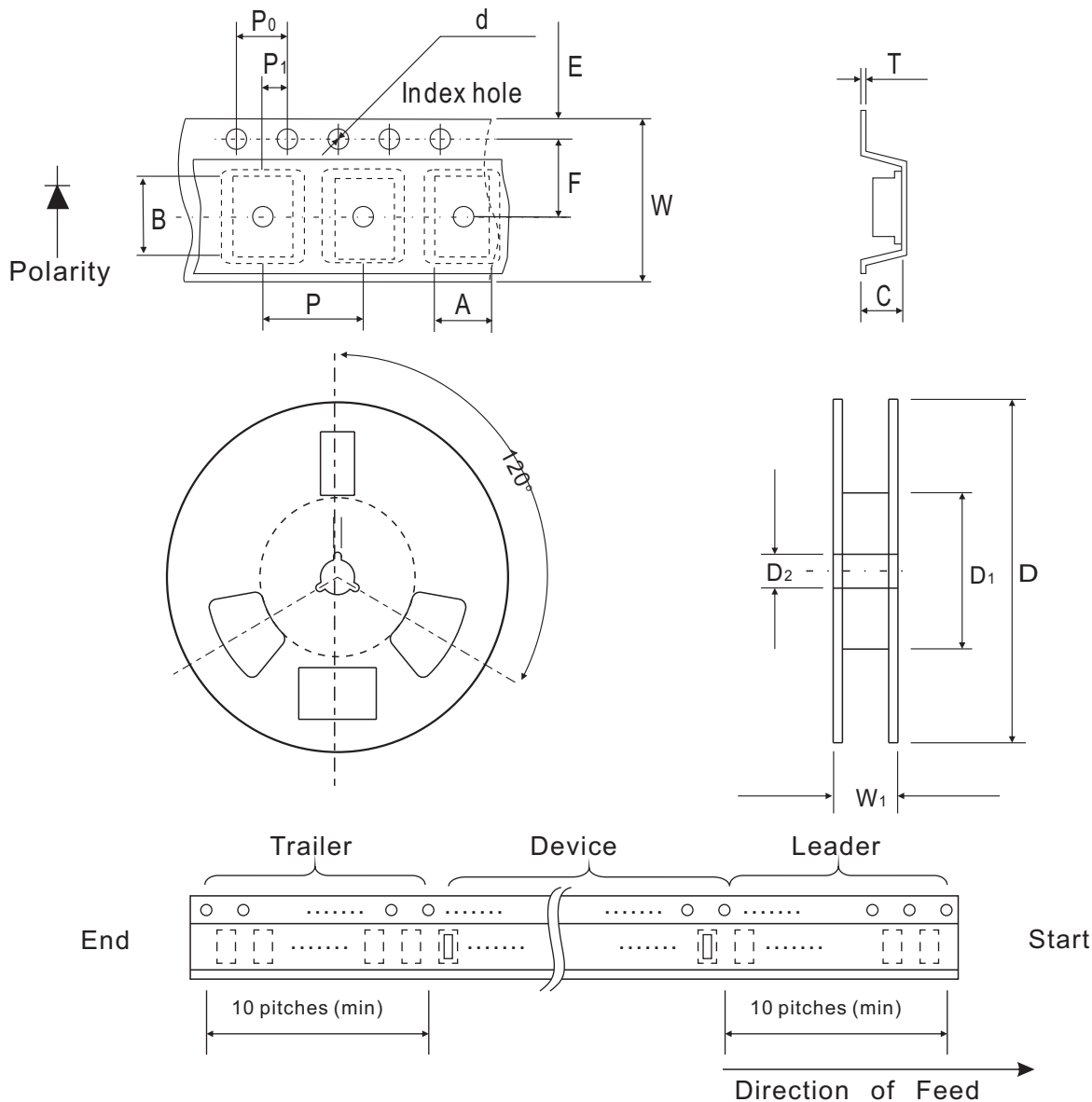


Fig.4 - Current derating curve



## Reel Taping Specification



| QR/0402 | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|---------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
|         | (mm)   | 0.80 ± 0.10   | 1.30 ± 0.10   | 0.55 ± 0.10   | 1.55 ± 0.10   | 178 ± 1      | 60.0 MIN.      | 13.0 ± 0.20    |
|         | (inch) | 0.031 ± 0.004 | 0.051 ± 0.004 | 0.022 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.04 | 2.362 MIN.     | 0.512 ± 0.008  |

| QR/0402 | 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 ± 0.10    | 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 ± 0.004  | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX.     |

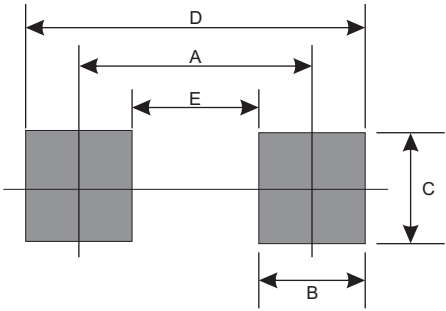
## Marking Code

| Park Number | Marking Code |
|-------------|--------------|
| CDBQR0140R  | B9           |



## Suggested PAD Layout

| SIZE | QR/0402 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 0.750   | 0.030  |
| B    | 0.500   | 0.020  |
| C    | 0.700   | 0.028  |
| D    | 1.250   | 0.049  |
| E    | 0.250   | 0.010  |



## Standard Package

| Case Type | Qty per Reel | Reel Size |
|-----------|--------------|-----------|
|           | (Pcs)        | (inch)    |
| QR/0402   | 5000         | 7         |