

## CDBQC42/43-HF

High-Reliability and High-Performance

$I_o = 200 \text{ mA}$

$V_R = 30 \text{ V}$

RoHS Device

Halogen Free



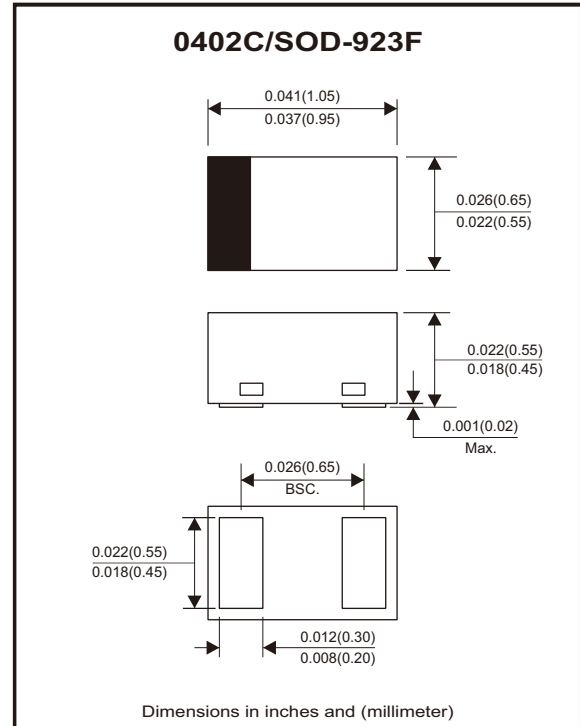
### Features

- 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: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- 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
Peak reverse voltage		$V_{RM}$			30	V
Reverse voltage		$V_R$			30	V
RMS reverse voltage		$V_{R(RMS)}$			21	V
Average forward rectified current		$I_o$			200	mA
Repetitive peak forward current		$I_{FRM}$			0.5	A
Peak forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			4	A
Power dissipation		$P_D$			125	mW
Thermal resistance junction to ambient air		$R_{\theta JA}$			667	$^\circ\text{C/W}$
Operating temperature range		$T_j$	-65		+125	$^\circ\text{C}$
Storage temperature range		$T_{STG}$	-65		+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	CDBQC42/43-HF $I_F = 200\text{mA}$	$V_F$			1	V
	CDBQC42-HF $I_F = 10\text{mA}$				0.4	
	CDBQC42-HF $I_F = 50\text{mA}$				0.65	
	CDBQC43-HF $I_F = 2\text{mA}$				0.33	
	CDBQC43-HF $I_F = 15\text{mA}$				0.45	
Reverse current	$V_R = 25\text{V}$	$I_R$			0.5	$\mu\text{A}$
Capacitance between terminals	$f = 1\text{MHz}$ , and 1 VDC reverse voltage	$C_T$			10	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100 \text{ ohm}$	$T_{rr}$			5	nS

## Typical Rating and Characteristic Curves (CDBQC42/43-HF)

Fig.1 - Forward Characteristics

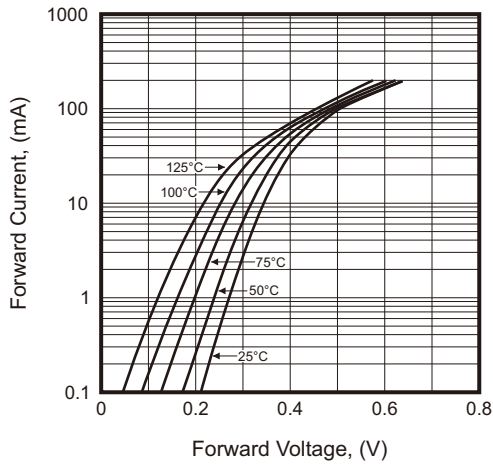


Fig.2 - Reverse Characteristics

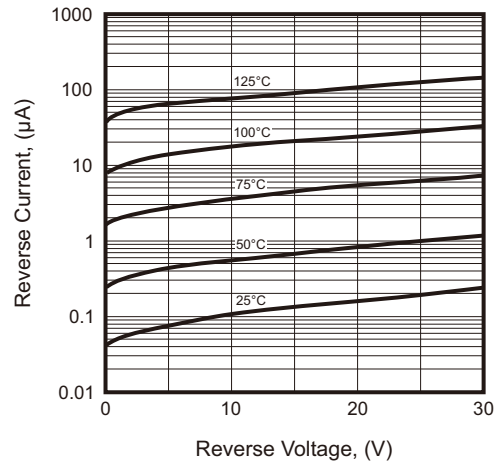


Fig.3 - Capacitance Between Terminals Characteristics

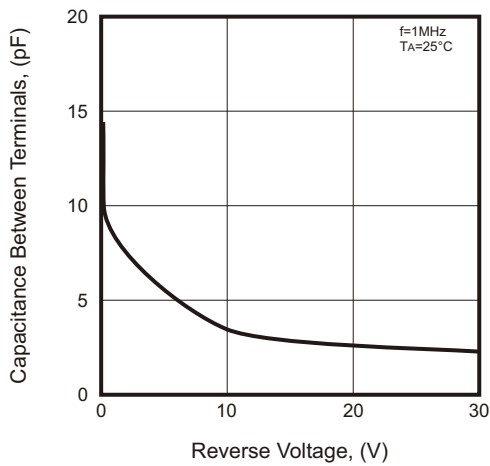
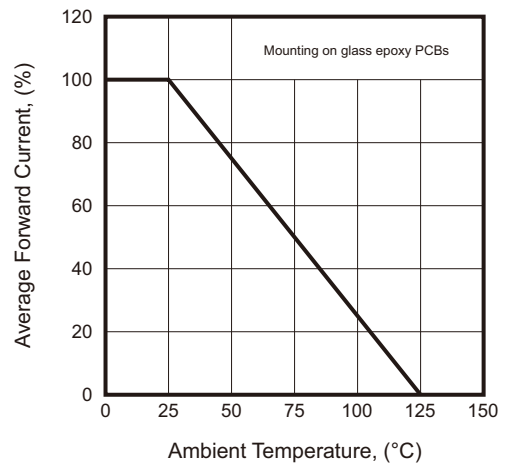
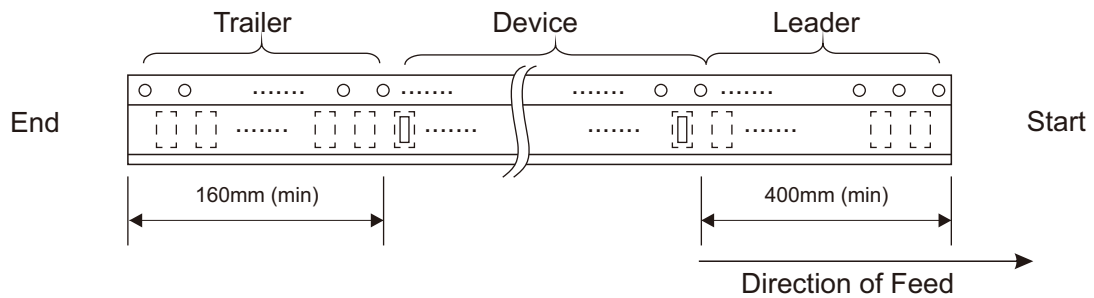
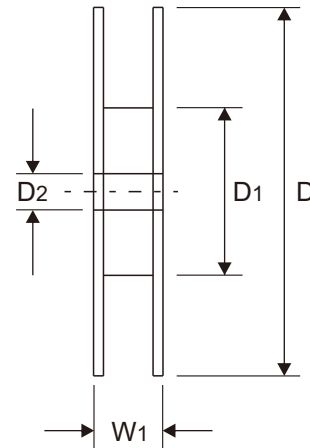
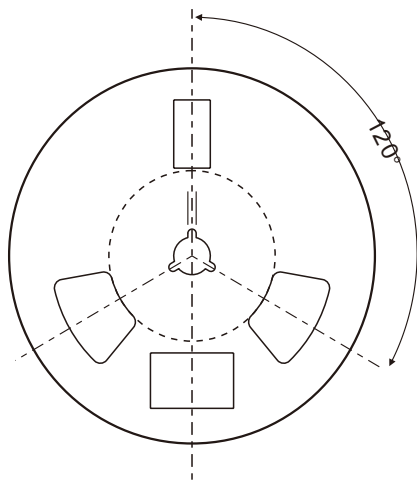
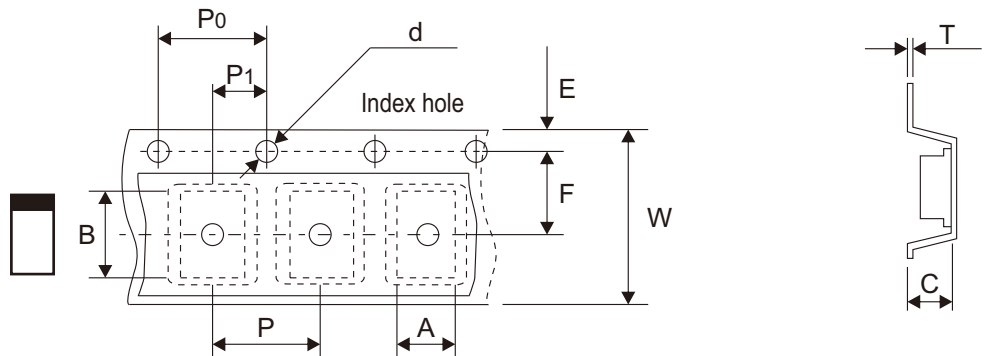


Fig.4 - Current Derating Curve



## Reel Taping Specification



0402C (SOD-923F)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	$0.75 \pm 0.05$	$1.17 \pm 0.05$	$0.65 \pm 0.05$	$1.50 + 0.10$ $- 0.00$	$178.00 \pm 1.00$	$60.00 \pm 0.50$	$13.50 \pm 0.20$
	(inch)	$0.030 \pm 0.002$	$0.046 \pm 0.002$	$0.026 \pm 0.002$	$0.059 + 0.004$ $- 0.000$	$7.008 \pm 0.039$	$2.362 \pm 0.020$	$0.531 \pm 0.008$

0402C (SOD-923F)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	$1.75 \pm 0.10$	$3.50 \pm 0.10$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.10$	$0.20 + 0.02$ $- 0.05$	$8.00 \pm 0.20$	$12.00 + 0.50$ $- 0.00$
	(inch)	$0.069 \pm 0.004$	$0.138 \pm 0.004$	$0.157 \pm 0.004$	$0.157 \pm 0.004$	$0.079 \pm 0.004$	$0.008 + 0.001$ $- 0.002$	$0.315 \pm 0.008$	$0.472 + 0.020$ $- 0.000$

## Marking Code

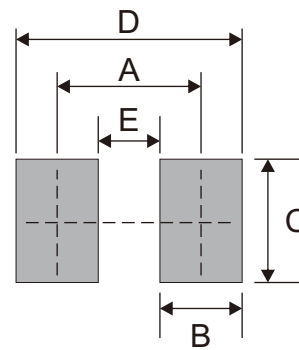
Part Number	Marking Code
CDBQC42-HF	BD
CDBQC43-HF	BE



xx = Product type marking code

## Suggested P.C.B. PAD Layout

SIZE	0402C/SOD-923F	
	(mm)	(inch)
A	0.70	0.028
B	0.40	0.016
C	0.60	0.024
D	1.10	0.043
E	0.30	0.012



## Standard Packaging

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