

CDBQC42/43-HF

High-Reliability and High-Performance

$I_o = 200 \text{ mA}$

$V_R = 30 \text{ V}$

RoHS Device

Halogen Free



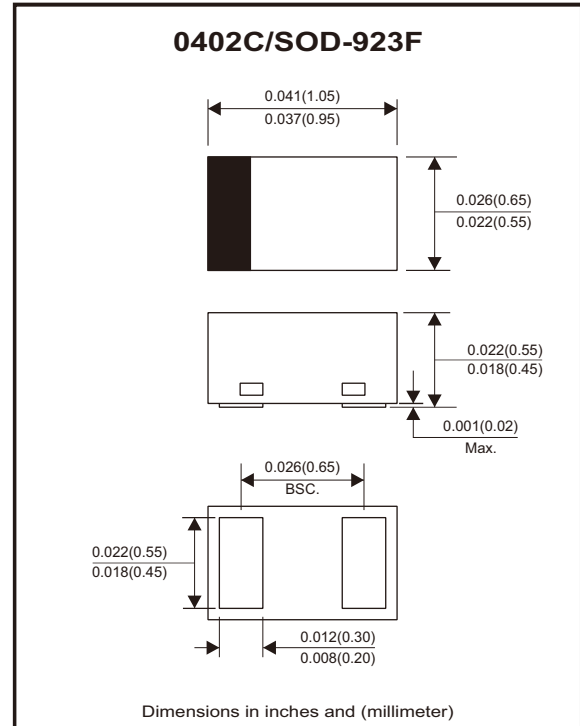
Features

- 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	μA
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

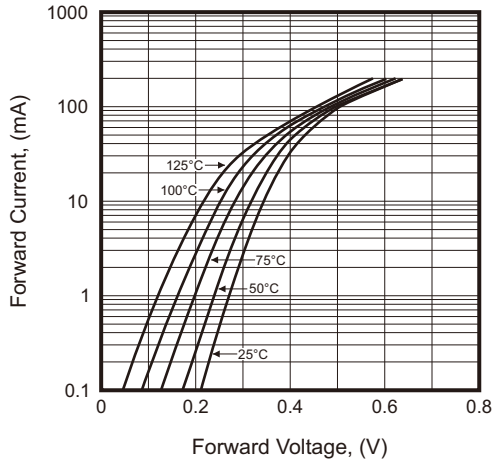


Fig.2 - Reverse Characteristics

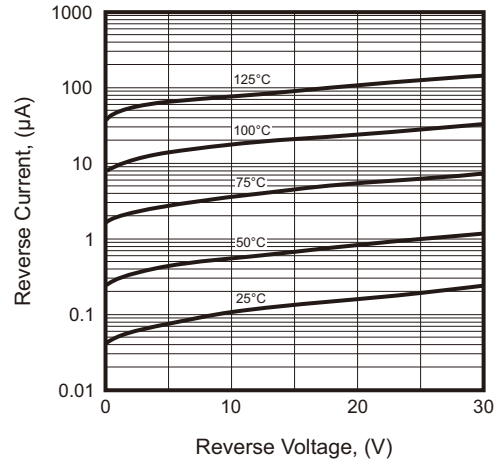


Fig.3 - Capacitance Between Terminals Characteristics

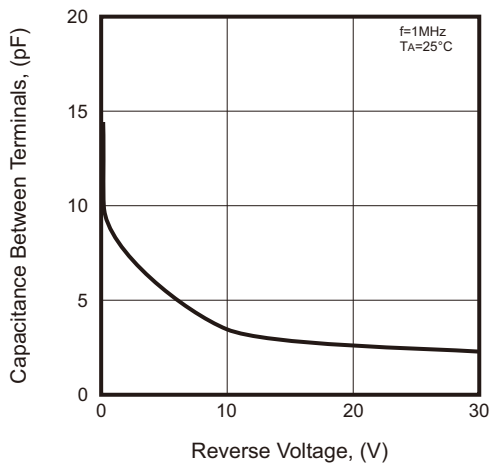
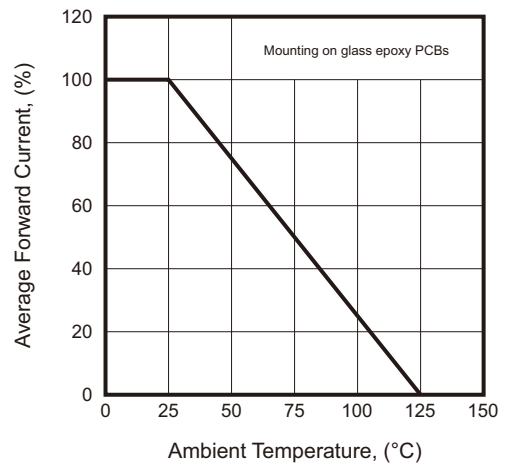
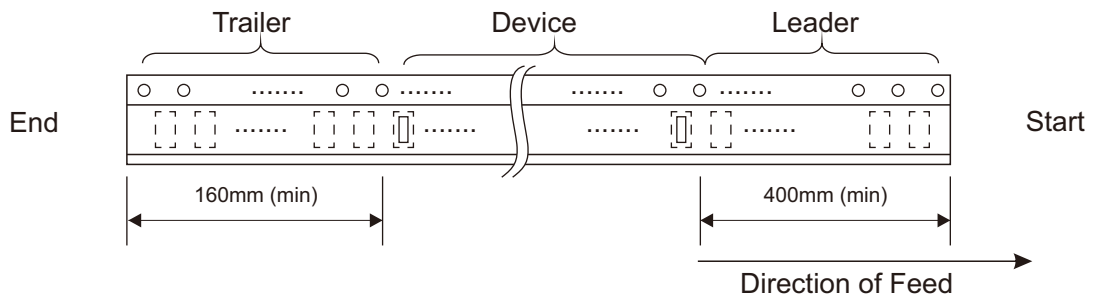
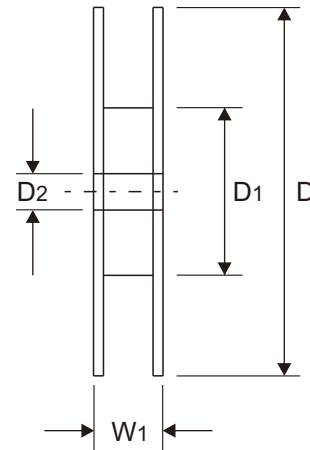
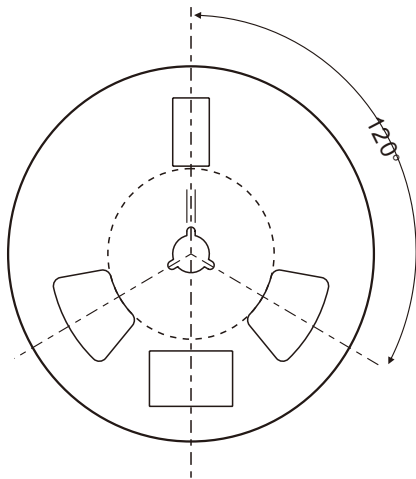
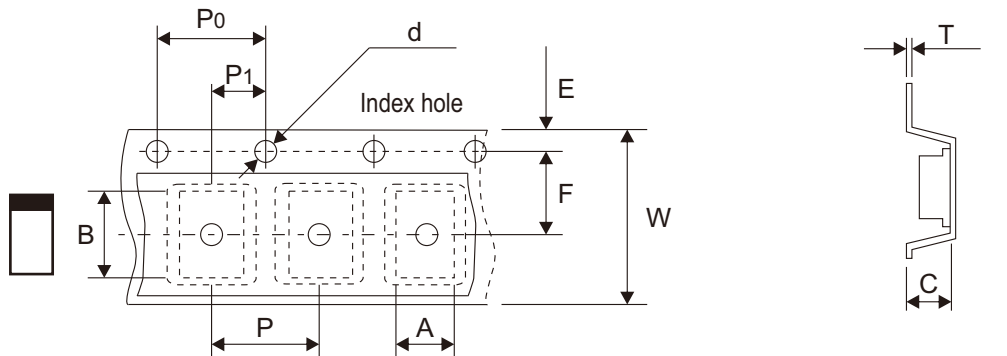


Fig.4 - Current Derating Curve



Reel Taping Specification



0402C (SOD-923F)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.75 ± 0.05	1.17 ± 0.05	0.65 ± 0.05	$1.50 + 0.10$ $- 0.00$	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	$0.059 + 0.004$ $- 0.000$	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0402C (SOD-923F)	SYMBOL	E	F	P	P_0	P_1	T	W	W_1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	$0.20 + 0.02$ $- 0.05$	8.00 ± 0.20	$12.00 + 0.50$ $- 0.00$
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	$0.008 + 0.001$ $- 0.002$	0.315 ± 0.008	$0.472 + 0.020$ $- 0.000$

Marking Code

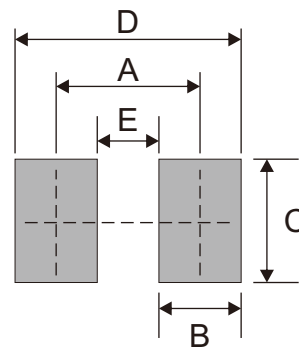
Part Number	Marking Code
CDBQC42-HF	BD
CDBQC43-HF	BE



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