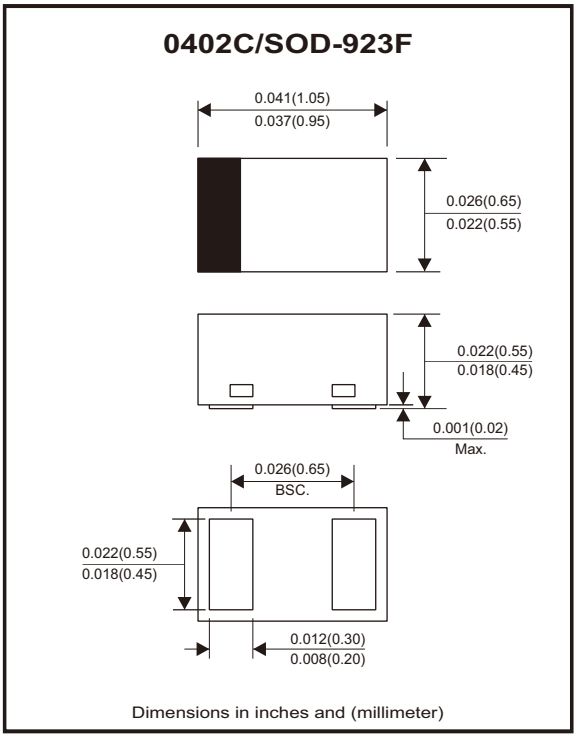
ACDBQC0540L-HF

High-Reliability and High-Performance

Io = 500 mA
V_R = 40 V
RoHS Device
Halogen Free



Features

- Low forward voltage.
- Designed for mounting on small surface.
- Extremely thin package.
- Majority carrier conduction.
- AEC-Q101 Qualified.

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°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			500	mA
Forward current, surge peak	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			4.5	A
ESD rating	Human body model Machine model	ESD			8 400	kV V
Power dissipation		P_D			500	mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$		200		°C/W
Junction temperature		T_j	-55		+150	°C
Storage temperature		T_{STG}	-55		+150	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 100mA	V_F		0.32	0.36	V
	I_F = 500mA			0.44	0.48	
Reverse current	V_R = 10V	I_R			15	μA
	V_R = 40V				40	
Capacitance between terminals	V_R = 0V, f = 1MHz	C_T		105		pF

Notes: Device mounted on a 20mm x 20mm ceramic PCB which spread 2 ounces of copper.

Typical Rating and Characteristic Curves (ACDBQC0540L-HF)

Fig.1 - Forward Characteristics

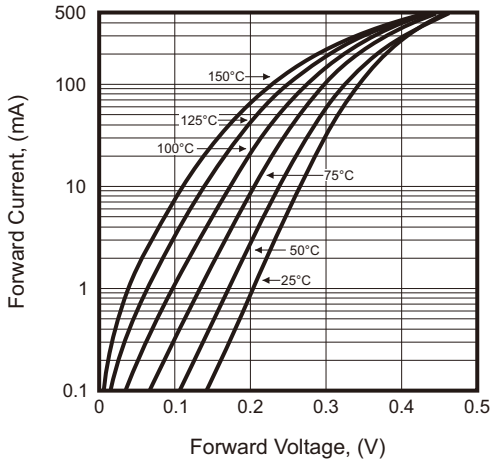


Fig.2 - Reverse Characteristics

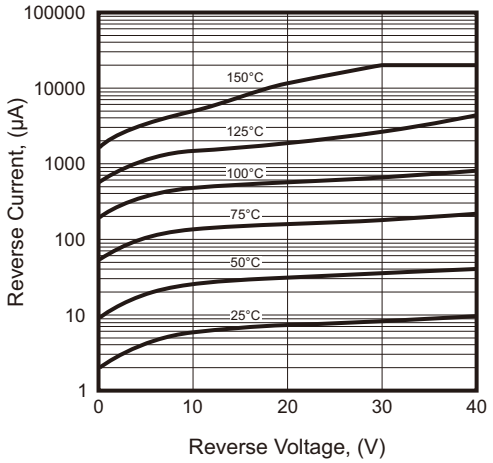


Fig.3 - Typical Capacitance Between Terminals Characteristics

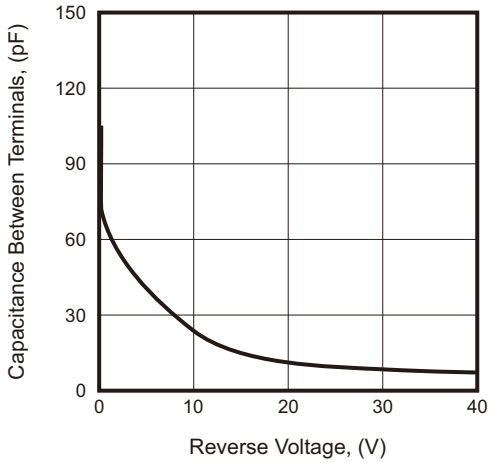


Fig.4 - Forward Current Derating Curve

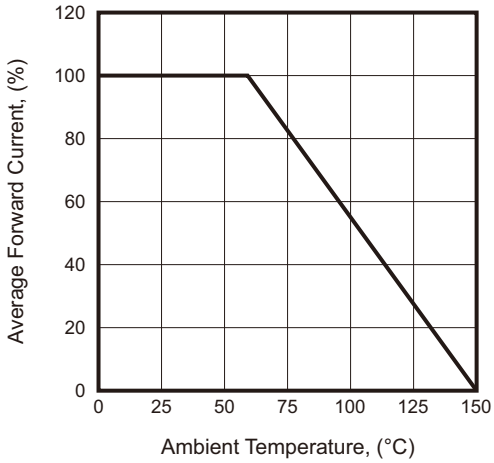
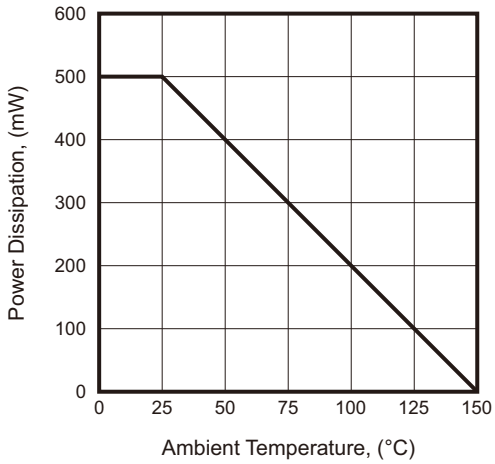
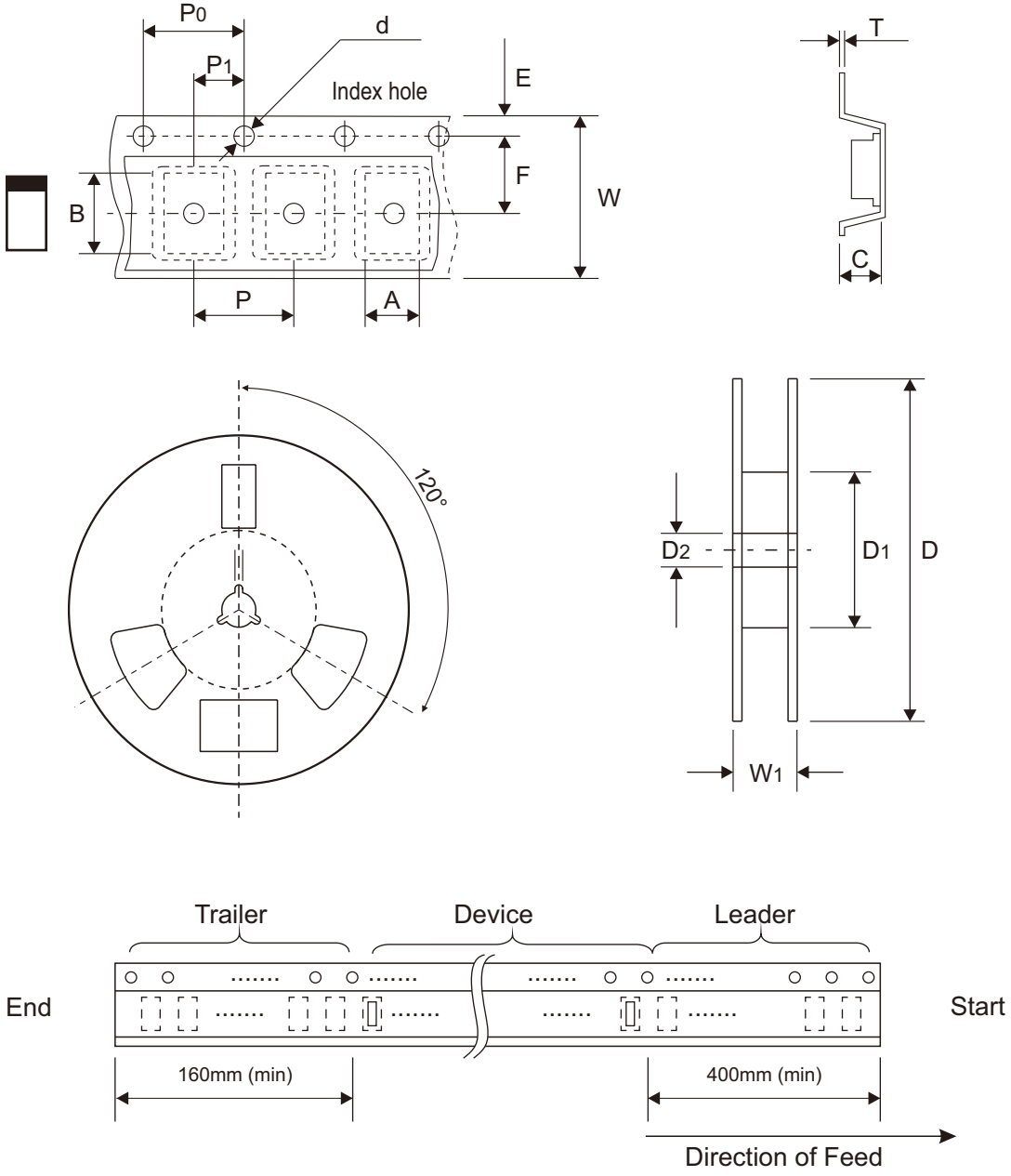


Fig.5 - Power Derating Curve



Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
0402C (SOD-923F)	(mm)	0.78 ± 0.05	1.25 ± 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)	0.031 ± 0.002	0.049 ± 0.002	0.026 ± 0.002	0.059 + 0.004 − 0.000	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

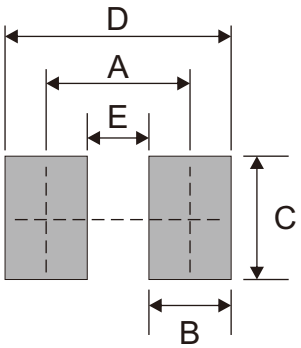
	SYMBOL	E	F	P	P0	P1	T	W	W1
0402C (SOD-923F)	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 + 0.03 − 0.05	8.00 ± 0.20	12.00 + 0.50 − 0.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 + 0.001 − 0.002	0.315 ± 0.008	0.472 + 0.020 − 0.000

Marking Code

Part Number	Marking Code
ACDBQC0540L-HF	BY

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