

ACDBUC42-HF

High-Reliability and High-Performance

$I_o = 200 \text{ mA}$

$V_R = 30 \text{ V}$

RoHS Device
Halogen Free



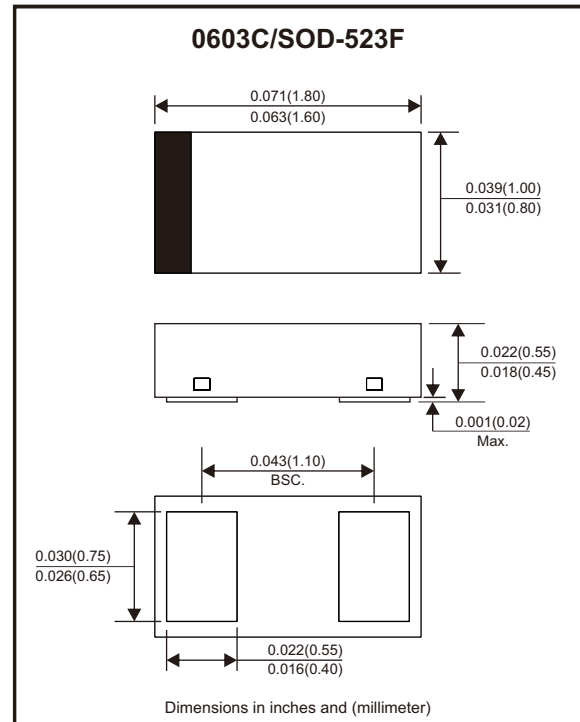
Features

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

Mechanical data

- Case: 0603C/SOD-523F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.

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}			30	V
Reverse voltage		V_R			30	V
Average forward rectified current		I_o			200	mA
Forward current, surge peak	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			4	A
Power dissipation		P_D			500	mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$		184		$^\circ\text{C/W}$
Junction temperature		T_j	-65		125	$^\circ\text{C}$
Storage temperature		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	$I_F = 10\text{mA}$	V_F			0.4	V
	$I_F = 50\text{mA}$	V_F			0.65	V
	$I_F = 200\text{mA}$	V_F			1.0	V
Reverse current	$V_R = 25\text{V}$	I_R			0.5	μA
Capacitance between terminals	$V_R = 0\text{V}$, $f = 1\text{MHz}$	C_J		15		pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$	T_{rr}			5	nS

Typical Rating and Characteristic Curves (ACDBUC42-HF)

Fig.1 - Forward Characteristics

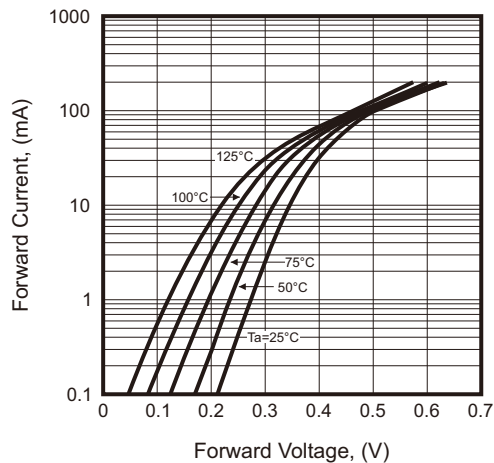


Fig.2 - Reverse Characteristics

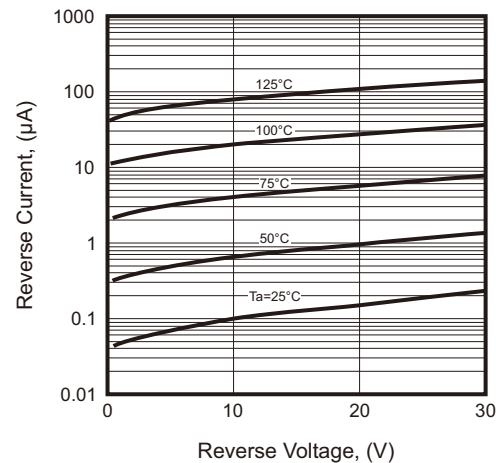


Fig.3 - Typical Capacitance Between Terminals Characteristics

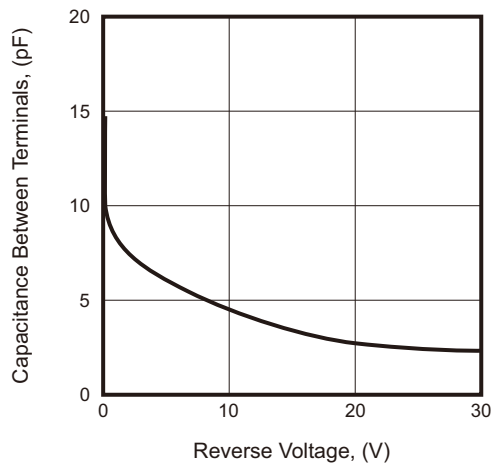
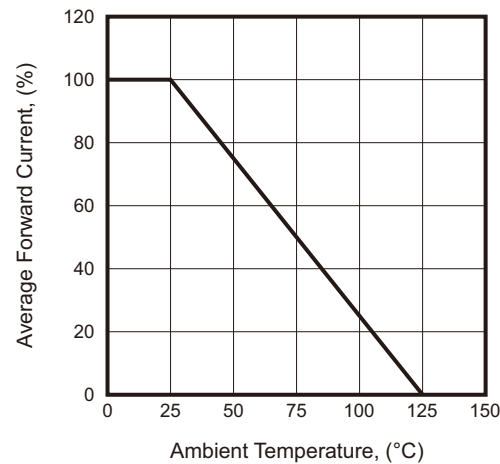
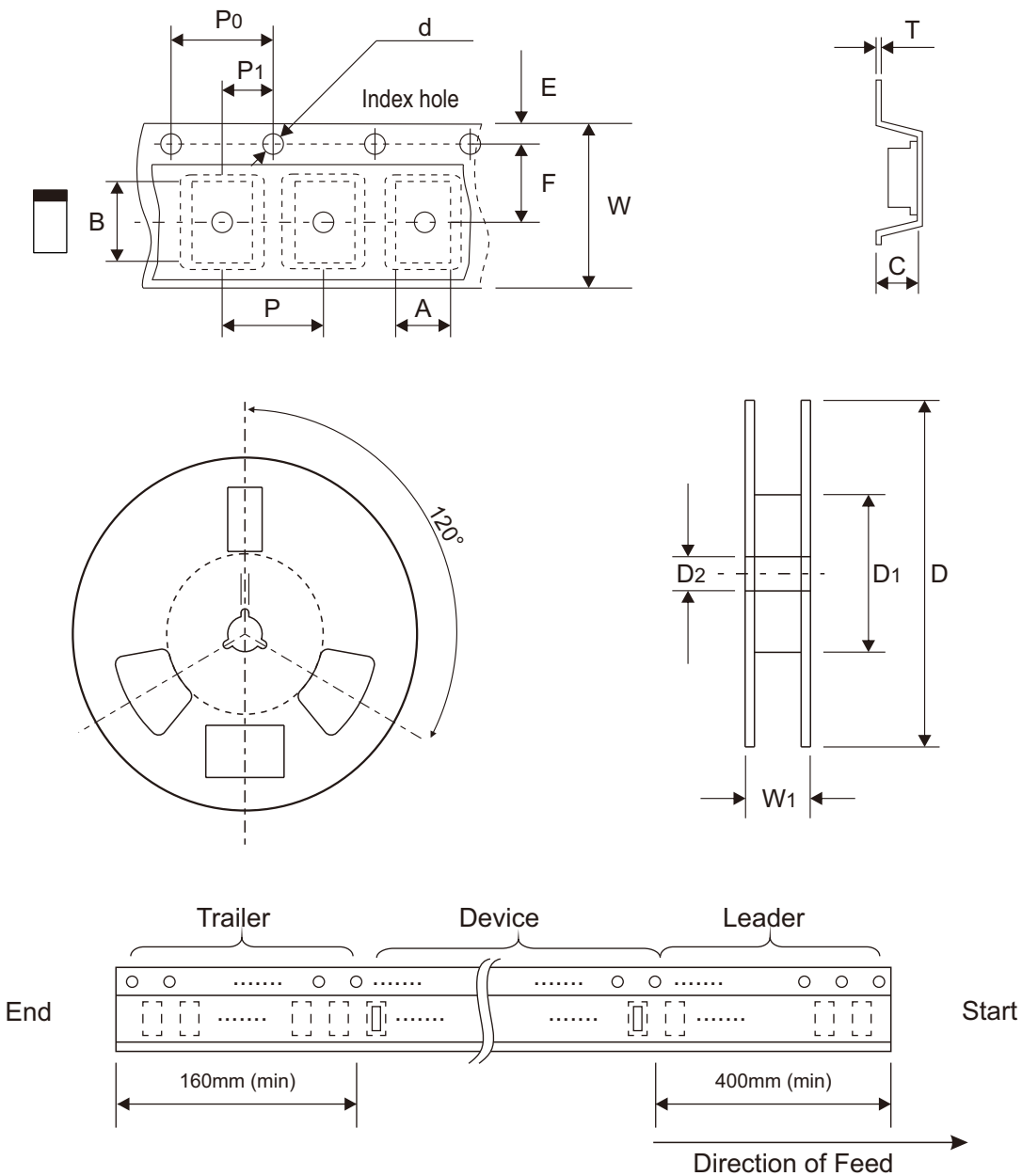


Fig.4 - Current Derating Curve



Reel Taping Specification



0603C (SOD-523F)	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	1.05 ± 0.05	1.96 ± 0.05	0.57 ± 0.05	1.50 + 0.10 - 0.00	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.041 ± 0.002	0.077 ± 0.002	0.022 ± 0.002	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0603C (SOD-523F)	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.05	2.00 ± 0.05	0.20 ± 0.03	8.00 ± 0.20	12.00 + 0.50 - 0.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.002	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.008	0.472 + 0.020 - 0.000

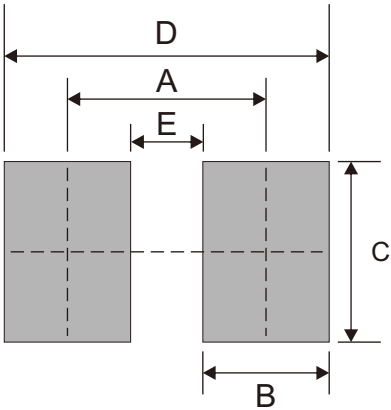
Marking Code

Part Number	Marking Code
ACDBUC42-HF	BD



Suggested P.C.B. PAD Layout

SIZE	0603C/SOD-523F	
	(mm)	(inch)
A	1.10	0.043
B	0.70	0.028
C	1.00	0.039
D	1.80	0.071
E	0.40	0.016



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
0603C/SOD-523F	4,000	7