

CDBUC140LC-HF

High-Reliability and High-Performance

$I_o = 1\text{ A}$
 $V_R = 40\text{ Volts}$
 RoHS Device
 Halogen Free



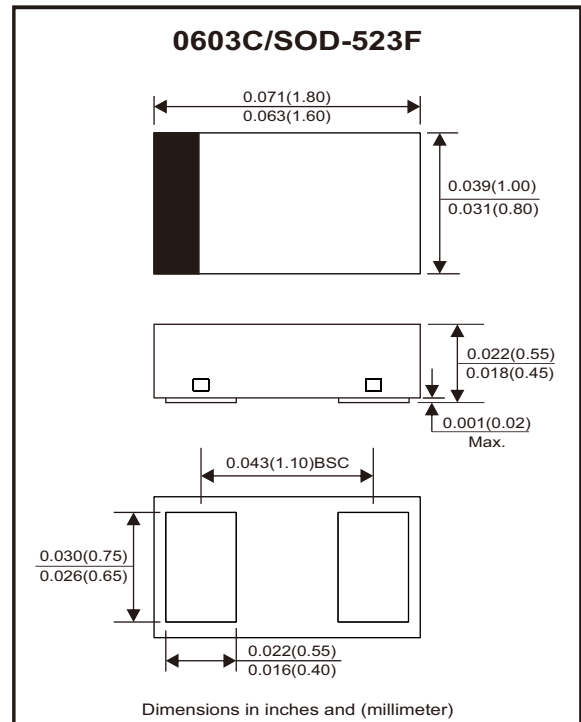
Features

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

Mechanical data

- Case: 0603C / SOD-523F standard package, molded plastic.
- Terminals: Matte tin plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end.
- Mounting position: Any.
- Weight: 0.003 grams (approx.).

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}	-	-	40	V
DC reverse voltage		V_R	-	-	40	V
Mean rectifying current		I_o	-	-	1	A
Peak forward surge current	8.3 ms single half sine-wave superimposed on rate load (JEDEC method) * 1cycle	I_{FSM}	-	-	5	A
Thermal resistance	Junction to ambient air	$R_{\theta JA}$			200	$^\circ\text{C/W}$
Junction temperature range		T_j	-	-	+125	$^\circ\text{C}$
Operating temperature range		T_{op}	-40	-	+85	$^\circ\text{C}$
Storage temperature range		T_{STG}	-40	-	+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	-	0.29	-	V
	$I_F = 500\text{mA}$	V_F	-	0.45	0.50	V
	$I_F = 750\text{mA}$	V_F	-	0.50	-	V
	$I_F = 1\text{A}$	V_F	-	0.54	0.60	V
Reverse current	$V_R = 10\text{V}, T_A = 25^\circ\text{C}$	I_R	-	0.8	5	μA
	$V_R = 40\text{V}, T_A = 25^\circ\text{C}$	I_R	-	10	30	μA

Rating and Characteristic Curves (CDBUC140LC-HF)

Fig.1 - Forward Characteristics

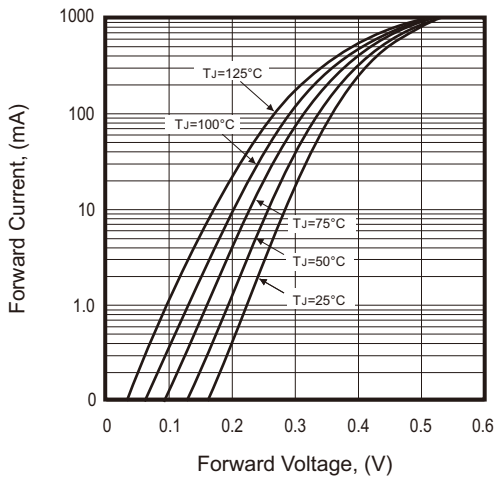


Fig.2 - Reverse Characteristics

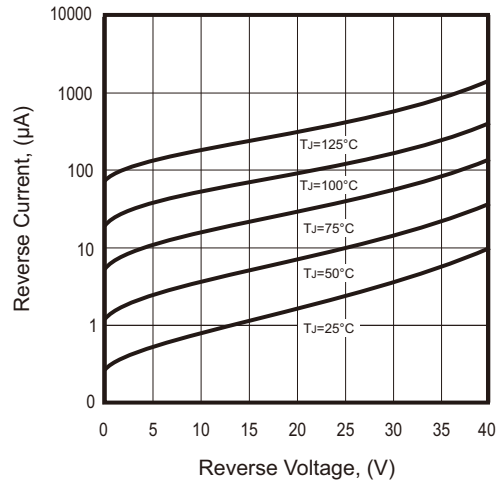


Fig.3 - Capacitance Between Terminals Characteristics

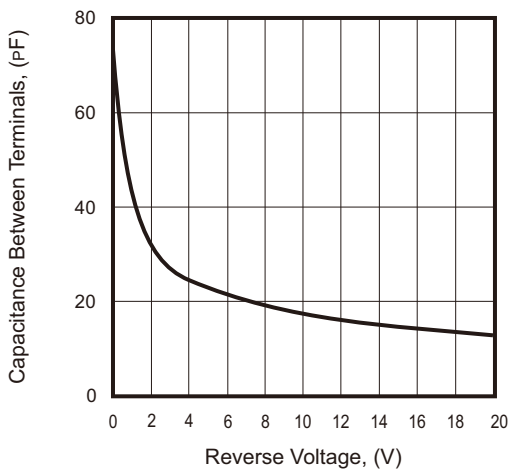
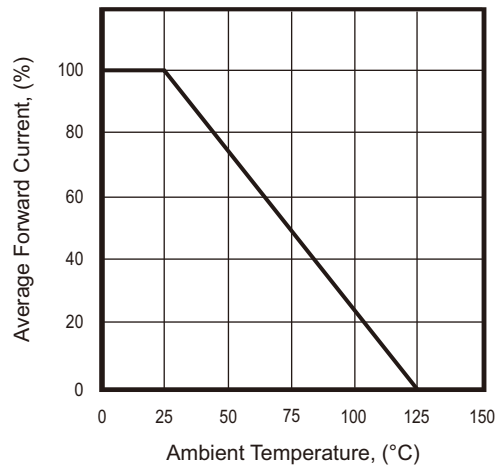
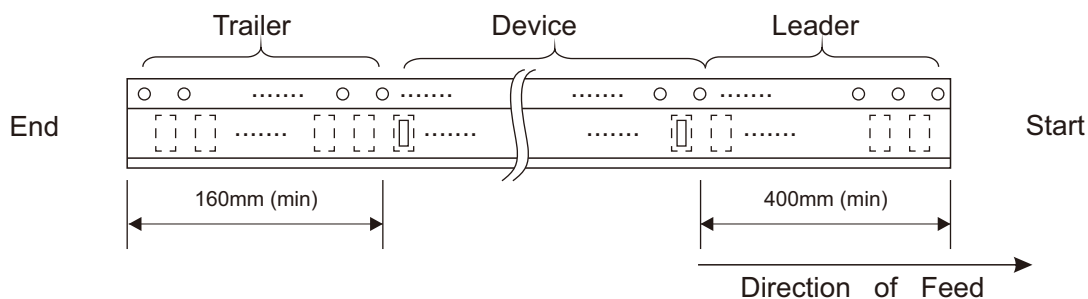
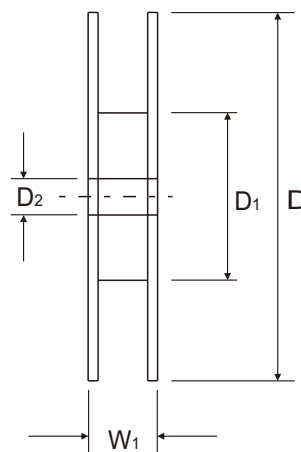
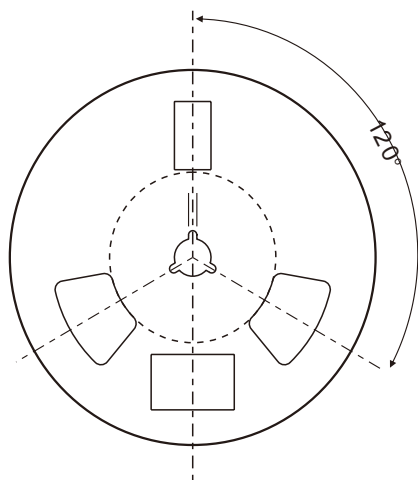
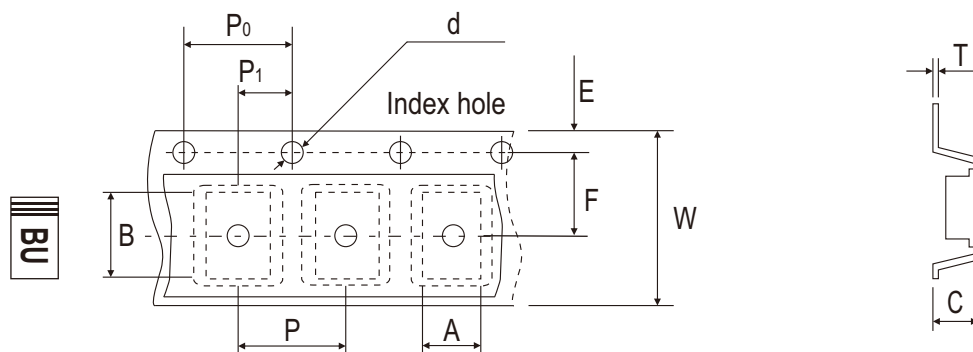


Fig.4 - Current Derating Curve



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	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	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
	(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

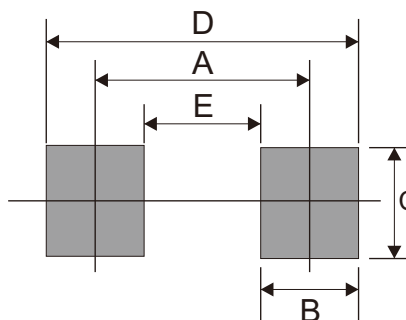
Marking Code

Part Number	Marking Code
CDBUC140LC-HF	BU



Suggested 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