

CPDUC1V8HT-HF

High-Reliability and High-Performance

RoHS Device

Halogen Free



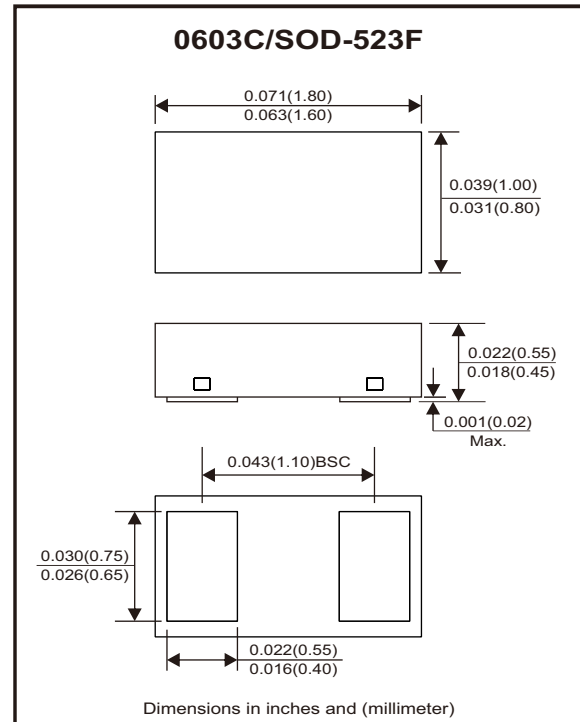
Features

- Bi-directional ESD protection.
- Low leakage current.
- Low clamping voltage.

Mechanical data

- Case: 0603C/SOD-523F package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- 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	Value	Unit
Peak pulse power	$T_P = 8/20\mu\text{s}$	P_{PP}	160	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	20	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
Operating temperature range		T_j	-55 to +125	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			1.8	V
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	2.3			V
Reverse leakage current	$V_{RWM} = 1.8\text{V}$	I_R			0.1	μA
Clamping voltage	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	V_C		3.5	4.0	V
	$I_{PP} = 20\text{A}, T_P = 8/20\mu\text{s}$	V_C		5.0	8.0	
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		35	45	pF

Typical Rating and Characteristic Curves (CPDUC1V8HT-HF)

Fig.1 - 8/20 μ s Peak Pulse Current Waveform Acc. IEC 61000-4-5



Fig.2 - Power Rating Derating Curve



Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

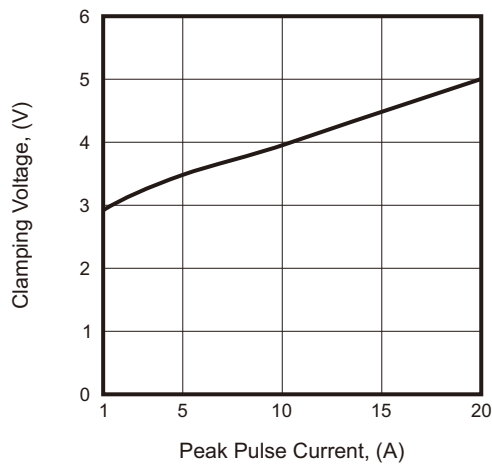
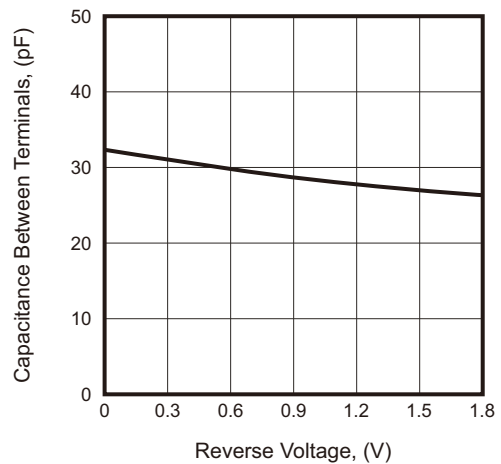
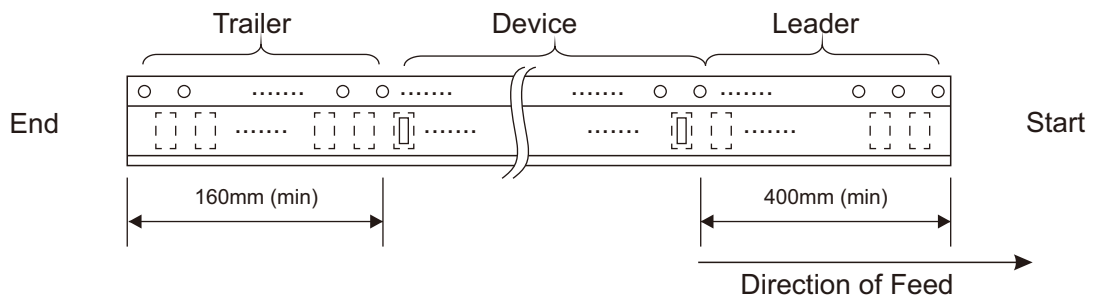
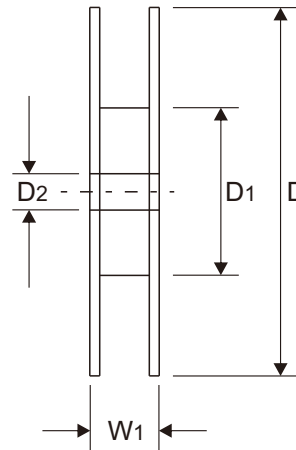
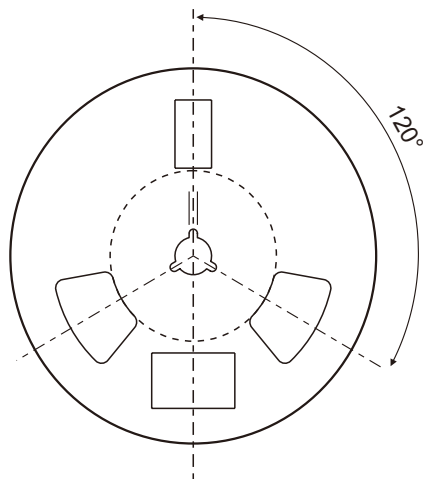
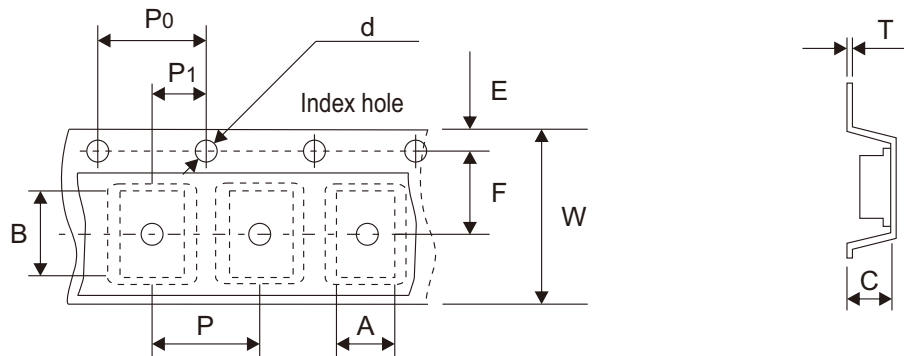


Fig.4 - Typical Capacitance Between Terminals Characteristics



Reel Taping Specification



0603C (SOD-523F)	SYMBOL	A	B	C	d	D	D1	D2
	(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	P0	P1	T	W	W1
	(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