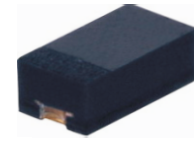


CPDU12V0U-HF

RoHS Device
Halogen Free



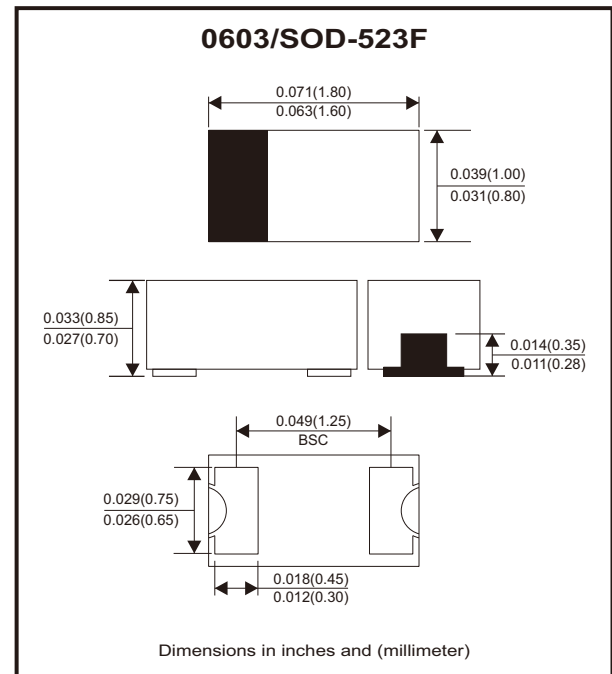
Features

- Uni-directional ESD protection.
- Surface mount package.
- High component density.

Mechanical data

- Case: 0603/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 TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	P_{PP}	120	W
Peak pulse current	$T_P = 8/20\mu s$	I_{PP}	5	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
Operating temperature range		T_j	-55 to +125	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			12	V
Forward voltage	$I_F = 10mA$	V_F		0.8	1.2	V
Breakdown voltage	$I_R = 1mA$	V_{BR}	13.3	15.5	17.5	V
Reverse leakage current	$V_{RWM} = 12V$	I_R		0.1	1.0	μA
Clamping voltage	$I_{PP} = 1A, T_P = 8/20\mu s$	V_C			19	V
	$I_{PP} = 5A, T_P = 8/20\mu s$	V_C			24	V
Junction capacitance	$V_R = 0V, f = 1MHz$	C_J		45	60	pF

Typical Rating and Characteristic Curves (CPDU12V0U-HF)

Fig.1 - 8/20μs Peak Pulse Current
WaveForm Acc. IEC 61000-4-5

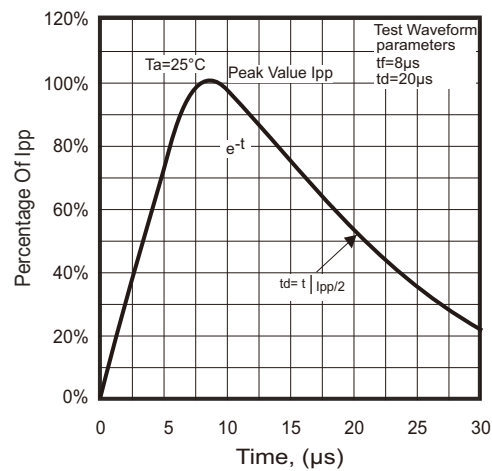


Fig.2 - Power Rating Derating Curve

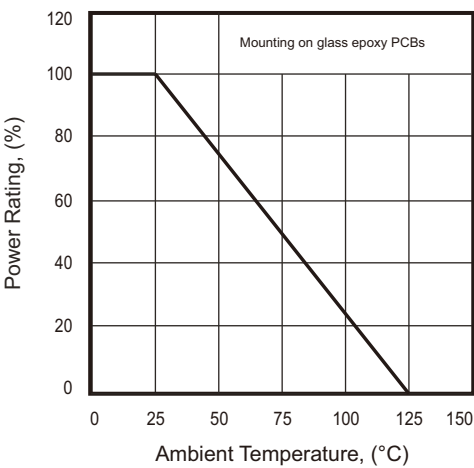


Fig.3 - Clamping Voltage Vs.
Peak Pulse Current

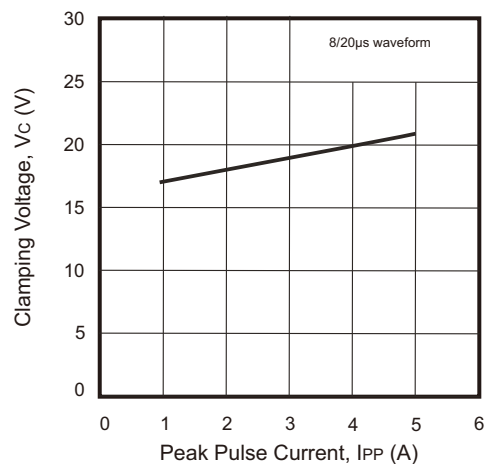


Fig.4 - Clamping Voltage Vs. Forward
Peak Pulse Current

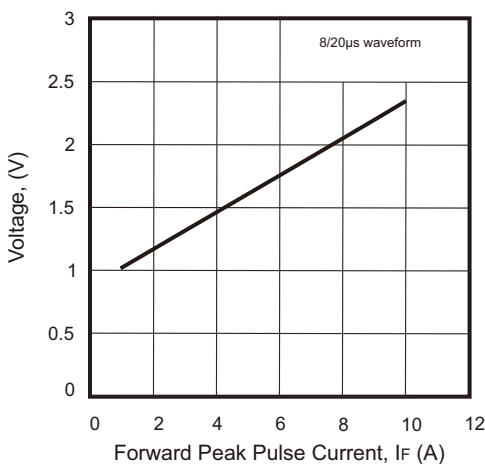
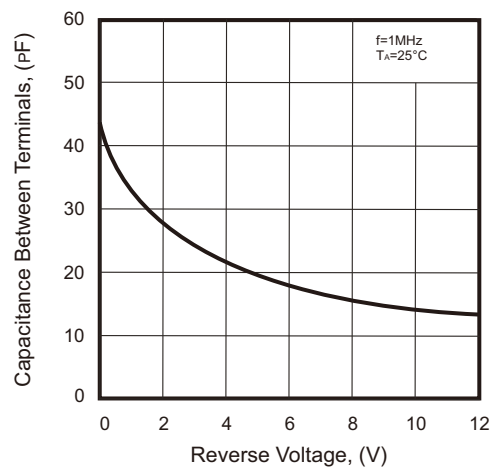
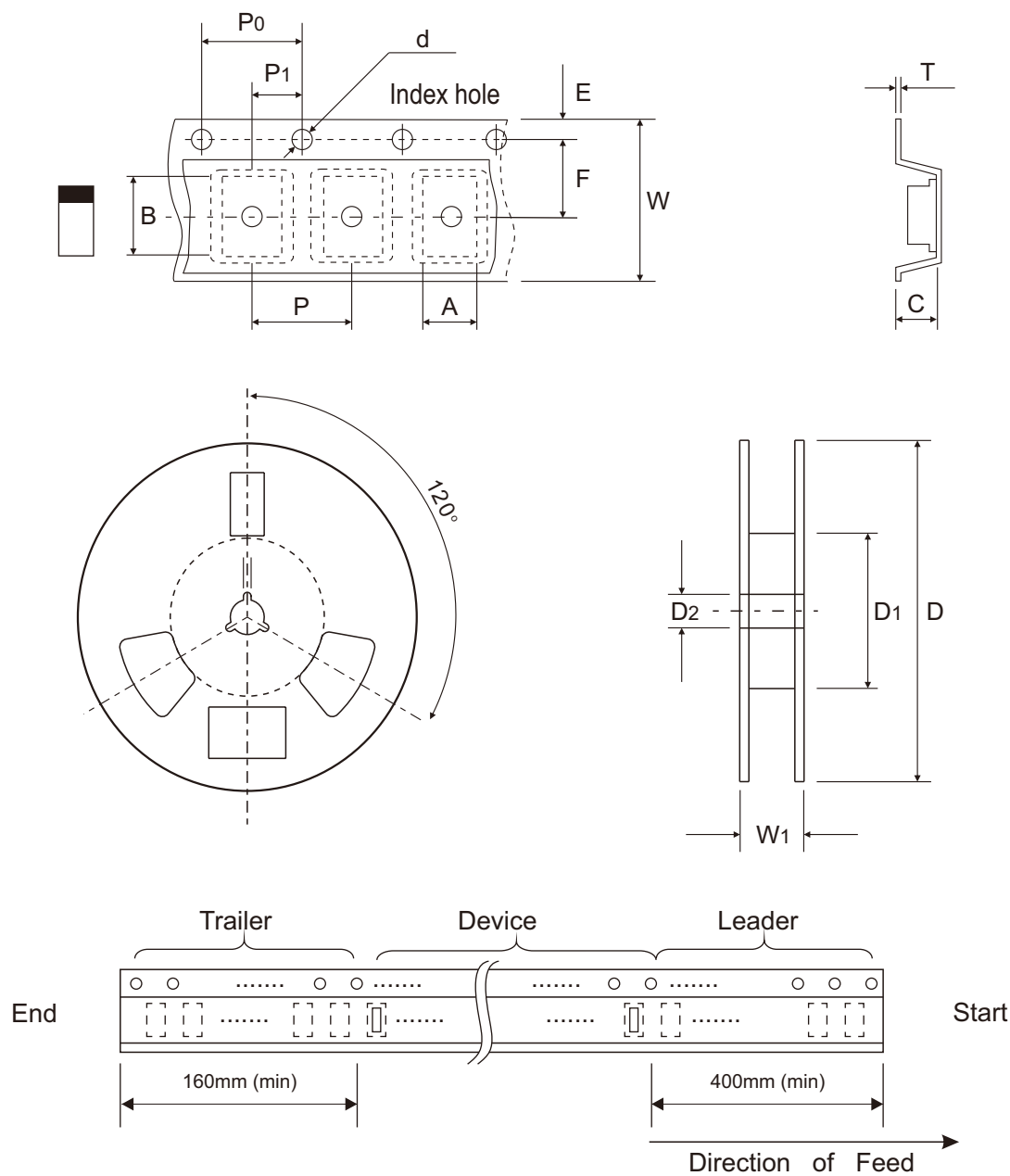


Fig.5 - Capacitance Between
Terminals Characteristics



Reel Taping Specification



0603 (SOD-523F)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.16 ± 0.10	1.90 ± 0.10	0.95 ± 0.10	$1.50 + 0.10 - 0.00$	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.046 ± 0.004	0.075 ± 0.004	0.037 ± 0.004	$0.059 + 0.004 - 0.000$	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0603 (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 ± 0.10	2.00 ± 0.05	0.22 ± 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 ± 0.004	0.079 ± 0.002	0.009 ± 0.001	0.315 ± 0.008	$0.472 + 0.020 - 0.000$

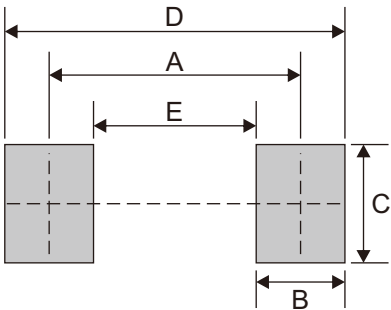
Marking Code

Part Number	Marking Code
CPDU12V0U-HF	E12



Suggested P.C.B. PAD Layout

SIZE	0603/SOD-523F	
	(mm)	(inch)
A	1.35	0.053
B	0.60	0.024
C	0.80	0.031
D	2.30	0.091
E	1.10	0.043



Standard Packaging

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