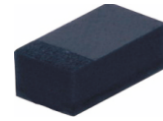


## CPDUR12V0U-HF

RoHS Device  
Halogen Free



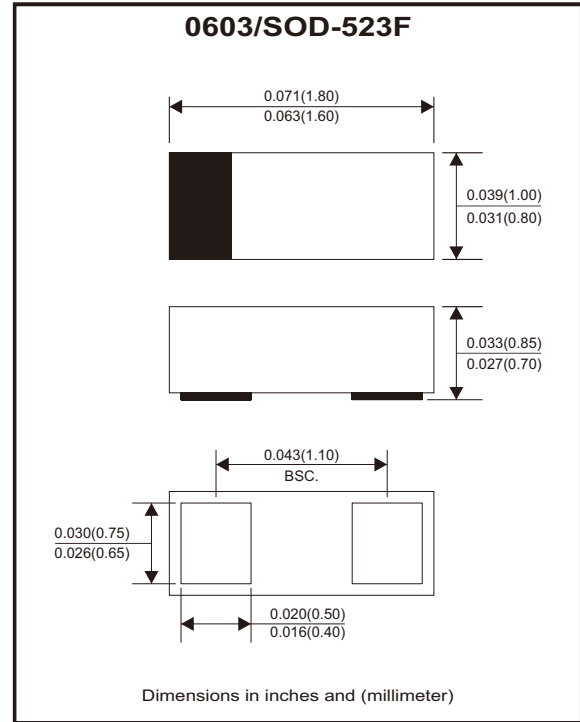
### Features

- 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.
- Mounting position: Any.
- Weight: 0.003 grams (approx.).

### Circuit Diagram



### Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Peak pulse power		PP			120	W
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			30	kV
Operating temperature range		T <sub>J</sub>	-55		125	°C
Storage temperature range		T <sub>STG</sub>	-55		150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I <sub>F</sub> = 10mA	V <sub>F</sub>		0.8		V
Diode breakdown voltage	I <sub>R</sub> = 1mA	V <sub>BD</sub>	13.3	15.5	17.5	V
Leakage current	V <sub>R</sub> = 12V	I <sub>L</sub>		0.1	1.0	μA
Clamping voltage	I <sub>PP</sub> = 1A, T <sub>P</sub> = 8/20μs I <sub>PP</sub> = 5A, T <sub>P</sub> = 8/20μs	V <sub>C</sub>			19 24	V
Junction capacitance	V <sub>R</sub> = 0V, f = 1MHz	C <sub>T</sub>			60	pF

## Rating and Characteristic Curves (CPDUR12V0U-HF)

Fig.1 - 8/20 $\mu$ s Peak Pulse Current Wave Form Acc. IEC 61000-4-5

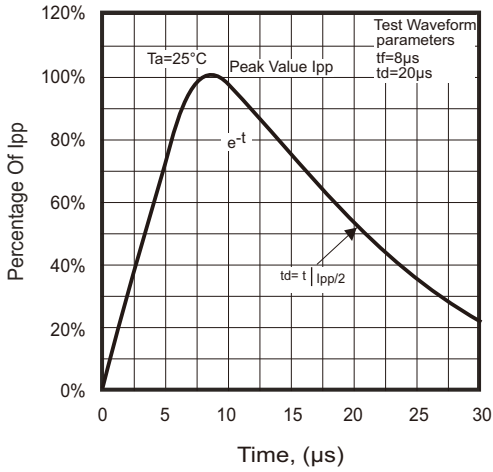


Fig. 2 - Power Rating Derating Curve

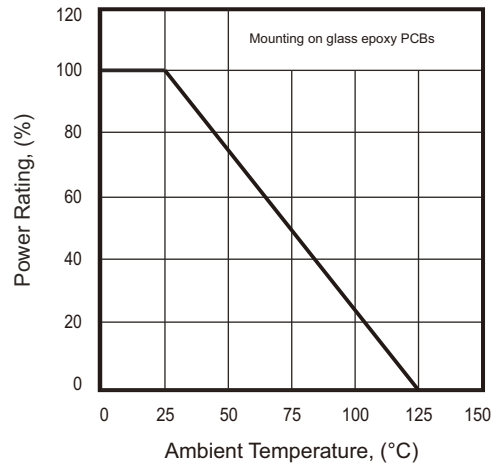


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

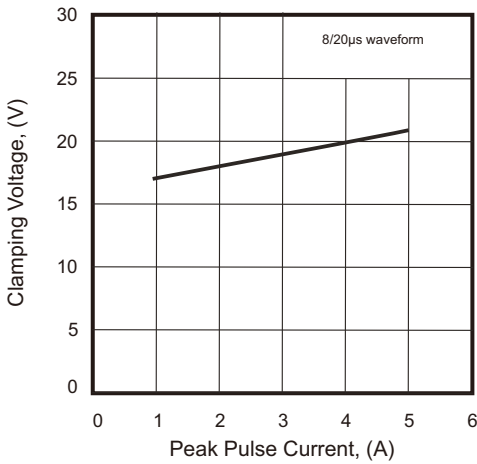


Fig.4 - Clamping Voltage Vs. Forward Peak Pulse Current

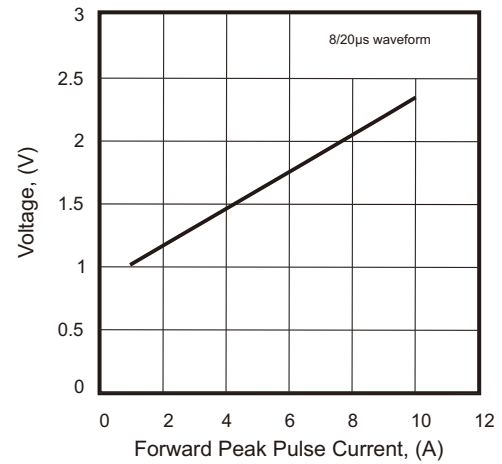
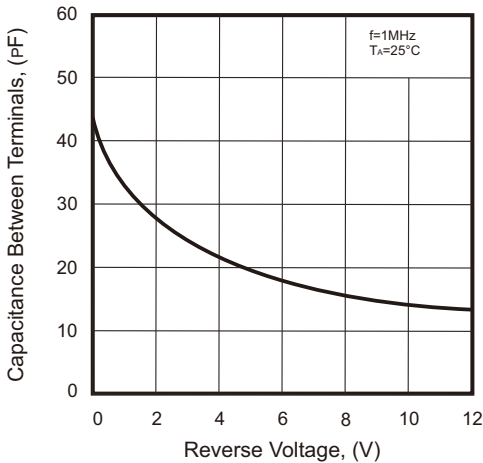


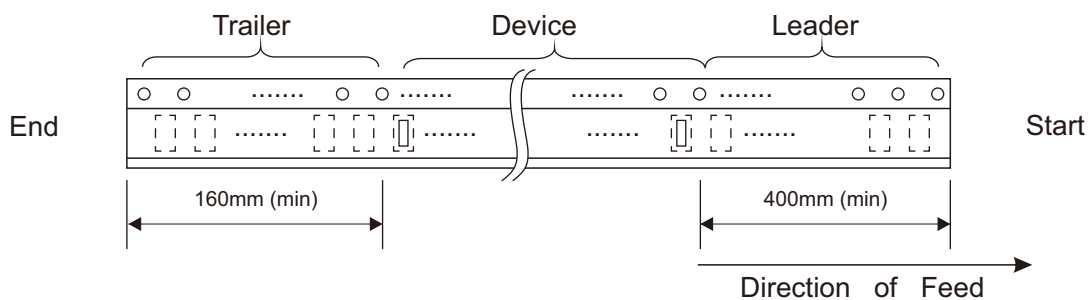
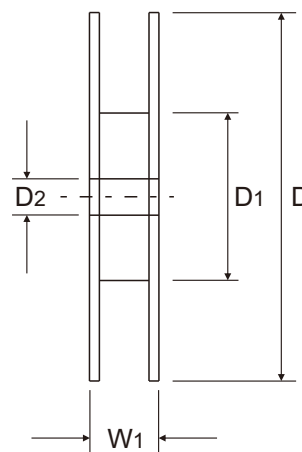
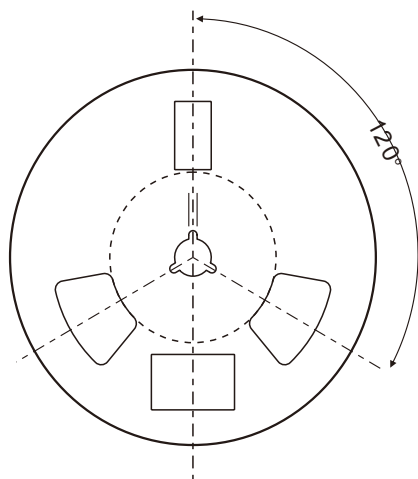
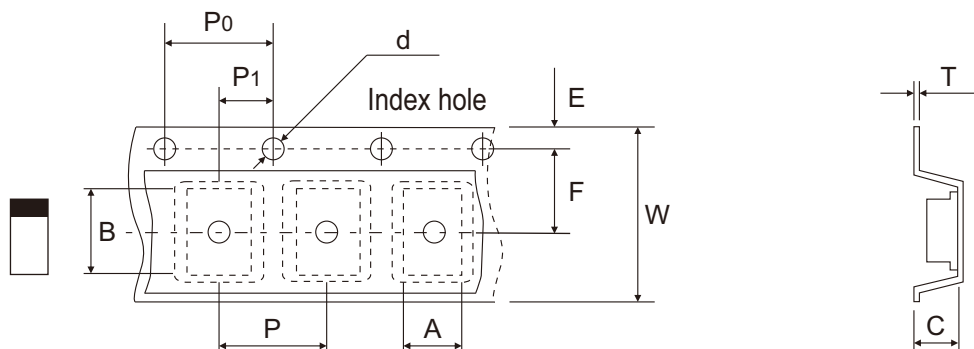
Fig.5 - Capacitance Between Terminals Characteristics



Company reserves the right to improve product design , functions and reliability without notice.

REV:C

## 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

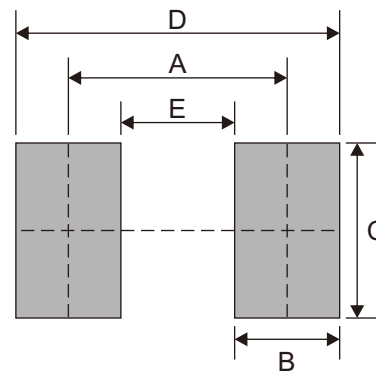
## Marking Code

Part Number	Marking Code
CPDUR12V0U-HF	E12



## Suggested P.C.B. PAD Layout

SIZE	0603/SOD-523F	
	(mm)	(inch)
A	1.25	0.049
B	0.60	0.024
C	1.00	0.039
D	1.85	0.073
E	0.65	0.026



## Standard Packaging

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