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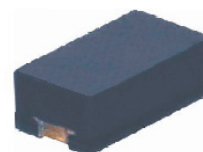
SMD ESD Protection Diode

Comchip
SMD Diode Specialist

CPDU Series-HF

RoHS Device

Halogen Free



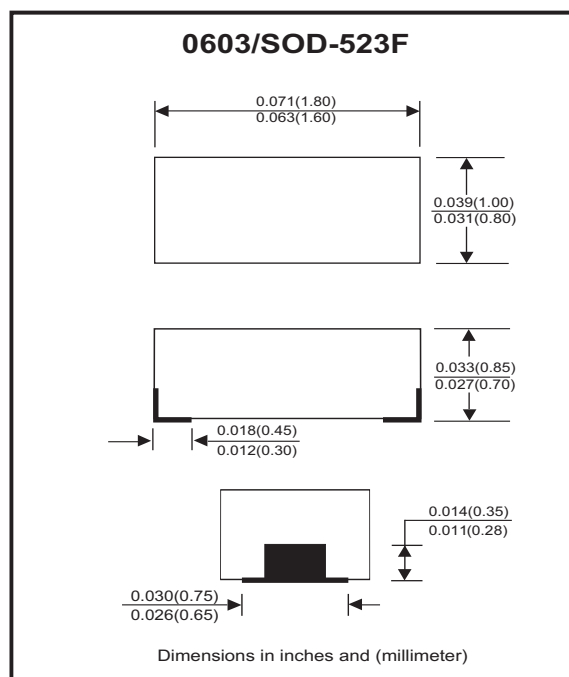
Features

- Bi-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.
- Marking Code:
CPDU5V0-HF: E05
CPDU12V-HF: E12
CPDU24V-HF: E24
- Mounting position: Any.
- Weight: 0.003 grams(approx.).

Circuit Diagram



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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Diode breakdown voltage	CPDU5V0-HF CPDU12V-HF CPDU24V-HF IR = 1mA	VBD	5.1 13 25	7.0 17 28		V
Leakage current	CPDU5V0-HF CPDU12V-HF CPDU24V-HF VR = 5V VR = 12V VR = 24V	IL		0.1	2.0	uA
Junction capacitance	CPDU5V0-HF CPDU12V-HF CPDU24V-HF VR = 0V, f = 1MHz	CT		15 12 10	20 — —	pF
ESD capability	CPDU Series-HF IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			16 8	kV
Clamping voltage	CPDU5V0-HF CPDU12V-HF CPDU24V-HF IPP = 1A, TP=8/20us IPP = 5A, TP=8/20us IPP = 1A, TP=8/20us IPP = 1A, TP=8/20us	VC			10 15 25 47	V
Peak pulse power	CPDU5V0-HF CPDU12V-HF CPDU24V-HF TP=8/20us	PPP			75 25 47	W
Operation temperature range	CPDU Series-HF	Tj	-40		125	°C
Storage temperature range	CPDU Series-HF	TSTG	-55		150	°C

SMD ESD Protection Diode

RATING AND CHARACTERISTIC CURVES (CPDU Series-HF)

Fig.1 - Peak Pulse Current Wave
Form Acc. IEC 61000-4-5

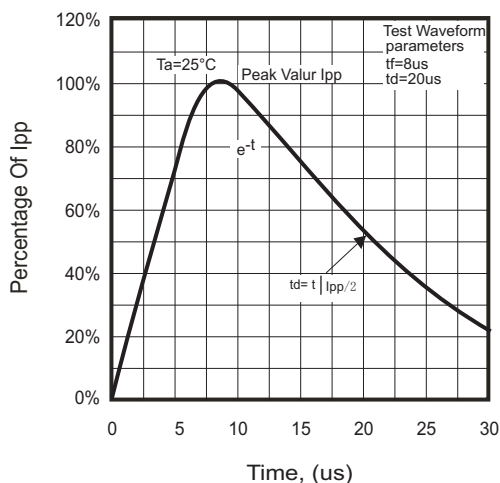


Fig.2-1 - Reverse Characteristics

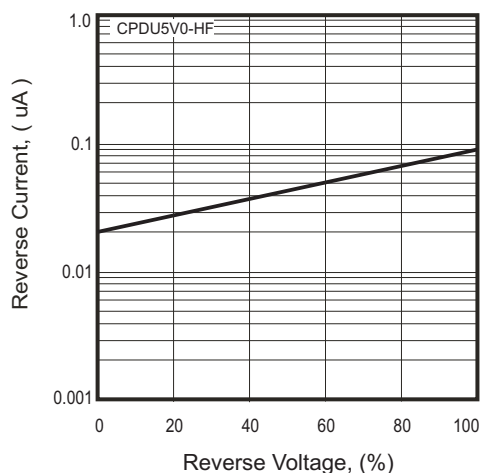


Fig.2-2 - Reverse Characteristics

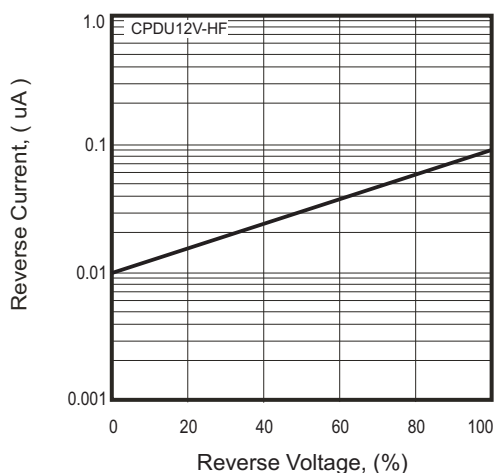


Fig.2-3 - Reverse Characteristics

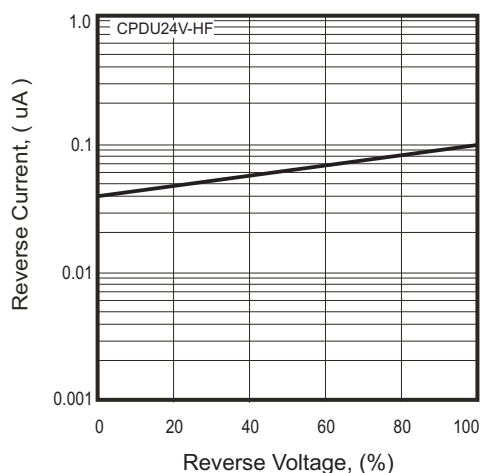


Fig.3 - Capacitance Between
Terminals Characteristics

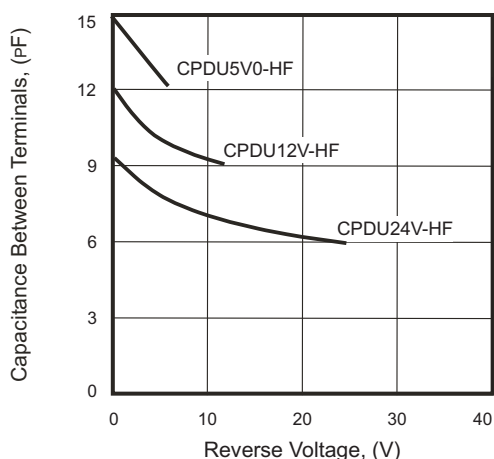
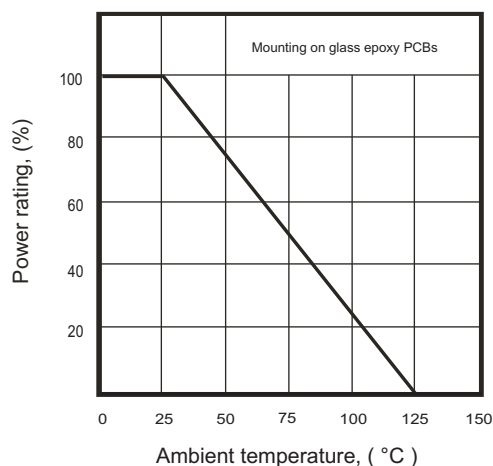
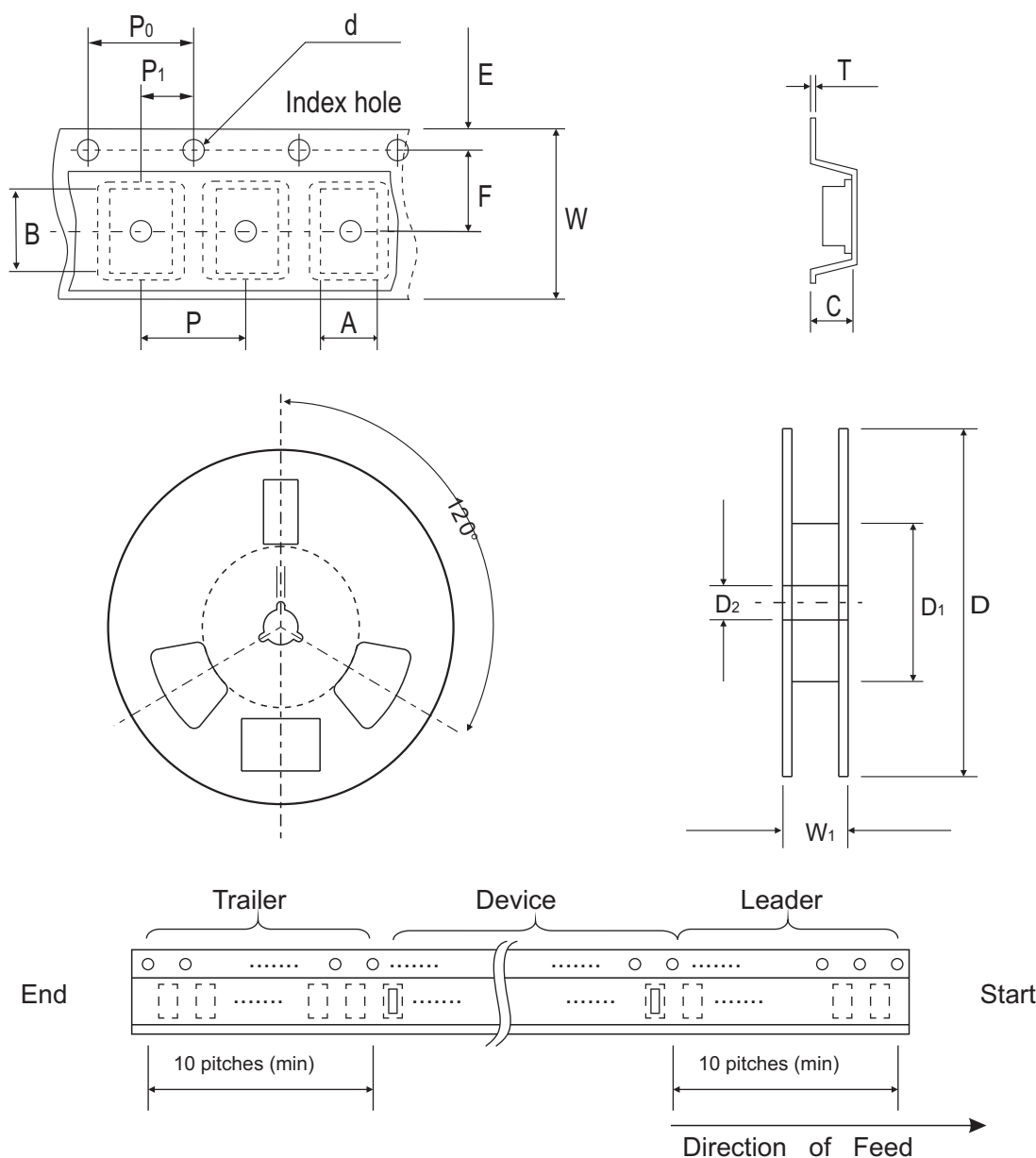


Fig. 4 - Power rating derating curve



SMD ESD Protection Diode

Reel Taping Specification



0603 (SOD-523)	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	1.00 ± 0.10	1.85 ± 0.10	1.00 ± 0.10	1.55 ± 0.05	178 ± 1.00	60.0 MIN.	13.0 ± 0.20
	(inch)	0.039 ± 0.004	0.073 ± 0.004	0.039 ± 0.004	0.061 ± 0.002	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

0603 (SOD-523)	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 ± 0.10	2.00 ± 0.05	0.23 ± 0.05	8.00 ± 0.20	13.50 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

SMD ESD Protection Diode

Marking Code

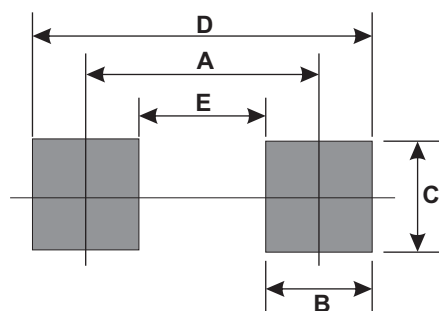
Part Number	Marking Code
CPDU5V0-HF	E05
CPDU12V-HF	E12
CPDU24V-HF	E24



xxx = Product type marking code

Suggested PAD Layout

SIZE	0603/SOD-523F	
	(mm)	(inch)
A	1.70	0.067
B	0.60	0.024
C	0.80	0.031
D	2.30	0.091
E	1.10	0.043



Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
0603/SOD-523F	4,000	7