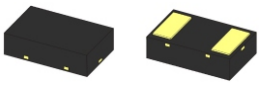
CPDFC1524V-HF

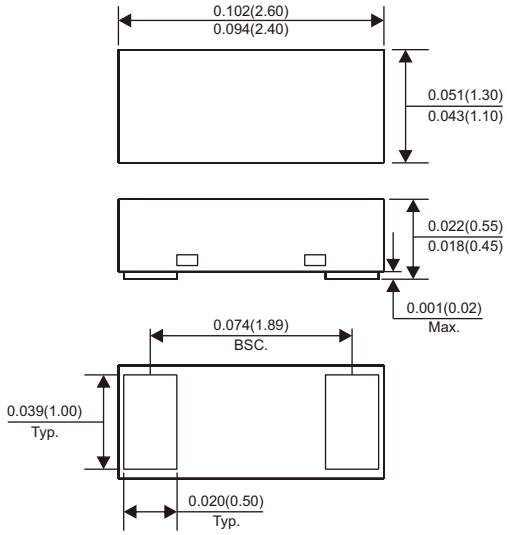
RoHS Device
Halogen Free



Features

- Bi-directional ESD protection.
- Surface mount package.
- Low leakage current.
- Low reverse clamping voltage.
- Human body model (HBM) 16kV
  Machine model (MM) 0.4kV

1005C/SOD-323F

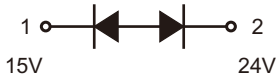


Dimensions in inches and (millimeter)

Mechanical data

- Case: 1005C/SOD-323F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T_P = 8/20μs, Pin 2 to Pin 1 (24V)	P_{PP}	184	W
Peak pulse current		I_{PP}	4	A
Peak pulse power	T_P = 8/20μs, Pin 1 to Pin 2 (15V)	P_{PP}	186	W
Peak pulse current		I_{PP}	6	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±30	kV
Operating junction temperature range		T_J	-65 to +150	°C
Storage temperature range		T_{STG}	-65 to +150	°C

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

Parameter	Conditions		Symbol	Min	Typ	Max	Unit
Working peak reverse voltage	Pin 2 to Pin 1		V_{RWM}			24	V
Reverse leakage current		V_{RWM} = 24V	I_R			50	nA
Breakdown voltage		I_T = 1mA	V_{BR}	25.4			V
		I_T = 5mA	V_{BR}	25.4			V
Clamping voltage		I_{PP} = 1A, T_P = 8/20μs	V_C		35	37	V
		I_{PP} = 4A, T_P = 8/20μs	V_C		44	46	
Working peak reverse voltage	Pin 1 to Pin 2		V_{RWM}			15	V
Reverse leakage current		V_{RWM} = 15V	I_R			50	nA
Breakdown voltage		I_T = 1mA	V_{BR}	17.1			V
		I_T = 5mA	V_{BR}	17.1			V
Clamping voltage		I_{PP} = 1A, T_P = 8/20μs	V_C		22	24	V
		I_{PP} = 6A, T_P = 8/20μs	V_C		29	31	
Junction capacitance		V_R = 0V, f = 1MHz	C_J		18		pF

Typical Rating and Characteristic Curves (CPDFC1524V-HF)

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

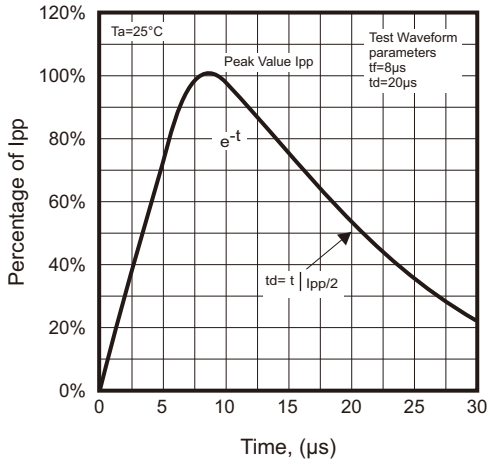


Fig.2 - Power Rating Derating Curve

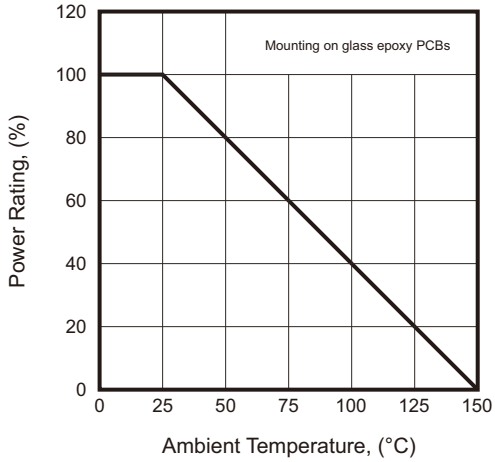


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

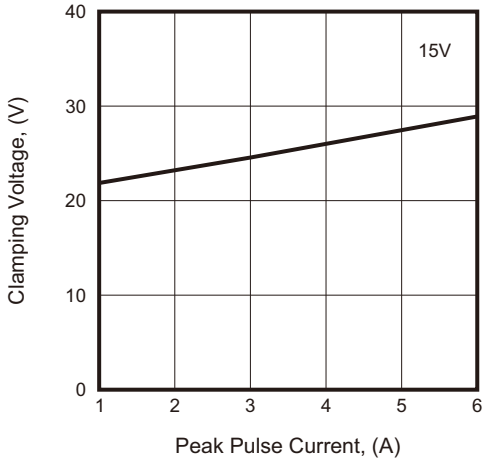


Fig.4 - Typical Clamping Voltage vs. Peak Pulse Current

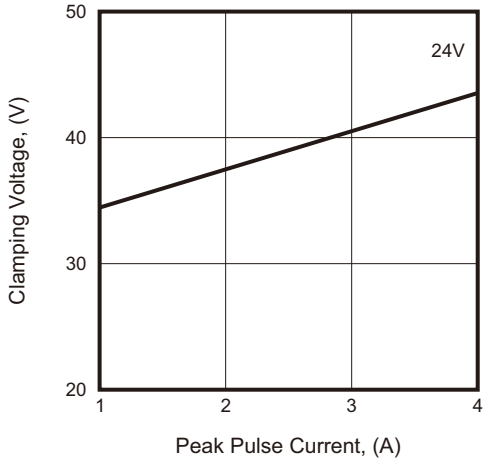


Fig.5 - Typical Capacitance Between Terminals Characteristics

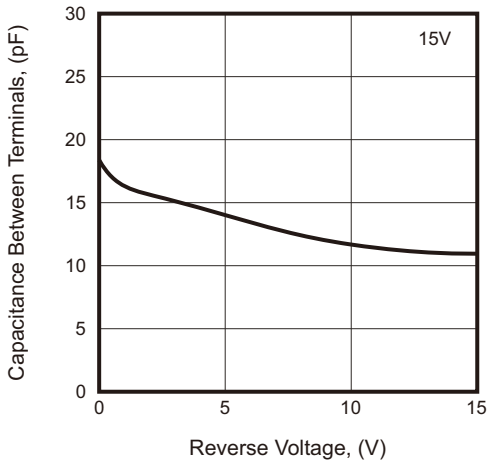
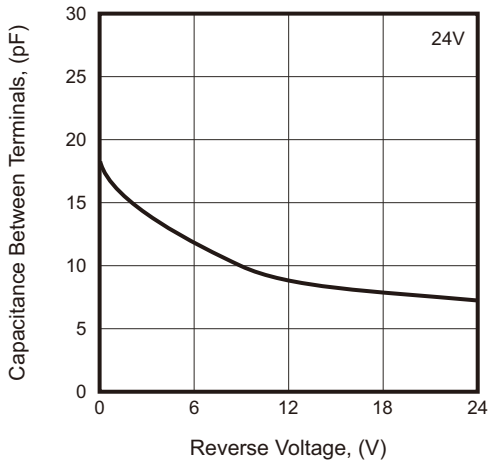
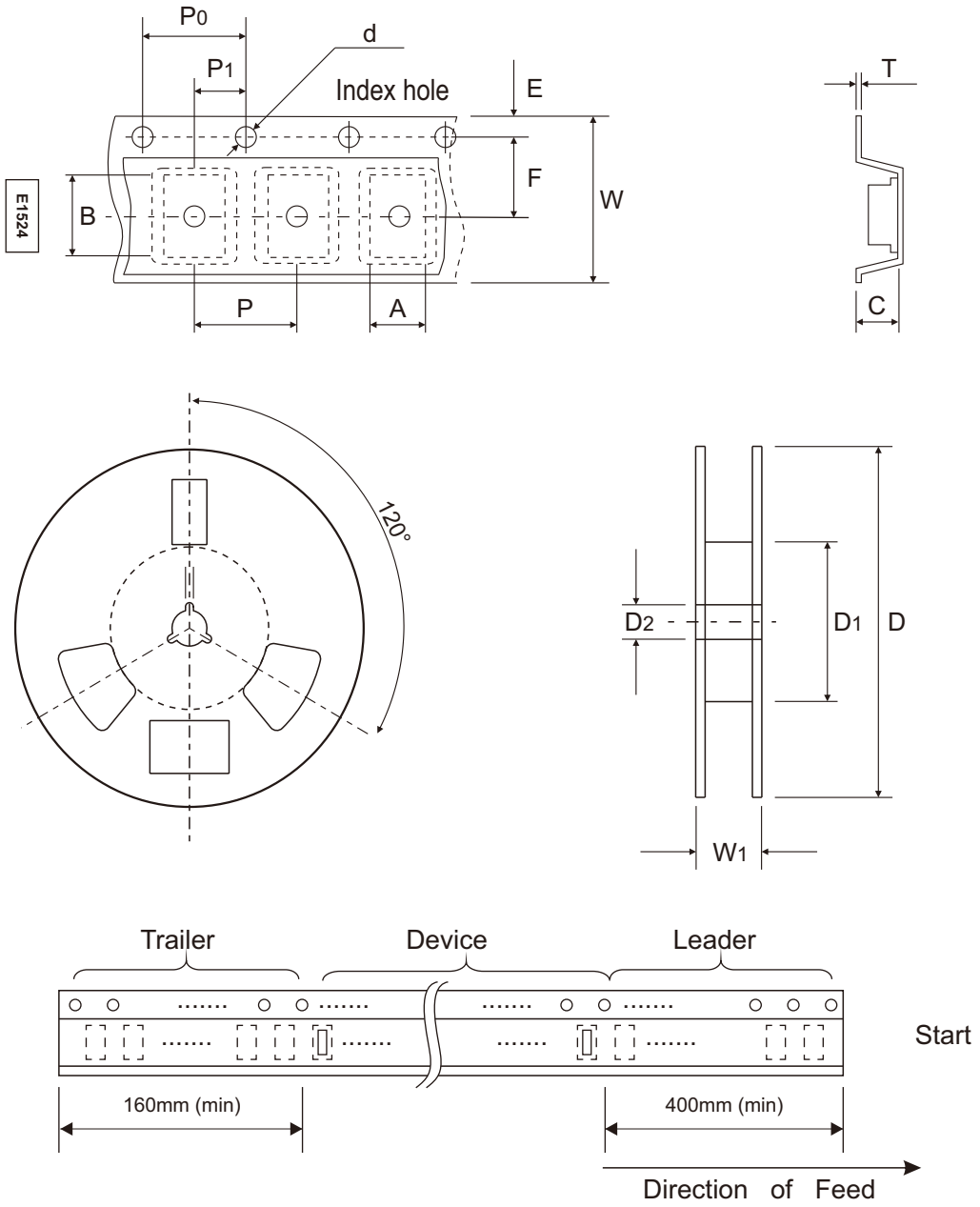


Fig.6 - Typical Capacitance Between Terminals Characteristics



Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
1005C/ SOD-323F	(mm)	1.32 ± 0.05	2.65 ± 0.05	0.58 ± 0.05	1.50 + 0.10 − 0.00	178.00 ± 1.00	60.00 ± 0.50	13.00 ± 0.50
	(inch)	0.052 ± 0.002	0.104 ± 0.002	0.023 ± 0.002	0.059 + 0.004 − 0.000	7.008 ± 0.039	2.362 ± 0.020	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	T	W	W1
1005C/ SOD-323F	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.03	8.00 ± 0.20	11.50 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.008	0.453 ± 0.020

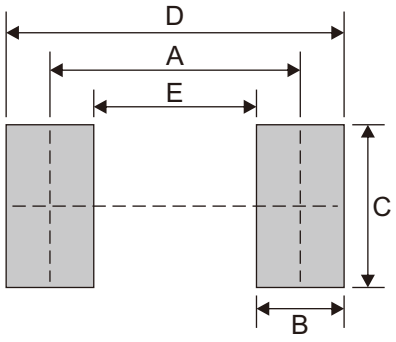
Marking Code

Part Number	Marking Code
CPDFC1524V-HF	E1524

E1524

Suggested P.C.B. PAD Layout

SIZE	1005C/SOD-323F	
	(mm)	(inch)
A	2.00	0.079
B	0.70	0.028
C	1.30	0.051
D	2.70	0.106
E	1.30	0.051



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
1005C/ SOD-323F	4,000	7