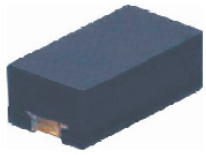
SMD ESD Protection Diode

COMCHIP
SMD Diodes Specialist

CPDF Series (RoHS Device)

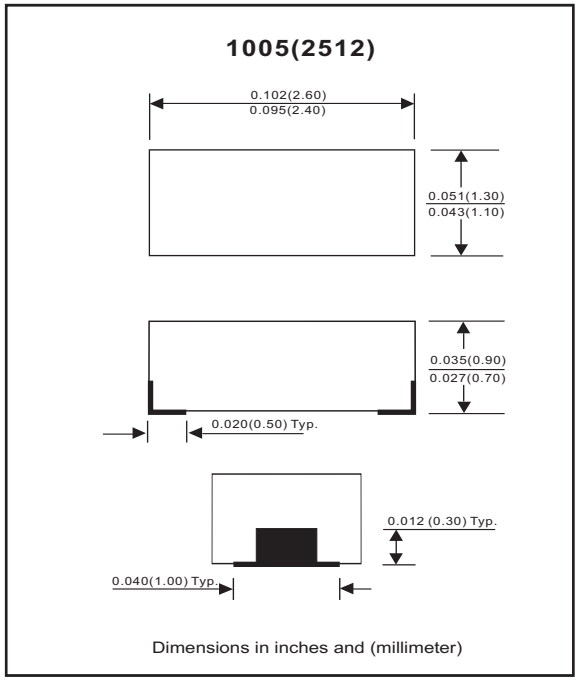


Features

Bi-diretional ESD protection.
(16kV) IEC 61000-4-2 rating.
Surface mount package.
High component density.

Mechanical data

Case: 1005(2512) standard package,
molded plastic.
Terminals: Gold plated, solderable per
MIL-STD-750,method 2026.
Marking Code:
CPDF5V0: E05
CPDF12V: E12
CPDF24V: E24
Mounting position: Any.
Weight: 0.006 gram(approx.).



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

Parameter		Conditions	Symbol	Min	Typ	Max	Unit
Diode breakdown voltage	**CPDF5V0** **CPDF12V** **CPDF24V**	I_R = 1mA	V_{BD}	5.1 13 25	7.0 17 28		V
Leakage current	**CPDF5V0** **CPDF12V** **CPDF24V**	V_R = 5V V_R = 12V V_R = 24V	I_L		0.1	2.0	uA
Junction capacitance	**CPDF5V0** **CPDF12V** **CPDF24V**	V_R =0V,f =1MHz	C_T		15 12 10	20 --- ---	pF
ESD capability	**CPDF Series**	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			16 8	kV
Clamping voltage	**CPDF5V0** **CPDF12V** **CPDF24V**	I_{PP} = 5A,T_P=8/20us I_{PP} = 1A,T_P=8/20us I_{PP} = 1A,T_P=8/20us	V_C			15 25 47	V
Peak pulse power	**CPDF5V0** **CPDF12V** **CPDF24V**	T_P=8/20us	P_{PP}			75 25 47	W
Operation temperature	**CPDF Series**		T_j			125	°C
Storage temperature	**CPDF Series**		T_{STG}	-55		150	°C

RATING AND CHARACTERISTIC CURVES (CPDF Series)

Fig. 1 - 8/20us Peak pulse current wave form acc. IEC 61000-4-5

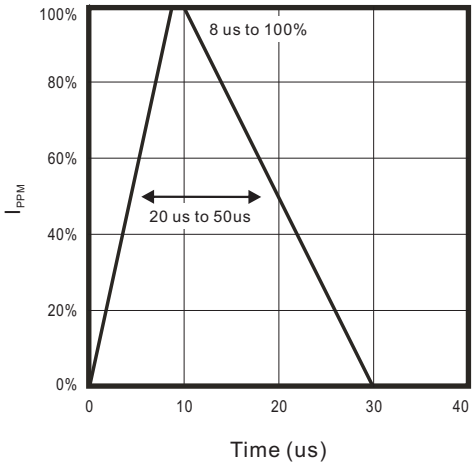


Fig. 2 - Reverse characteristics

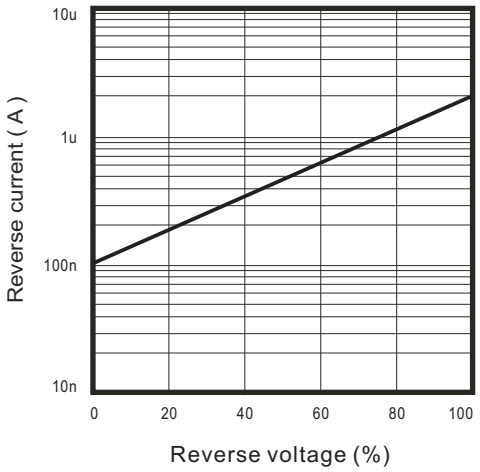


Fig. 3 - Capacitance between terminals characteristics

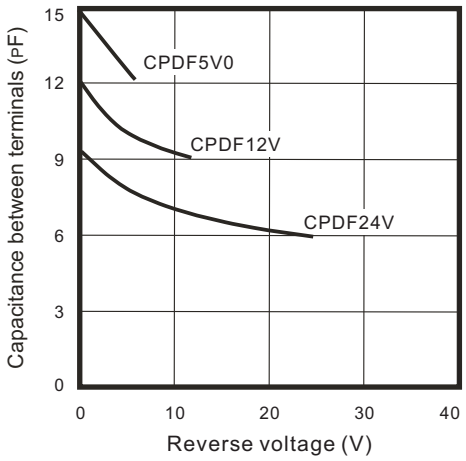
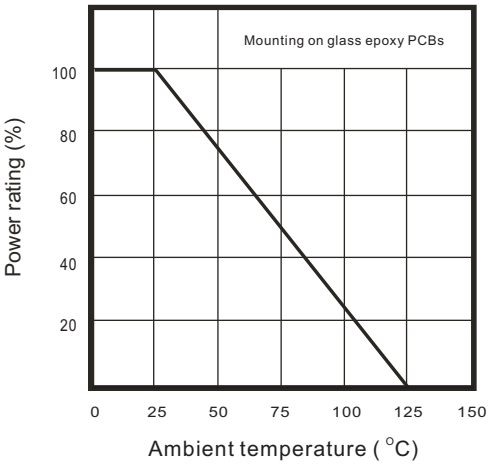
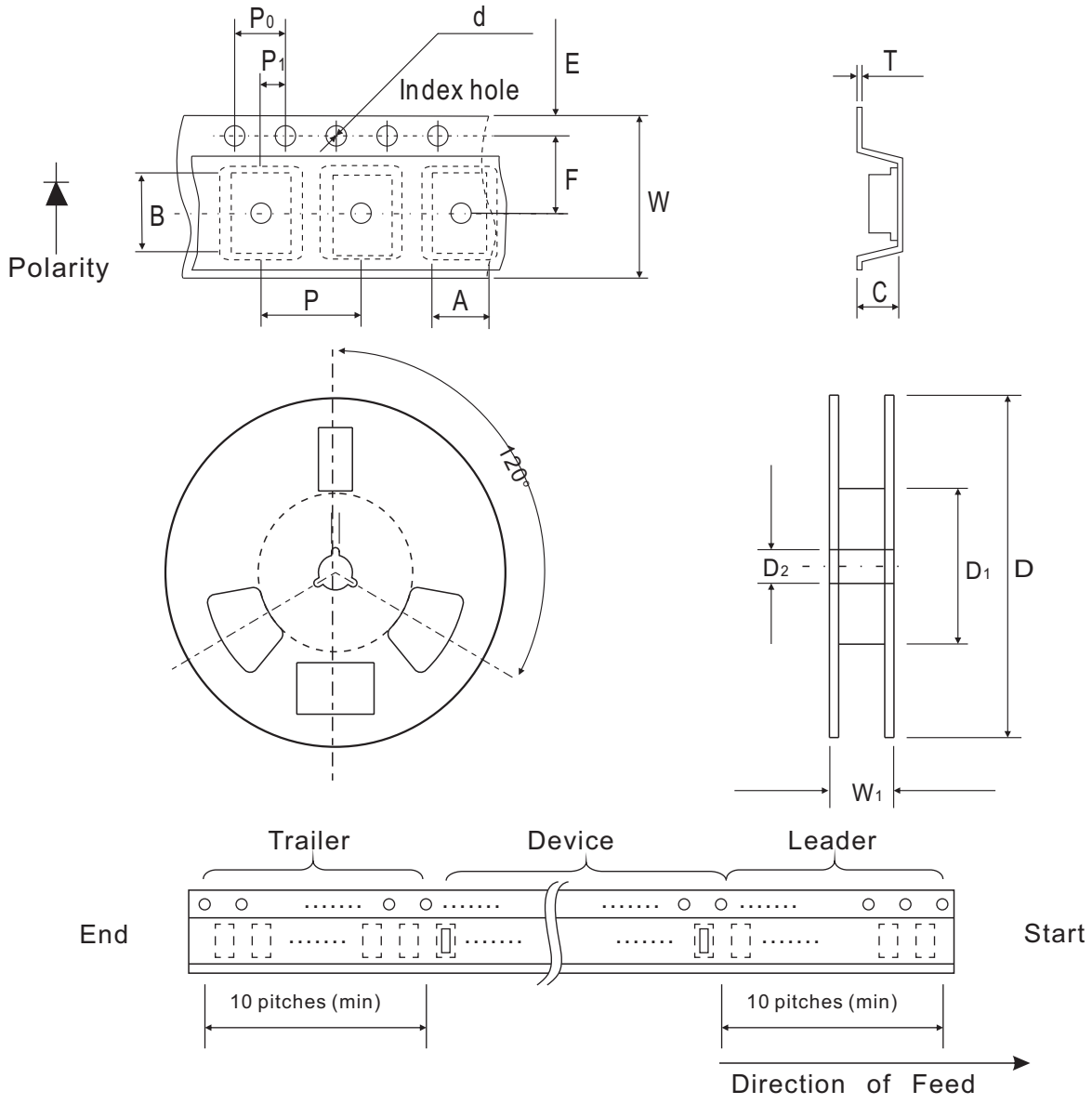


Fig. 4 - Power rating derating curve



Reel Taping Specification



	SYMBOL	A	B	C	d	D	D_1	D_2
F/1005	(mm)	1.55 ± 0.10	2.65 ± 0.10	1.05 ± 0.10	1.55 ± 0.05	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.061 ± 0.004	0.104 ± 0.004	0.041± 0.004	0.061 ± 0.002	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

	SYMBOL	E	F	P	P_0	P_1	T	W	W_1
F/1005	(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	13.5 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

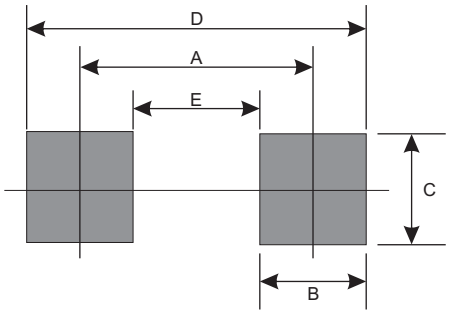
Marking Code

Part Number	Marking Code
CPDF5V0	E05
CPDF12V	E12
CPDF24V	E24

xxx = Product type marking code

Suggested PAD Layout

SIZE	F/1005	
	(mm)	(inch)
A	2.10	0.083
B	1.20	0.047
C	1.20	0.047
D	3.30	0.130
E	0.90	0.035



Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
F/1005	4000	7