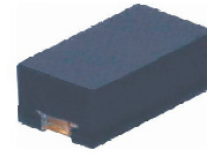


## CPDK Series (RoHS Device)

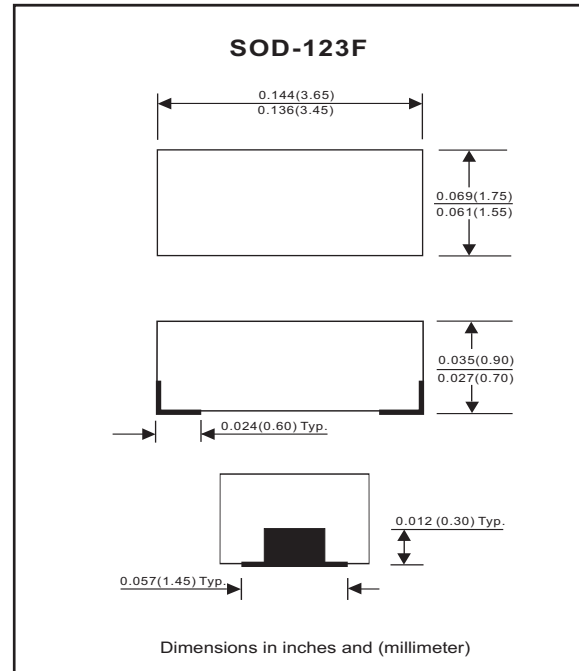
### Features

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



### Mechanical data

- Case: SOD-123F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code:
  - CPDK5V0: E05
  - CPDK12V: E12
  - CPDK24V: E24
- Mounting position: Any.
- Weight: 0.011 gram (approx.).



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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Diode breakdown voltage	CPDK5V0 CPDK12V CPDK24V I <sub>R</sub> = 1mA	V <sub>BD</sub>	5.1 13 25	7.0 17 28		V
Leakage current	CPDK5V0 CPDK12V CPDK24V V <sub>R</sub> = 5V V <sub>R</sub> = 12V V <sub>R</sub> = 24V	I <sub>L</sub>		0.1	2.0	uA
Junction capacitance	CPDK5V0 CPDK12V CPDK24V V <sub>R</sub> = 0V, f = 1MHz	C <sub>T</sub>		15 12 10	20 --- ---	pF
ESD capability	CPDK Series IEC 61000-4-2 (air) IEC 61000-4-2 (contact)	ESD			16 8	kV
Clamping voltage	CPDK5V0 CPDK12V CPDK24V I <sub>PP</sub> = 5A, T <sub>P</sub> = 8/20us I <sub>PP</sub> = 1A, T <sub>P</sub> = 8/20us I <sub>PP</sub> = 1A, T <sub>P</sub> = 8/20us	V <sub>C</sub>			15 25 47	V
Peak pulse power	CPDK5V0 CPDK12V CPDK24V T <sub>P</sub> = 8/20us	P <sub>PP</sub>			75 25 47	W
Operation temperature	CPDK Series	T <sub>j</sub>			125	°C
Storage temperature	CPDK Series	T <sub>STG</sub>	-55		150	°C

## RATING AND CHARACTERISTIC CURVES (CPDK Series)

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

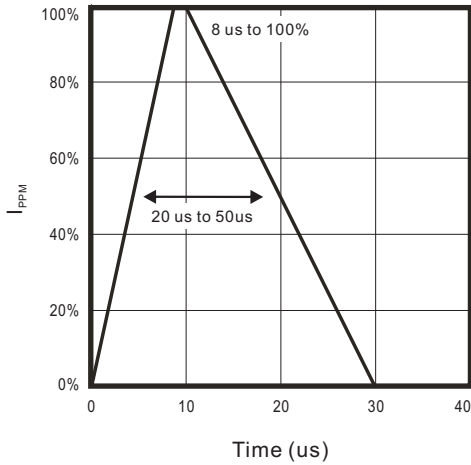


Fig. 2 - Reverse characteristics

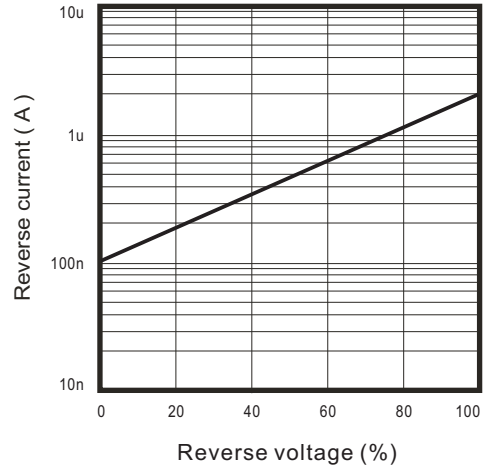


Fig. 3 - Capacitance between terminals characteristics

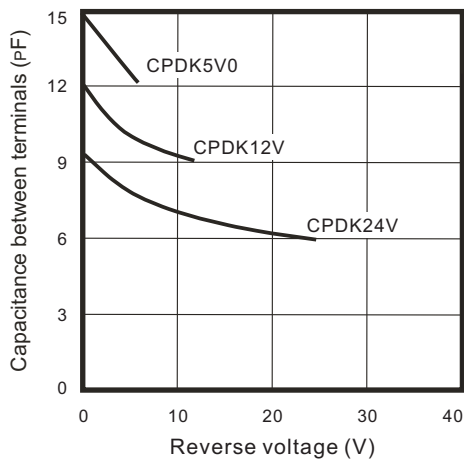
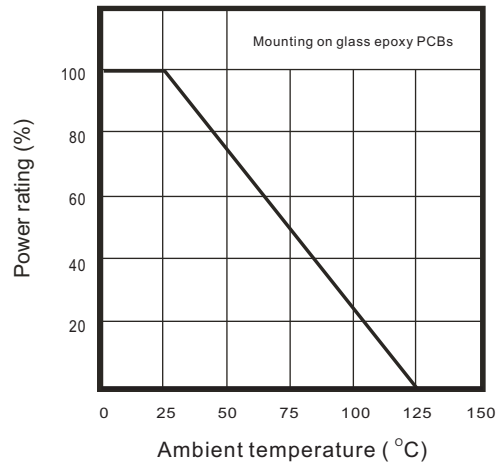
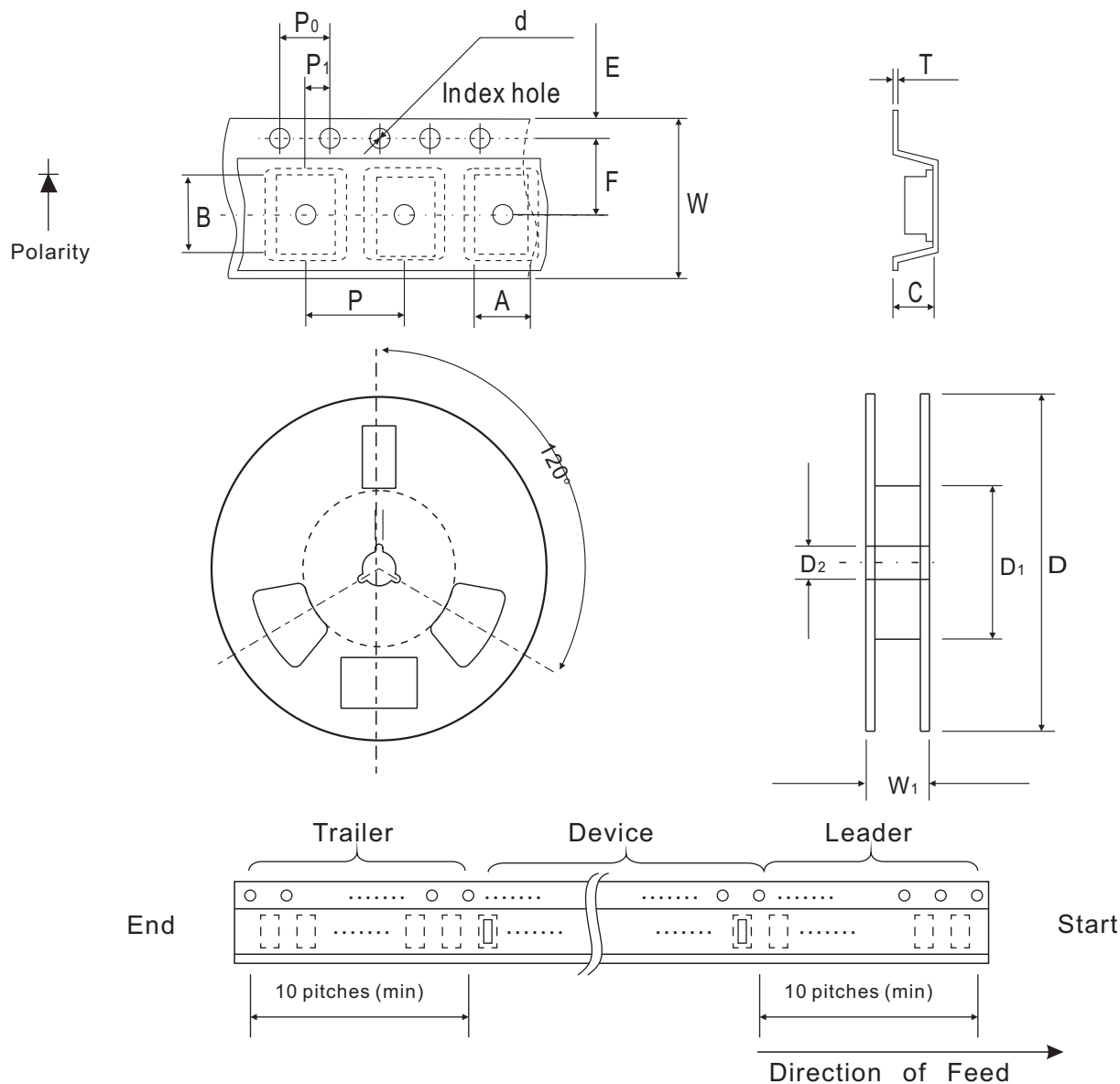


Fig. 4 - Power rating derating curve



## Reel Taping Specification



K SOD-123F	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	1.90 ± 0.10	3.80 ± 0.10	1.05 ± 0.10	1.55 ± 0.10	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.075 ± 0.004	0.150 ± 0.004	0.041 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

K SOD-123F	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	T	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.22 ± 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

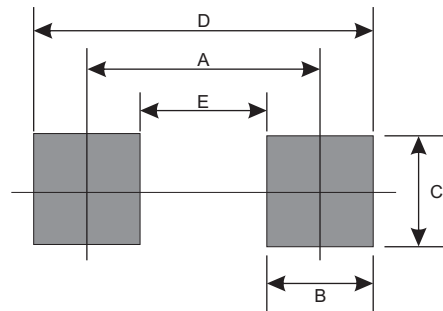
Part Number	Marking Code
CPDK5V0	E05
CPDK12V	E12
CPDK24V	E24



xxx = Product type marking code

## Suggested PAD Layout

SIZE	K/SOD-123F	
	(mm)	(inch)
A	3.45	0.136
B	1.30	0.051
C	1.60	0.063
D	4.75	0.187
E	2.15	0.085



## Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
K/SOD-123F	4000	7