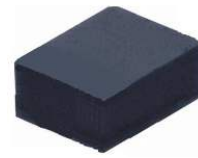


## CPDTR0312V0U-HF

RoHS Device  
Halogen Free

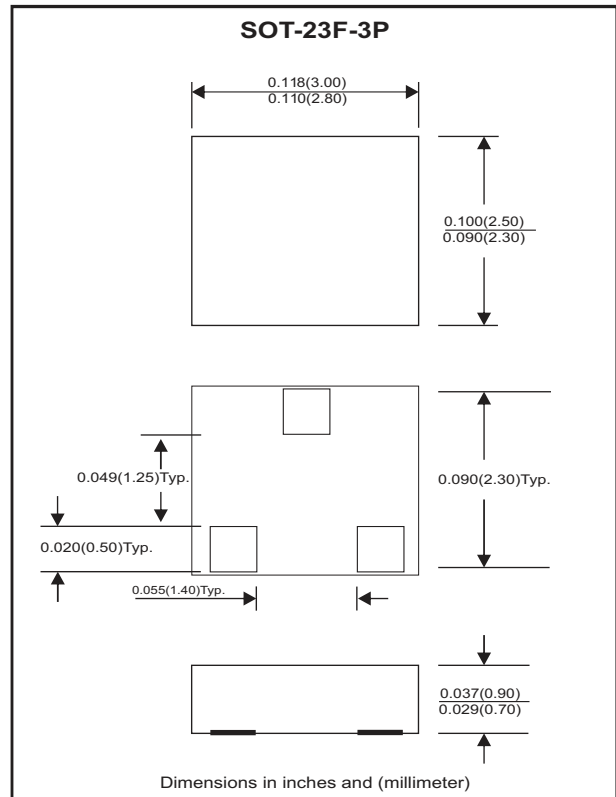
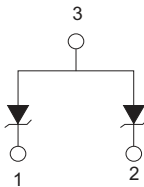


### Features

- Uni-directional ESD protection.
- Surface mount package.
- High component density.

### Mechanical data

- Case: SOT-23F-3P standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code: E12U
- Mounting position: Any.
- Weight: 0.006 gram (approx.).



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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 10\text{mA}$	$V_F$		0.8		V
Diode breakdown voltage	$I_R = 1\text{mA}$	$V_{BD}$	13.3	15.5	17.5	V
Leakage current	$V_R = 12\text{V}$	$I_L$		0.1	1.0	$\mu\text{A}$
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_T$			60	pF
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			30	kV
Clamping voltage	$I_{PP} = 1\text{A}, T_P=8/20\mu\text{s}$ $I_{PP} = 5\text{A}, T_P=8/20\mu\text{s}$	$V_C$			19 24	V
Peak pulse power		$P_{PP}$			120	W
Operation temperature		$T_J$			125	$^{\circ}\text{C}$
Storage temperature		$T_{STG}$	-55		150	$^{\circ}\text{C}$

## RATING AND CHARACTERISTIC CURVES (CPDTR0312V0U-HF)

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

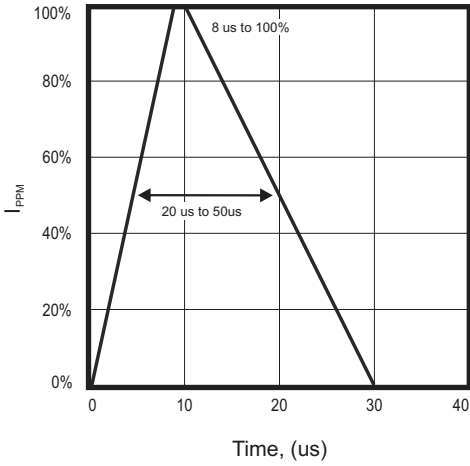


Fig. 2 - Power rating derating curve

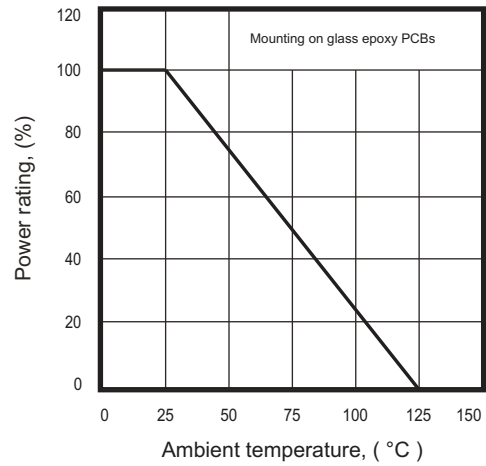


Fig. 3 - Clamping voltage vs. peak pulse current

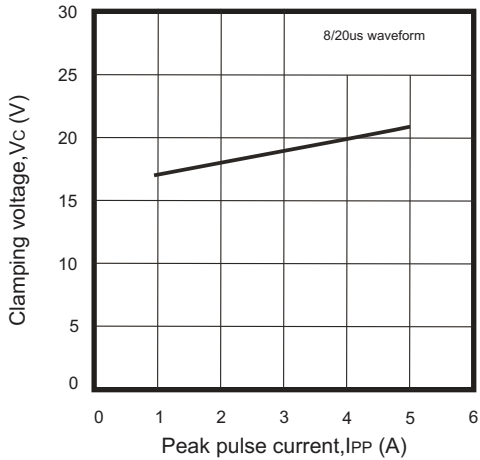


Fig. 4 - Forward voltage vs. forward current

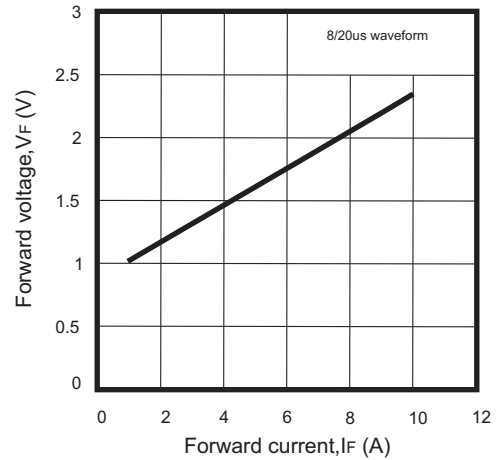
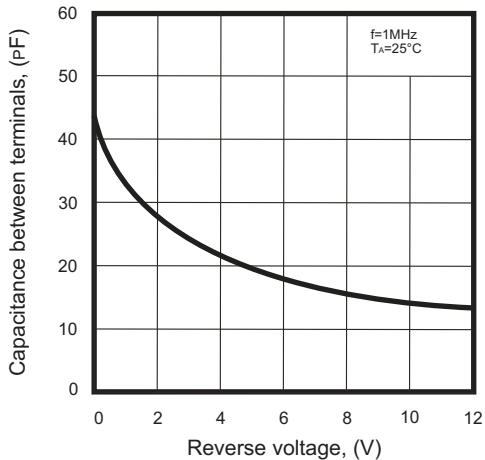
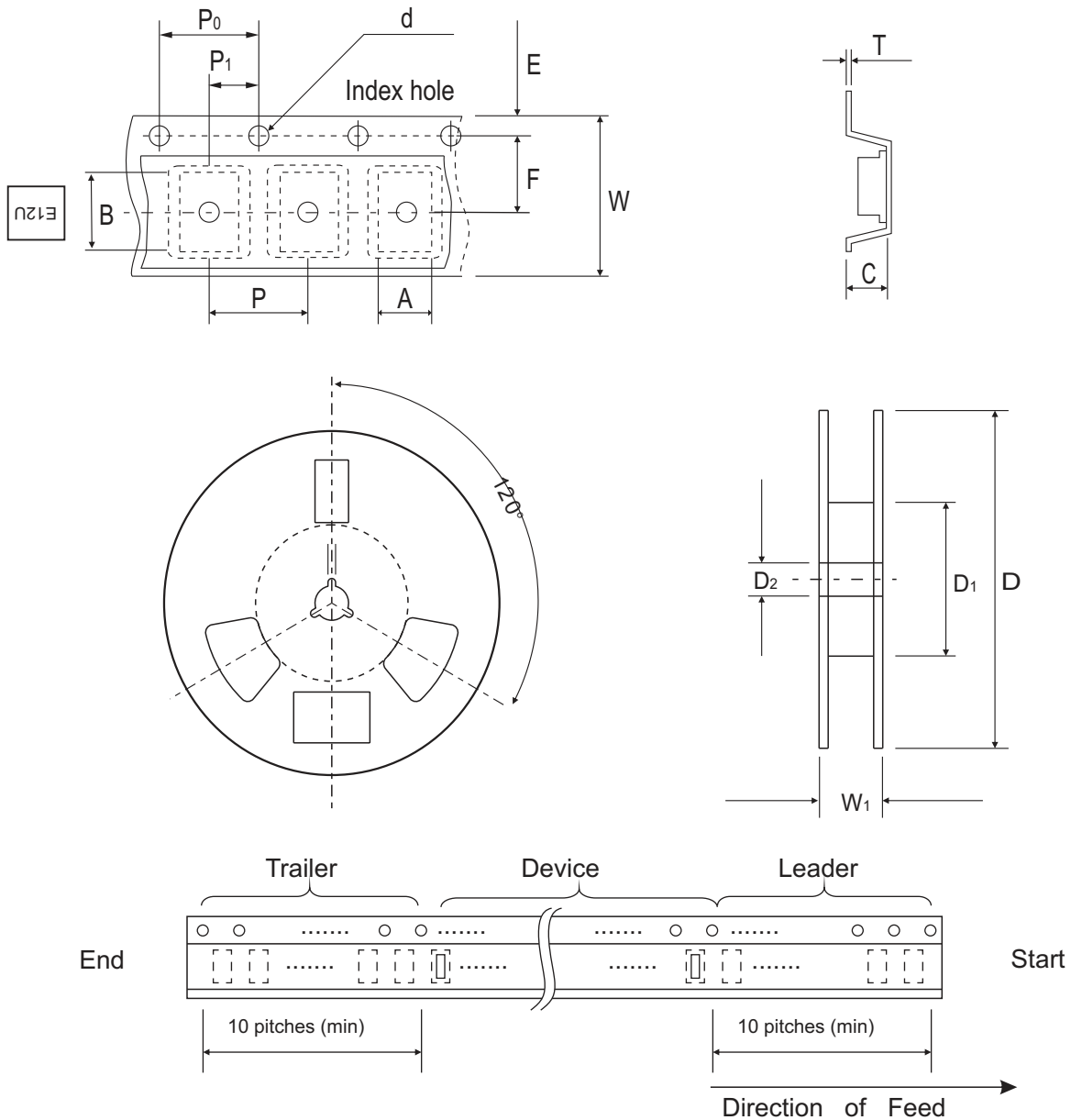


Fig. 5 - Capacitance between terminals characteristics



## Reel Taping Specification



SOT-23F-3P	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	3.15 ± 0.10	2.65 ± 0.10	0.95 ± 0.10	1.55 ± 0.10	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.124 ± 0.004	0.104 ± 0.004	0.037 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

SOT-23F-3P	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 ± 0.10	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.

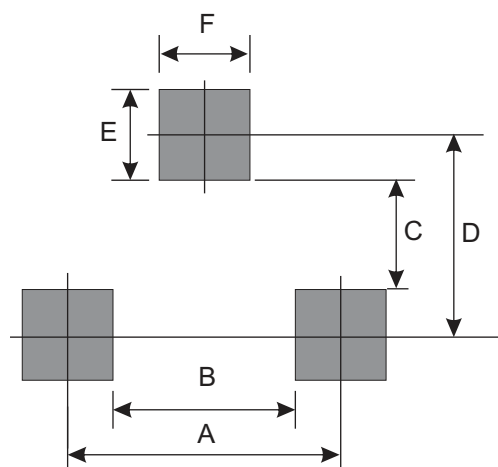
## Marking Code

Part Number	Marking Code
CPDTR0312V0U-HF	E12U



## Suggested PAD Layout

SIZE	SOT-23F-3P	
	(mm)	(inch)
A	1.90	0.075
B	1.10	0.043
C	0.90	0.035
D	1.70	0.067
E	0.80	0.031
F	0.80	0.031



## Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SOT-23F-3P	3,000	7