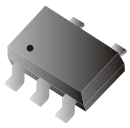
SMD ESD Protection Diode

CPDV5-5V0U-HF

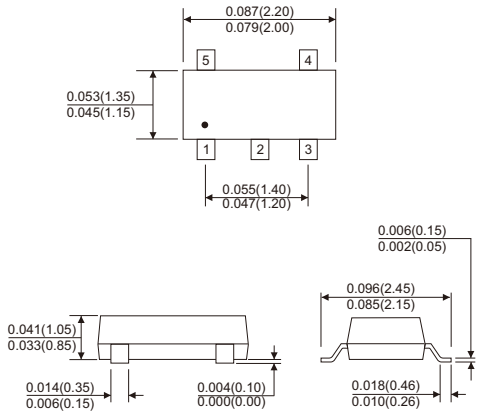
RoHS Device
Halogen Free



Features

- IEC61000-4-2 Level 4 ESD protection.
- Surface mount package.
- High component density.

SOT-353

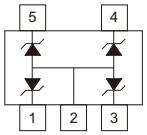


Dimensions in inches and (millimeter)

Mechanical data

- Case: SOT-353 standard package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T_P = 8/20μs	P_{PP}	80	W
Peak pulse current	T_P = 8/20μs	I_{PP}	8	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±15 ±8	kV
Operating junction temperature range		T_J	-55 to +125	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			5	V
Forward voltage	I_F = 10mA	V_F			1.2	V
Breakdown voltage	I_R = 1mA	V_{BR}	6.1			V
Leakage current	V_R = 5V	I_R		0.1	1.0	μA
Clamping voltage	I_{PP} = 1A, T_P = 8/20μs	V_C			8	V
	I_{PP} = 8A, T_P = 8/20μs	V_C		10		
Junction capacitance	V_R = 0V, f = 1MHz	C_J		60	80	pF

Typical Rating and Characteristic Curves (CPDV5-5V0U-HF)

Fig.1 - 8/20μs Peak Pulse Current Wave form acc. IEC 61000-4-5

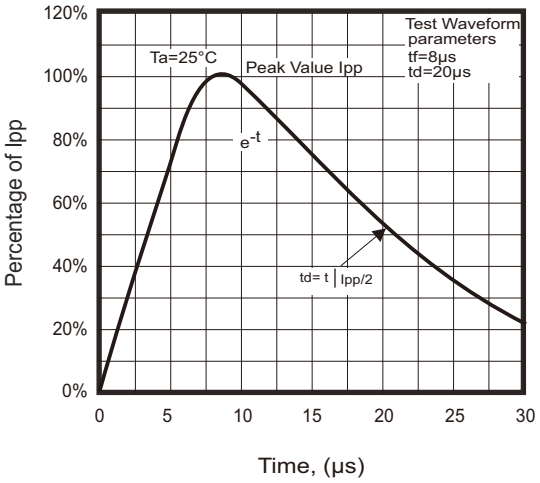


Fig.2 - Power Rating Derating Curve

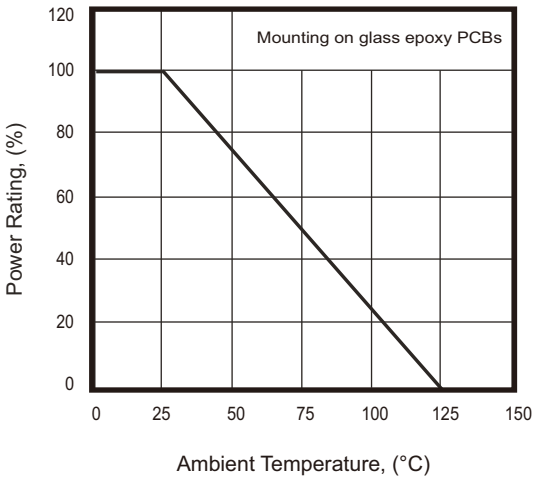


Fig.3 - Clamping Voltage vs. Peak Pulse Current

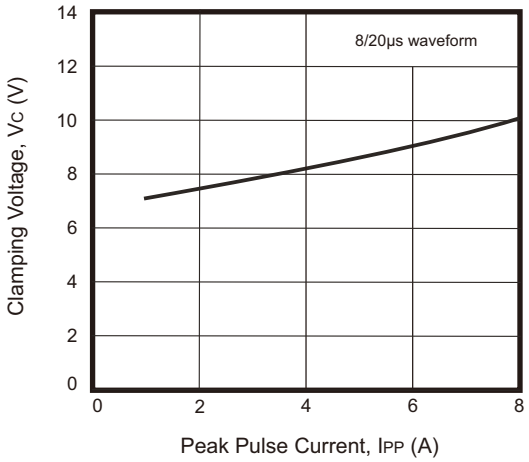
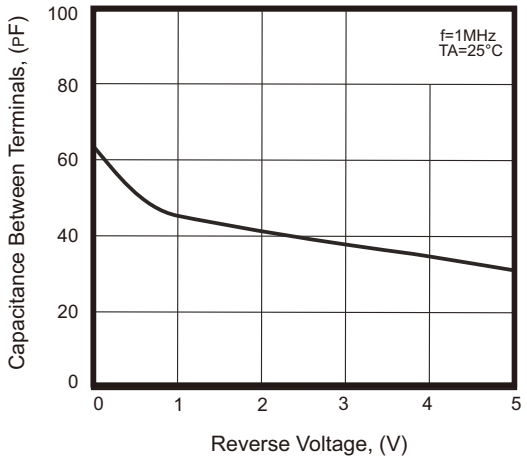
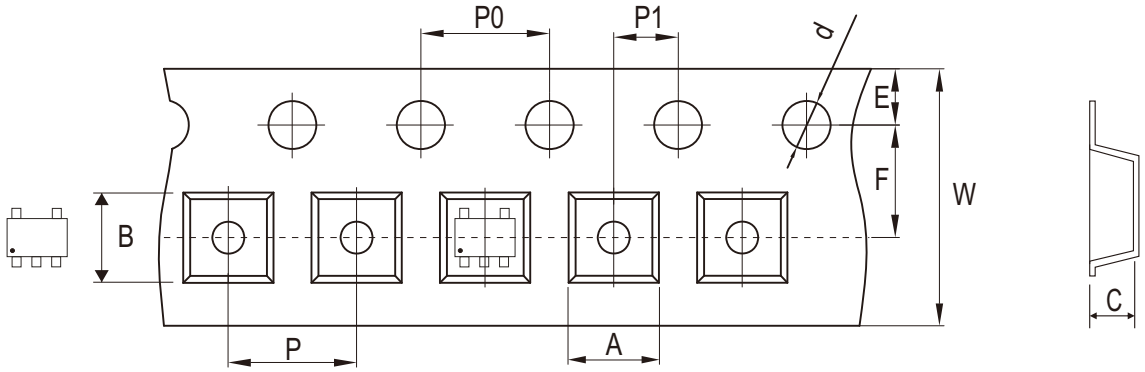
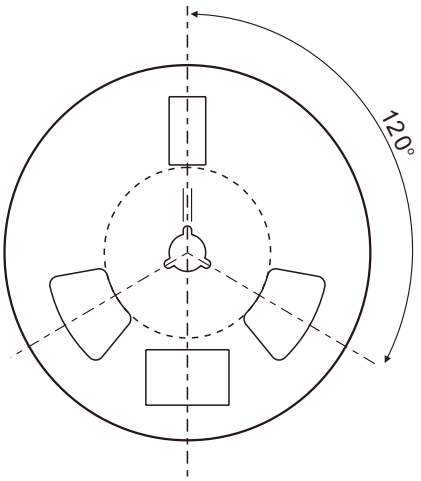


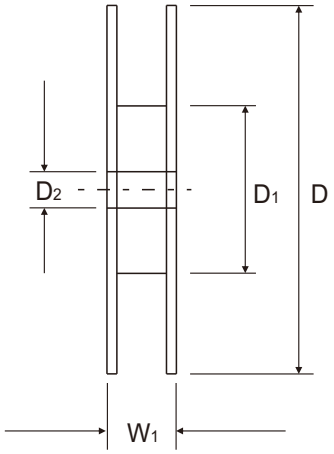
Fig.4 - Capacitance Between Terminals Characteristics

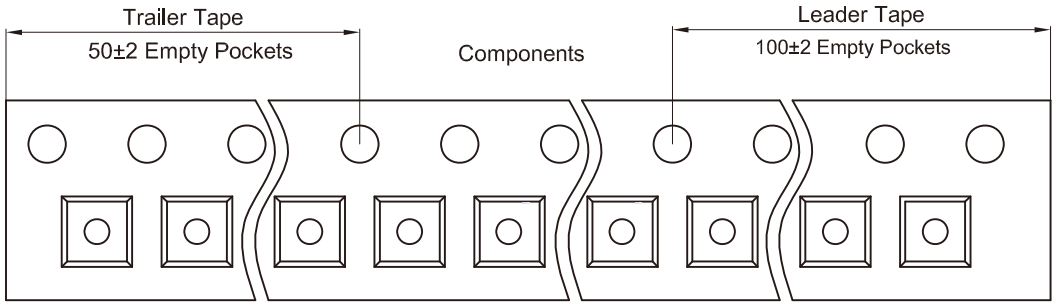


Reel Taping Specification







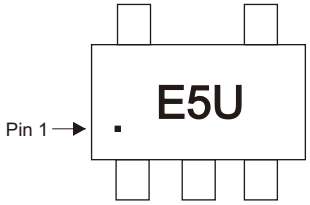


	SYMBOL	A	B	C	d	D	D1	D2
SOT-353	(mm)	2.25± 0.05	2.55 ± 0.05	1.20 ± 0.05	1.50 + 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.089 ± 0.002	0.100 ± 0.002	0.047 ± 0.002	0.059 + 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P0	P1	W	W1
SOT-353	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.484 ± 0.039

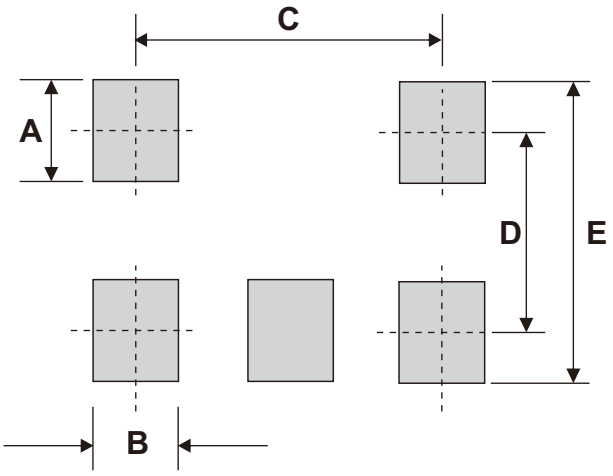
Marking Code

Part Number	Marking Code
CPDV5-5V0U-HF	E5U



Suggested P.C.B. PAD Layout

SIZE	SOT-353	
	(mm)	(inch)
A	0.80	0.031
B	0.40	0.016
C	1.30	0.051
D	1.94	0.076
E	2.74	0.108



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-353	3,000	7