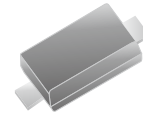


CPDH5V0SP-HF

RoHS Device

Halogen Free



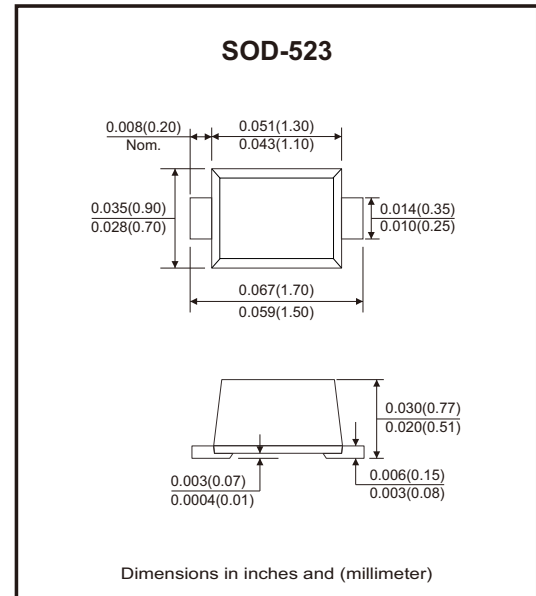
Features

- Bi-directional configurations.
- Solid-state silicon-avalanche technology.
- Low clamping voltage.
- Low leakage current.
- IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air/contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)

Mechanical data

- Case: SOD-523 package, molded plastic.
- Mounting position: Any.

Circuit Diagram



Maximum Rating (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu\text{s}$	P_{PP}	145	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	5	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 20	kV
Lead soldering temperature	10s	T_L	260	$^\circ\text{C}$
Operating junction temperature range		T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			5	V
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	6.5			V
Reverse leakage current	$V_{RWM} = 5\text{V}$	I_R			0.1	μA
Clamping voltage	$I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$	V_C		10		V
	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	V_C		27	29	V
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		0.25	0.4	pF

Typical Rating and Characteristic Curves (CPDH5V0SP-HF)

Fig.1 - Peak Pulse Power Rating

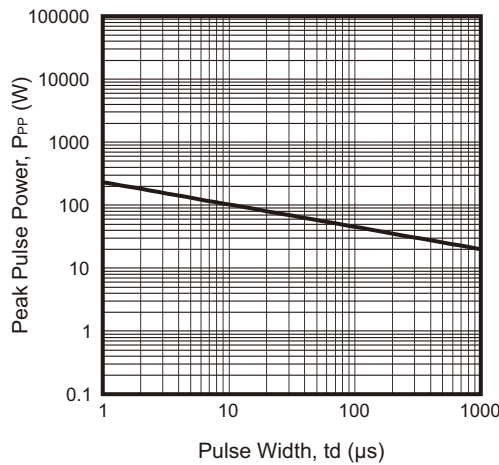


Fig.2 - Pulse Dertating Curve

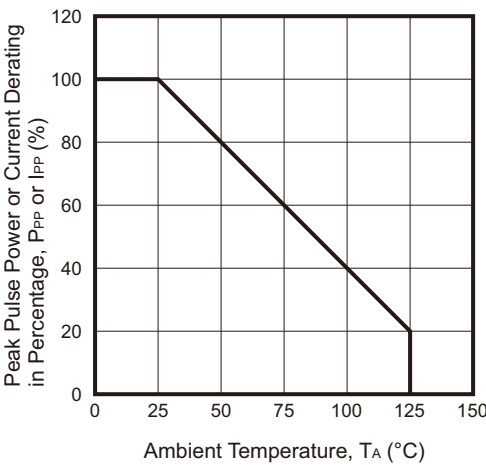


Fig.3 - 8/20μs Pulse Waveform

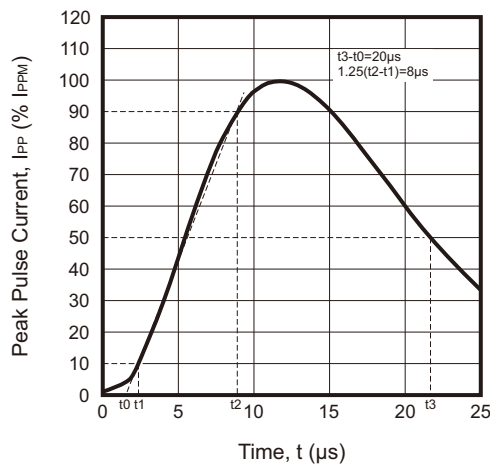


Fig.4 - Typical Clamping Voltage

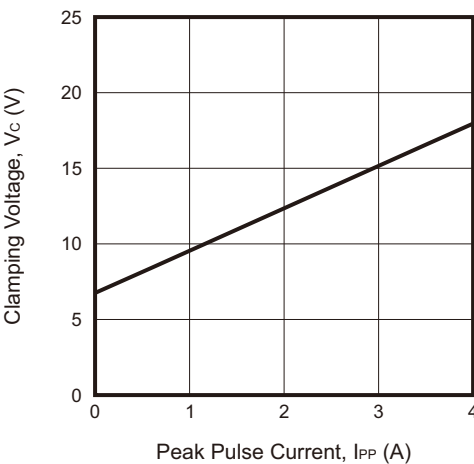


Fig.5 - ESD Pulse Waveform (IEC 61000-4-2)

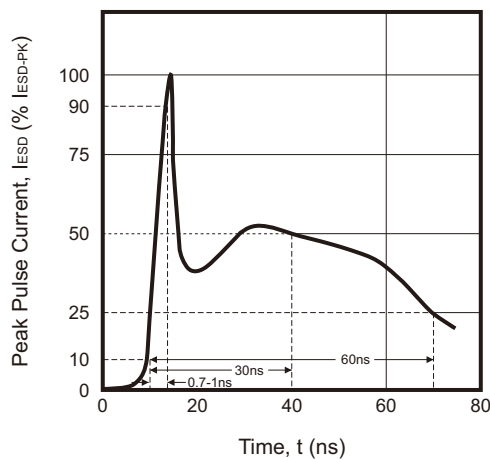
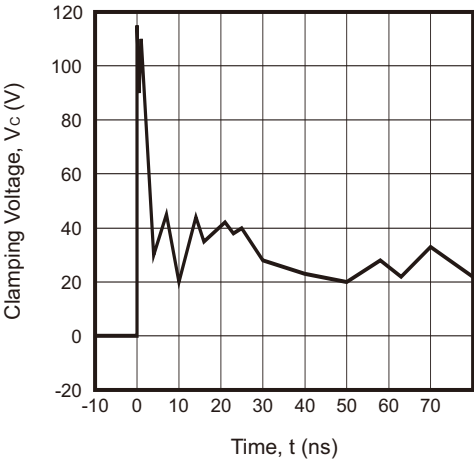
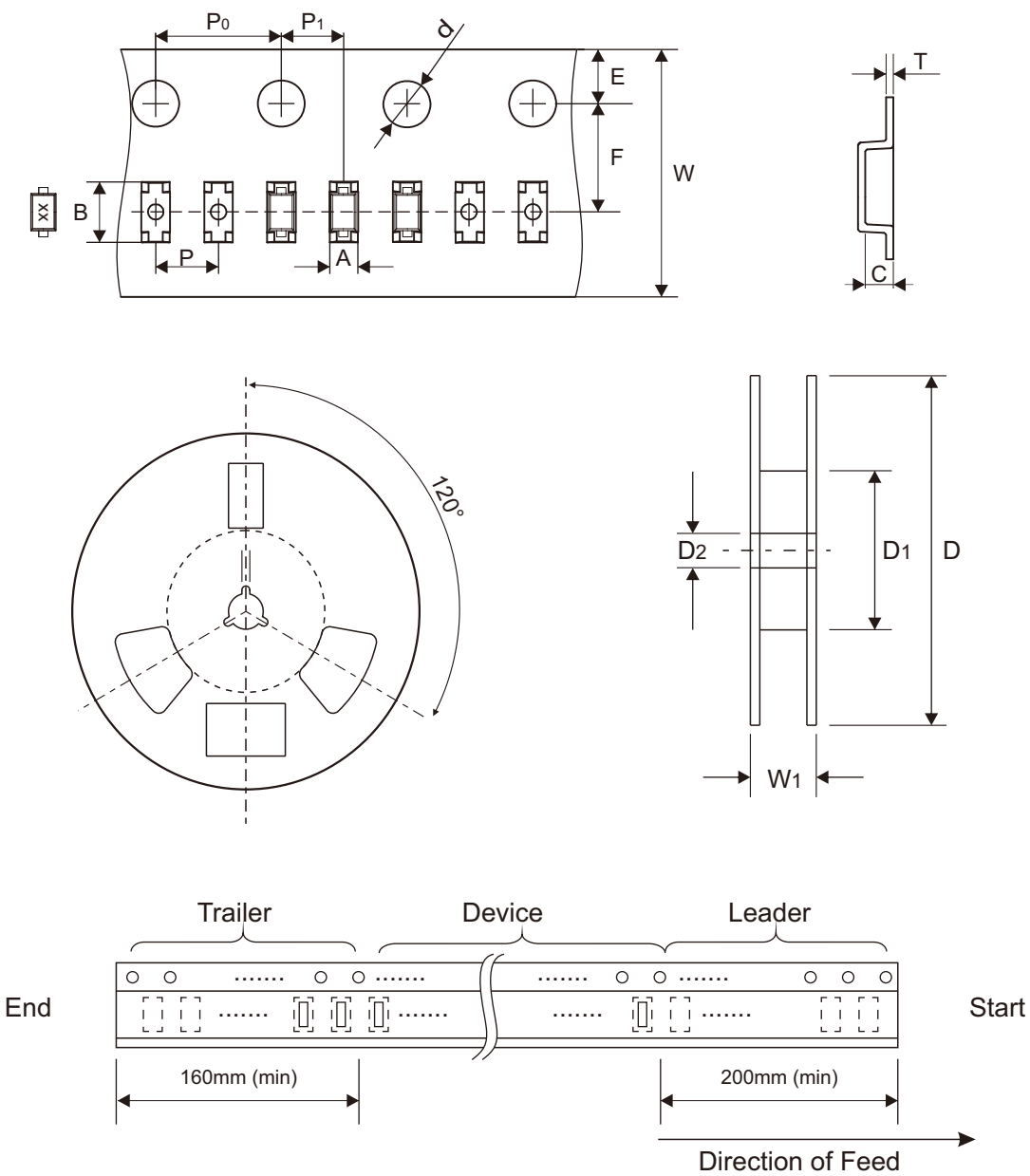


Fig.6 - ESD Clamping Voltage (8kV Contact per IEC 61000-4-2)



Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
SOD-523	(mm)	0.90 ± 0.05	1.95 ± 0.05	0.73 ± 0.05	$1.50 + 0.10 - 0.00$	178.00 ± 1.00	54.40 ± 1.00	13.30 ± 0.30
	(inch)	0.035 ± 0.002	0.077 ± 0.002	0.029 ± 0.002	$0.059 + 0.004 - 0.000$	7.008 ± 0.039	2.142 ± 0.039	0.524 ± 0.012

	SYMBOL	E	F	P	P0	P1	T	W	W1
SOD-523	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	$8.00 + 0.30 - 0.10$	12.40 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	$0.315 + 0.012 - 0.004$	0.488 ± 0.039

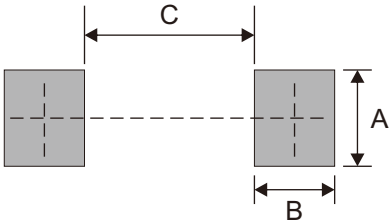
Marking Code

Part Number	Marking Code
CPDH5V0SP-HF	25



Suggested P.C.B. PAD Layout

SIZE	SOD-523	
	(mm)	(inch)
A	0.40	0.016
B	0.48	0.019
C	0.84	0.033



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-523	5,000	7