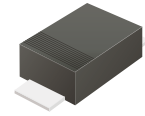


CPDW20VMUHT-HF

RoHS Device
Halogen Free



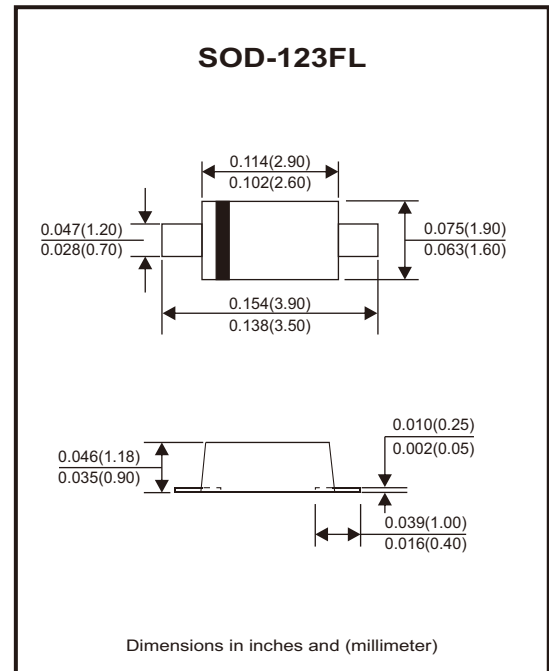
Features

- Uni-directional ESD protection.
- Low leakage current.
- Low clamping voltage.
- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air/contact)
- IEC 61000-4-4 (EFT) 80A (5/50ns)
- IEC 61000-4-5 (Lightning) 50A (8/20 μs)

Mechanical data

- Case: SOD-123FL package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- 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}	1900	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	50	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
Operating junction temperature range		T_J	-55 to +150	$^\circ\text{C}$
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}			20	V
Forward voltage	$I_F = 15\text{mA}$	V_F	0.6		1.2	V
Reverse leakage current	$V_{RWM} = 20\text{V}$	I_R			1	μA
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	22.2			V
Clamping voltage	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	V_C		24	26	V
	$I_{PP} = 50\text{A}, T_P = 8/20\mu\text{s}$	V_C		36	38	
Clamping voltage	$TLP = 16\text{A}, T_P = 100\text{ns}$	V_C		27		V
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		437		pF

Typical Rating and Characteristic Curves (CPDW20VMUHT-HF)

Fig.1 - 8/20μs Peak Pulse Current
Waveform Acc. IEC 61000-4-5

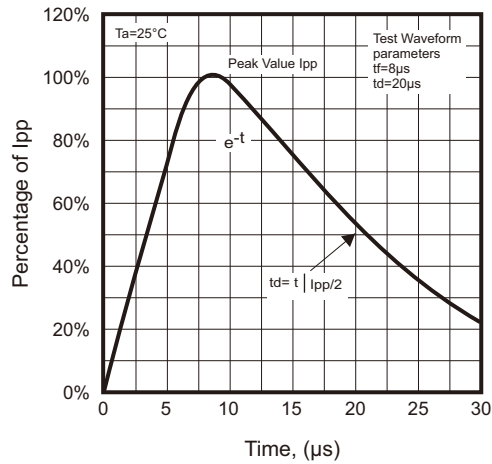


Fig.2 - Power Rating Derating Curve

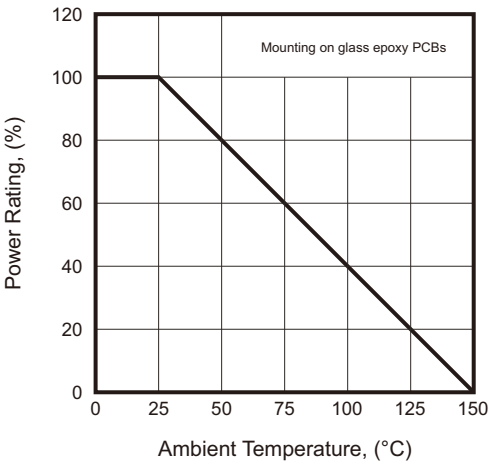


Fig.3 - Typical Clamping Voltage vs.
Peak Pulse Current

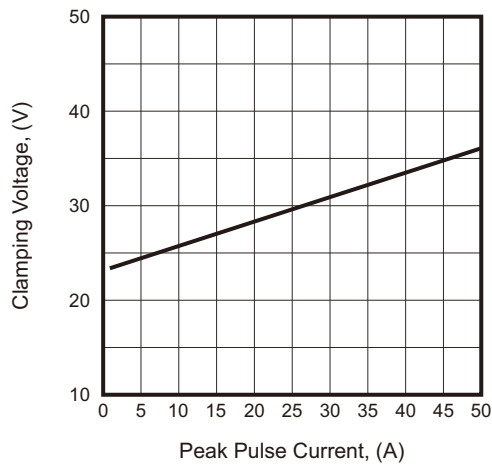


Fig.4 - Typical Capacitance Between
Terminals Characteristics

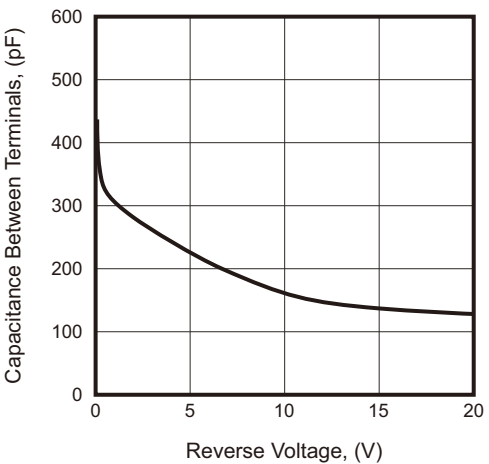
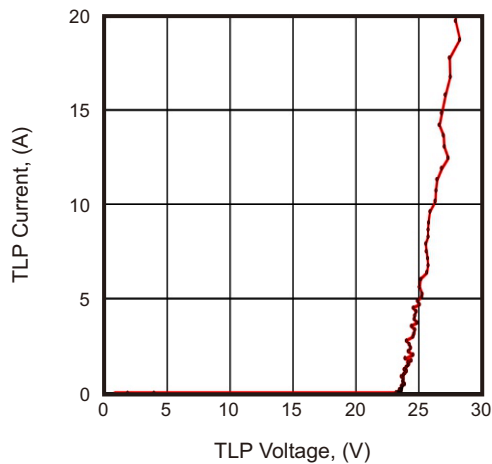
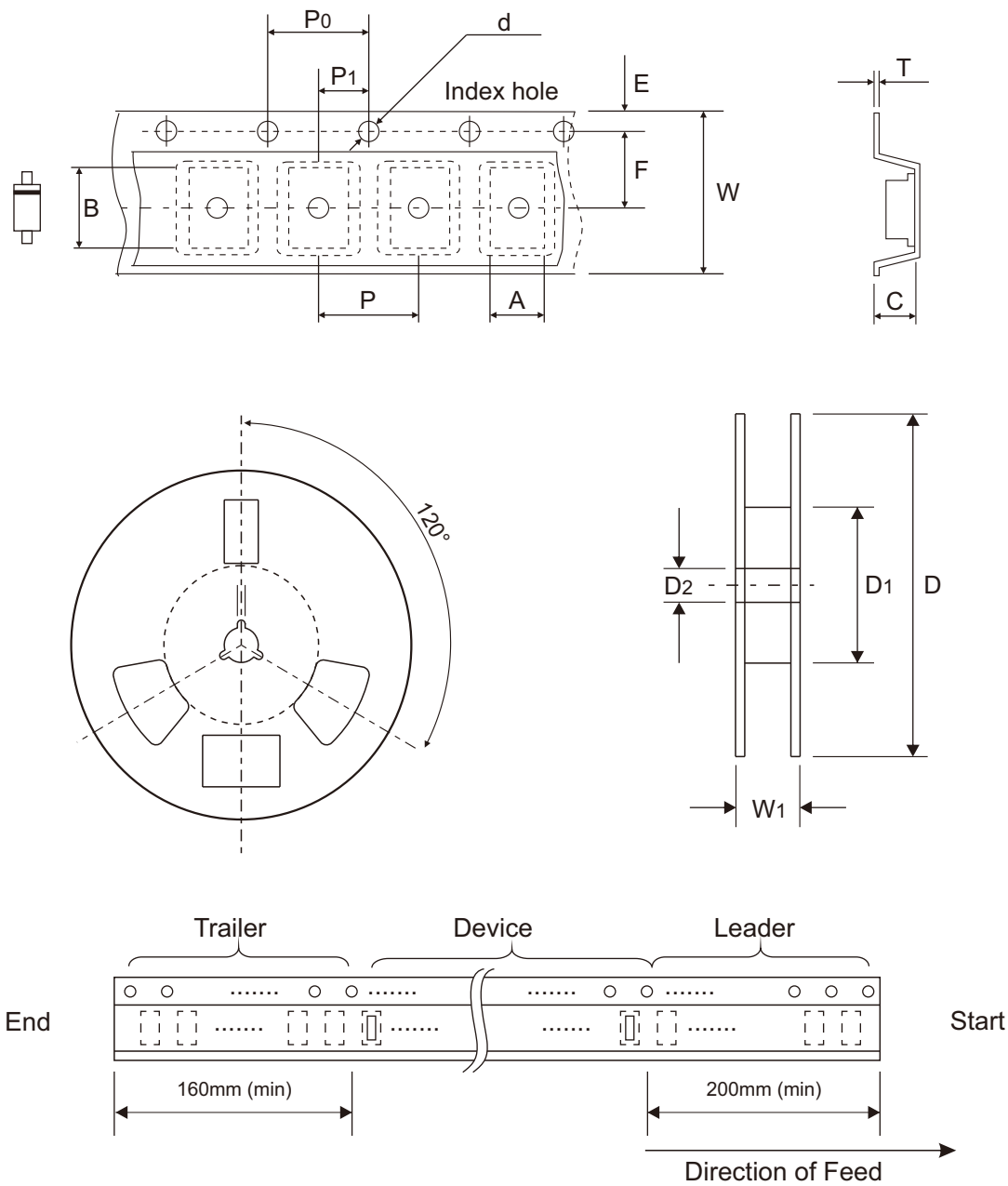


Fig.5 - TLP-Positive Pulse



Reel Taping Specification

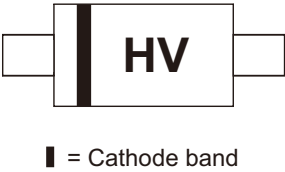


SOD-123FL	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.20 ± 0.10	3.90 ± 0.10	1.37 ± 0.10	1.55 ± 0.10	178.00 ± 0.50	60.00 ± 1.00	13.30 ± 0.20
	(inch)	0.087 ± 0.004	0.154 ± 0.004	0.054 ± 0.004	0.061 ± 0.004	7.008 ± 0.020	2.362 ± 0.039	0.524 ± 0.008

SOD-123FL	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	8.00 ± 0.10	11.50 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.004	0.453 ± 0.020

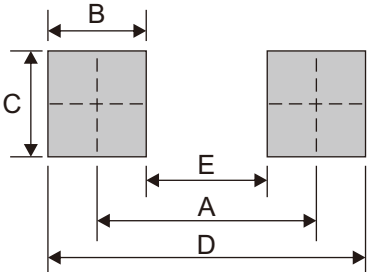
Marking Code

Part Number	Marking Code
CPDW20VMUHT-HF	HV



Suggested P.C.B. PAD Layout

SIZE	SOD-123FL	
	(mm)	(inch)
A	2.80	0.110
B	1.30	0.051
C	1.40	0.055
D	4.20	0.165
E	1.40	0.055



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123FL	3,000	7