

ESD5LL5.0CW

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ESD5LL5.0CW

130W Ultra Low Capacitance Bi-Directional TVS For ESD Protection 5.0V

Features

- 130 Watts peak pulse power ($t_p=8/20\mu s$).
- Solid-state silicon-avalanche technology.
- Complies with following standards:
 - IEC 61000-4-2(ESD) $\pm 20kV$ (Air).
 - IEC 61000-4-2(ESD) $\pm 20kV$ (Contact).
 - IEC 61000-4-4(EFT) 40A (5/50ns).
 - IEC 61000-4-5 (Lightning) 5A (8/20 μs).
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex.ESD5LL5.0CW-H.

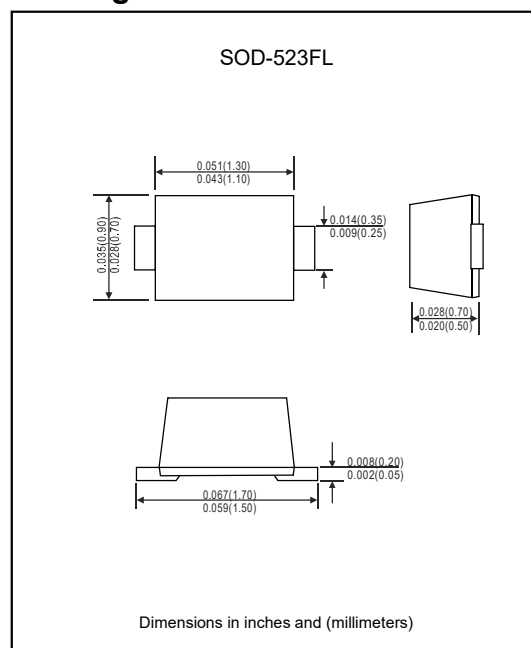
Applications

- Cell phone handsets and accessories.
- Notebooks, desktops and server.
- USB 2.0 and USB 3.0 interfaces.
- Personal digital assistants.
- Ethernet-10/100/1003 base T

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, SOD-523FL.
- Terminals : Solder plated, solder able per MIL-STD-750, Method 2026.

Package outline



Maximum ratings (At $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Units
Peak pulse power ($t_p=8/20\mu s$)	P_{PK}	130	W
Peak pulse current	I_{PP}	5	A
ESD per IEC61000-4-2 (Air)	V_{ESD}	± 20	kV
ESD per IEC61000-4-2 (Contact)			
Lead temperature for soldering during 10 seconds	T_L	260	$^\circ C$
Operating temperature	T_J	+125	$^\circ C$
Storage temperature range	T_{STG}	-55 to +150	$^\circ C$

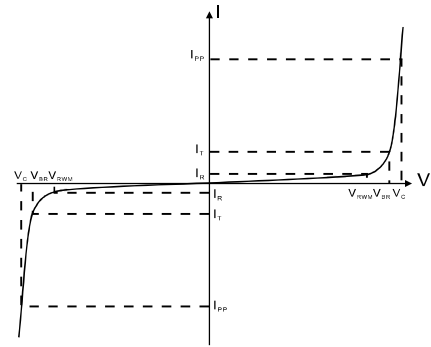
Electrical Characteristics (At $T_A=25^\circ C$ unless otherwise noted)

Parameter	Test condition	Symbol	Min	Typ	Max	Units
Reverse working voltage		V_{RWM}			5	V
Reverse leakage current	$V_{RWM}=5V$	I_R			0.1	μA
Reverse breakdown voltage	$I_T=1mA$	V_{BR}	6.5			V
Clamping voltage	$I_{PP}=1A, t_p=8/20\mu s$	V_C		10		V
	$I_{PP}=5A, t_p=8/20\mu s$			24	26	
Junction capacitance	$V_R=0V, f=1.0MHz$	C_J		0.25	0.4	pF

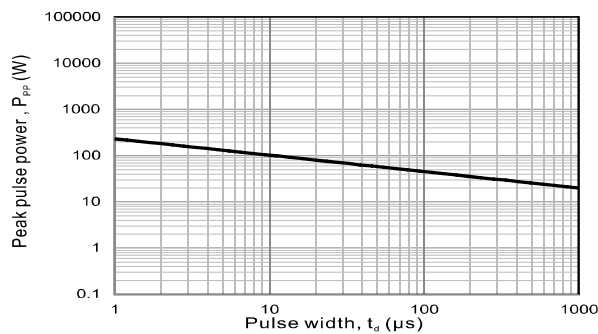
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Rating and characteristic curves

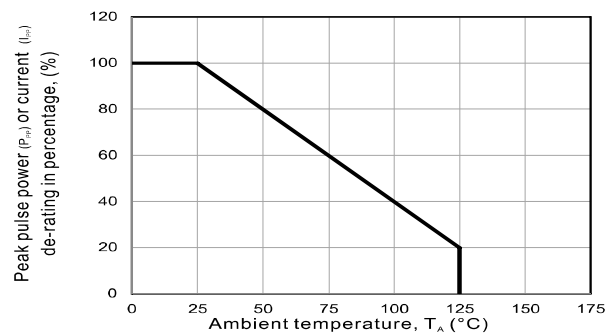
Symbol	Parameter
V_{RWM}	Reverse working voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
I_T	Test current for reverse breakdown
V_C	Clamping voltage
I_{PP}	Peak pulse current
V_F	Forward voltage
I_F	Forward current



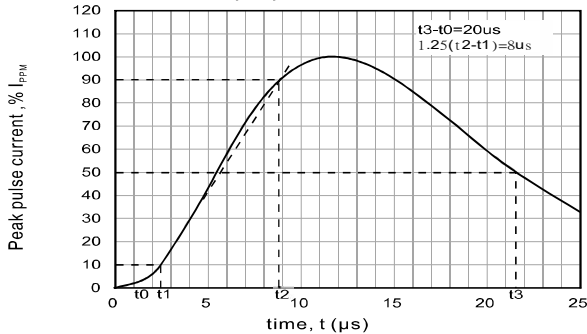
Peak pulse power rating



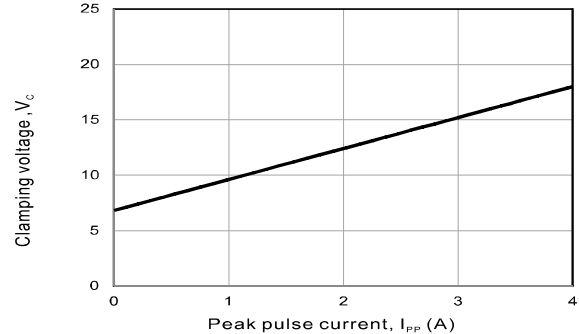
Pulse de-rating curve



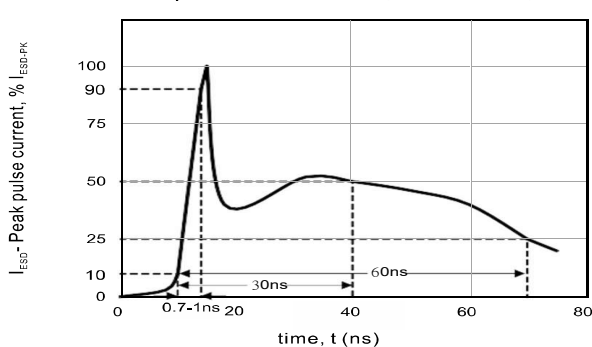
8/20μs pulse waveform



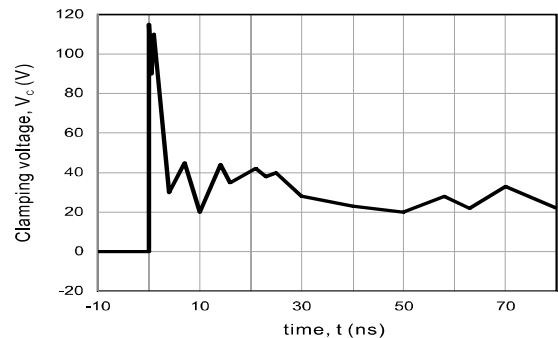
Clamping voltage



ESD pulse waveform (IEC61000-4-2)

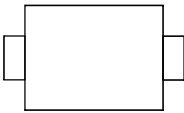


ESD Clamping voltage (8kV contact per IEC61000-4-2)



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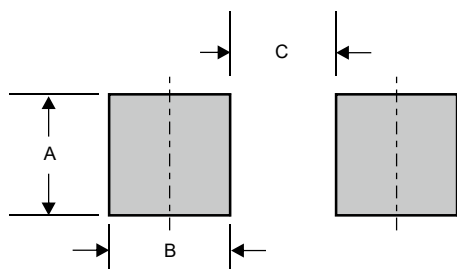
Pinning information

Pin	Simplified outline	Symbol
Bi-directional		

Marking

Type number	Marking code
ESD5LL5.0CW	YW

Suggested solder pad layout

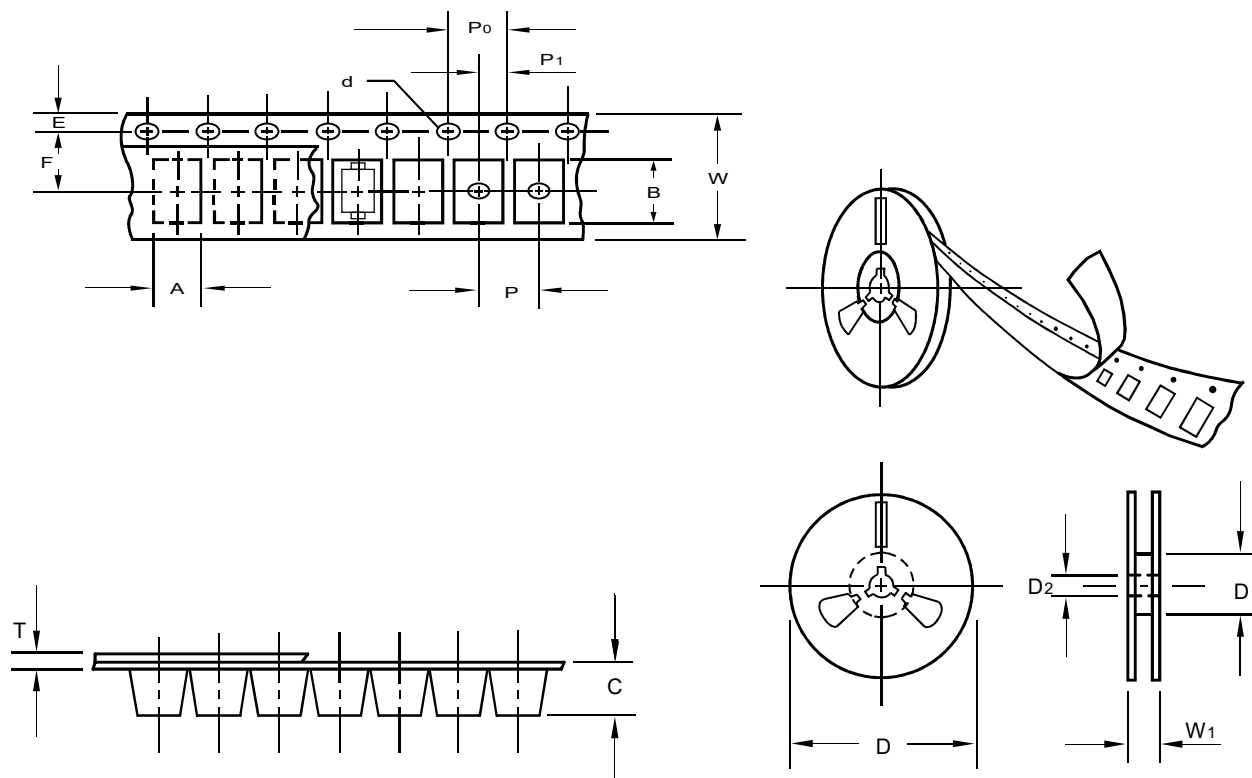


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523FL	0.016 (0.40)	0.019 (0.48)	0.033 (0.84)

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Packing information



unit:mm

Item	Symbol	Tolerance	SOD-523FL
Carrier width	A	0.1	0.90
Carrier length	B	0.1	1.94
Carrier depth	C	0.1	0.76
Sprocket hole	d	0.1	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	50.00
Feed hole diameter	D2	0.2	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	2.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W1	1.0	9.50

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

