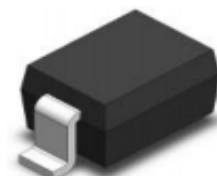
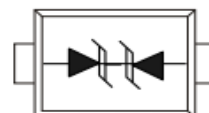


Features

- Stand-off voltage: $\pm 3.3\text{ V}$ Max
- Transient protection for each line according to
IEC61000-4-2 (ESD): $\pm 20\text{ kV}$ air discharge $\pm 20\text{ kV}$ contact discharge
IEC61000-4-5 (surge): 13 A ($8/20\mu\text{s}$)
- Solid-state silicon technology



SOD-323



Circuit diagram

Applications

- Cell phone handsets and accessories
- Personal Digital Assistants (PDAs)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Digital Cameras
- MID/CAR DVD/MP3/MP4/PMP Players

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power ($t_p = 8/20\mu\text{s}$)	P_{pk}	230	W
Peak pulse current ($t_p = 8/20\mu\text{s}$)	I_{pp}	13	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 20	kV
ESD according to IEC61000-4-2 contact discharge		± 20	
Operation junction temperature	T_J	-55~125	$^{\circ}\text{C}$
Lead temperature	T_L	260	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55~150	$^{\circ}\text{C}$

Electrical characteristics (TA=25 °C ,unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				± 3.3	V
Reverse leakage current	I_R	$V_{RWM} = 3.3V$			0.1	μA
Reveres breakdown voltage	V_{BR}	$I_T = 1mA$	6.0	6.5		V
Clamping voltage	V_C	$I_{pp} = 1A$ $t_p = 8/20\mu s$		7.0	8.0	V
		$I_{pp} = 13A$ $t_p = 8/20\mu s$		16.0	18.0	V
Junction capacitance	C_J	$V_R = 0V$, $f = 1MHz$		1.0	1.5	pF

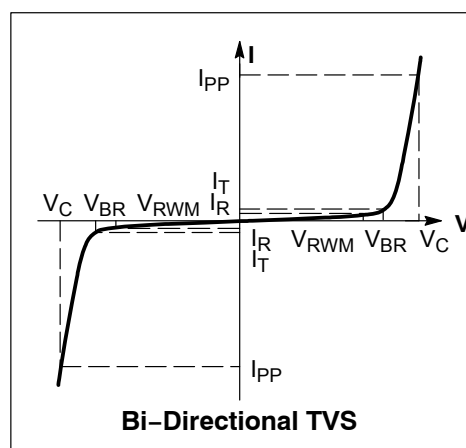
Electrical performance curve

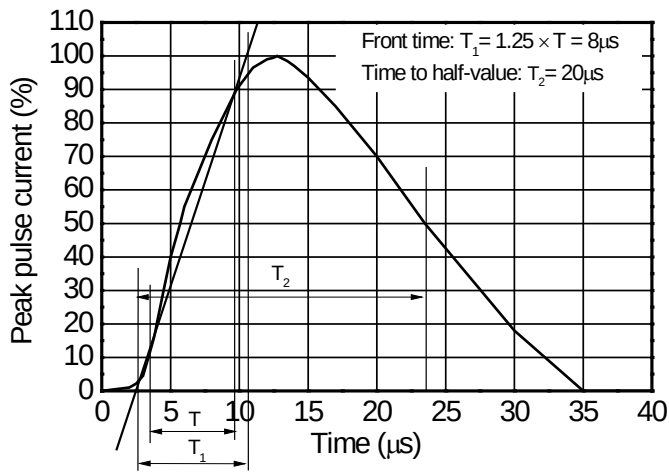
V_C : Maximum clamping voltage

V_{br} : Reverse breakdown voltage

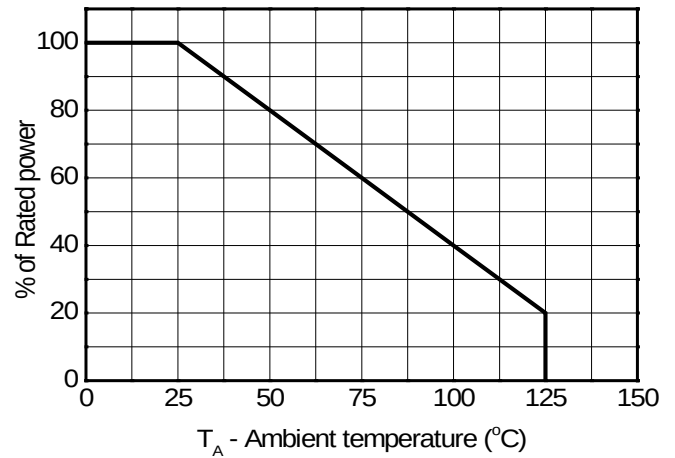
V_{RWM} : Working voltage

I_{PP} : Maximum peak current

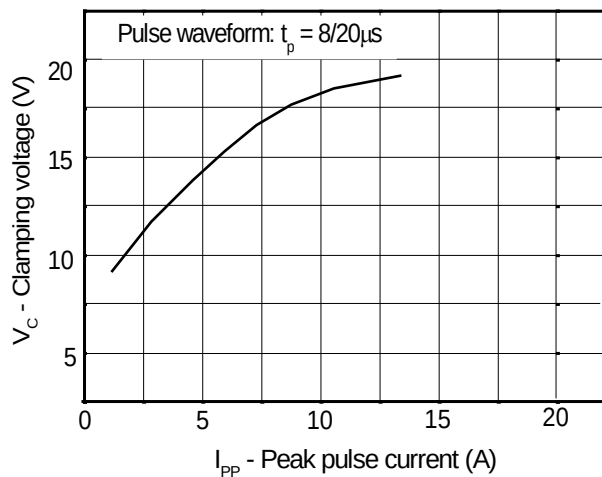




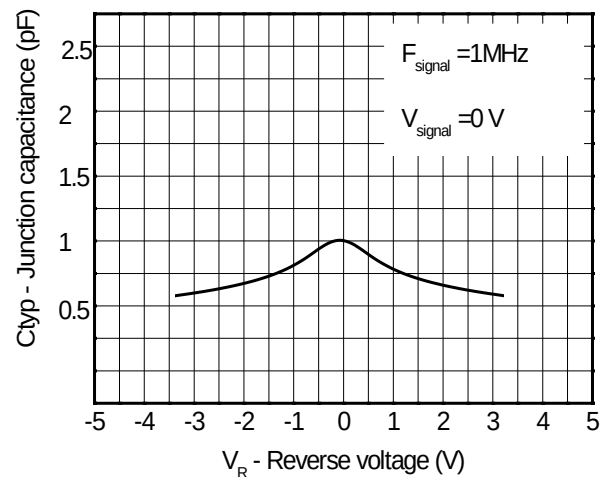
8/20 μs waveform per IEC61000-4-5



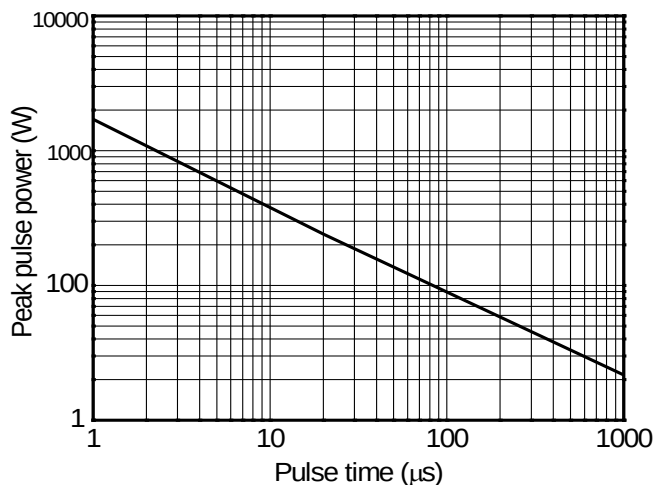
Power derating vs. Ambient temperature



Clamping voltage vs. Peak pulse current

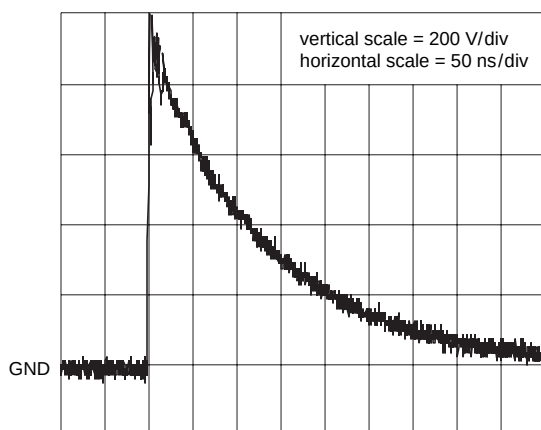
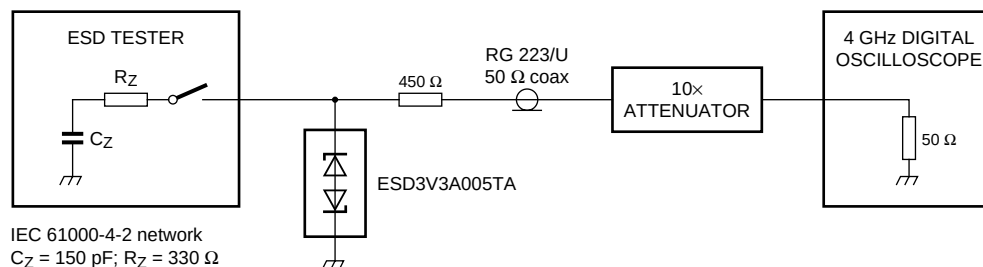


Capacitance vs. Reverse voltage

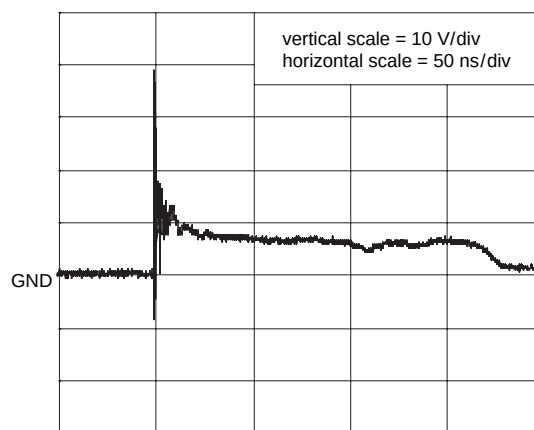


Non-repetitive peak pulse power vs. Pulse time

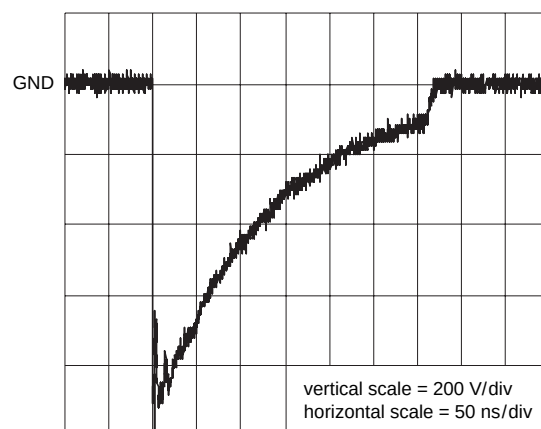
ESD clamping test setup and waveforms



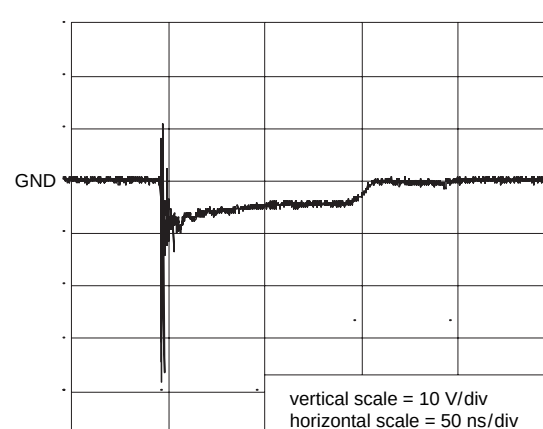
unclamped +1 kV ESD voltage waveform
(IEC61000-4-2 network)



clamped +1 kV ESD voltage waveform
(IEC61000-4-2 network)



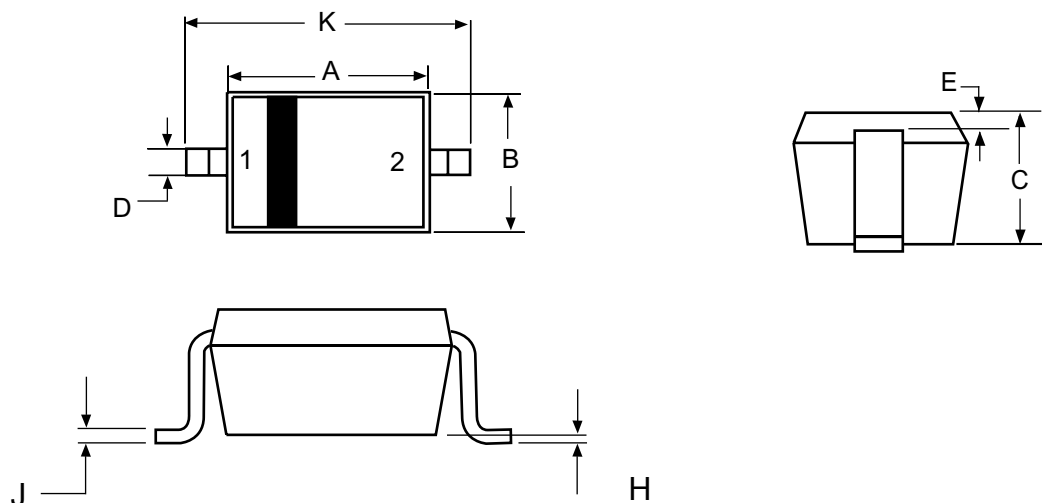
unclamped -1 kV ESD voltage waveform
(IEC61000-4-2 network)



clamped -1 kV ESD voltage waveform
(IEC61000-4-2 network)

Package outline dimensions

SOD-323



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

CCS Semiconductor and  are trademarks of Semiconductor Components Industries. CCS Semiconductor reserves the right to make changes without further notice to any products herein. CCS Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CCS Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. CCS Semiconductor does not convey any license under its patent rights nor the rights of others.