



SD08CS ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 350 Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 8V
- Junction capacitance: 120pF (Max)
- Low leakage current
- Low clamping voltage
- Response Time is Typically $< 1ns$
- IEC61000-4-2 (ESD): $\pm 30kV$ (Contact) $\pm 30kV$ (Air)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 15A (8/20 μs)

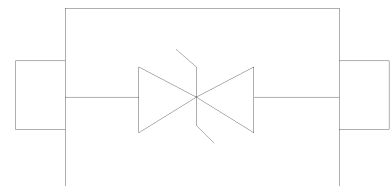
Application

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

Mechanical Data

- Package: SOD-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
SD08CS	SOD-323	07B	3000 Tape & Reel	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

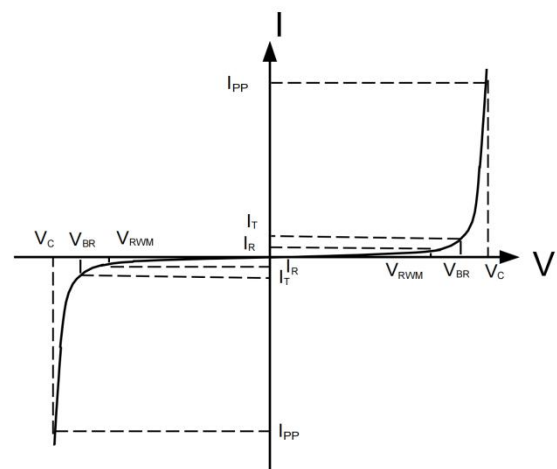
Symbol	Parameter		Rating	Unit
ESD	IEC 61000-4-2	Contact	± 30	kV
		Air	± 30	
P_{PP}	Peak Pulse Power($t_p=8/20\mu\text{s}$ wave from)		350	W
I_{PP}	Peak Pulse Current		15	A
T_L	Lead Soldering Temperature		260(10sec.)	$^{\circ}\text{C}$
T_J	Operating Temperature		-55 to +125	$^{\circ}\text{C}$
T_{STG}	Storage Temperature		-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				8	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	8.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 8\text{V}$			2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)		12	13.4	V
		$I_{PP} = 15\text{A}$ (8 x 20 μs pulse)			24	
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$			120	pF

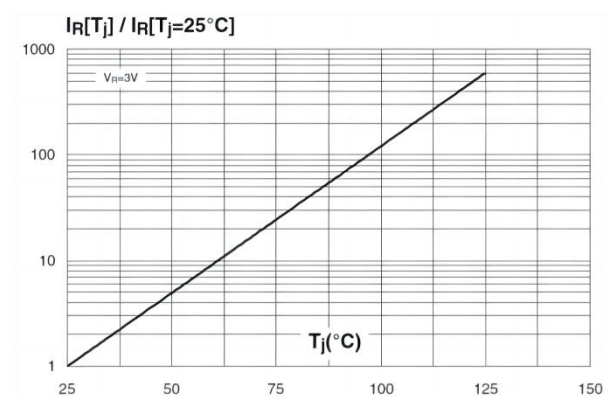
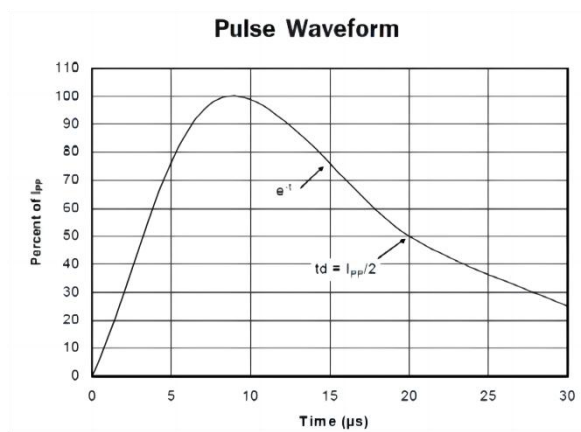
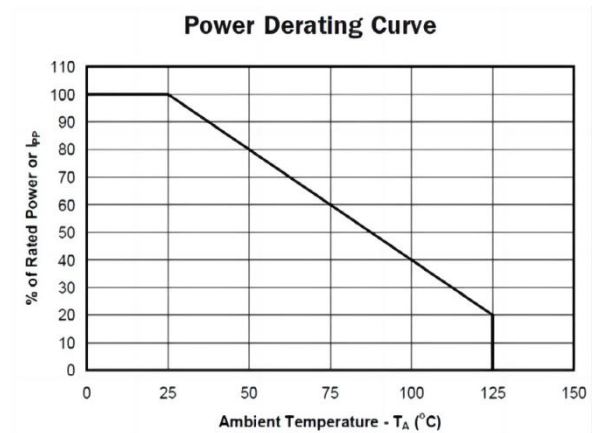
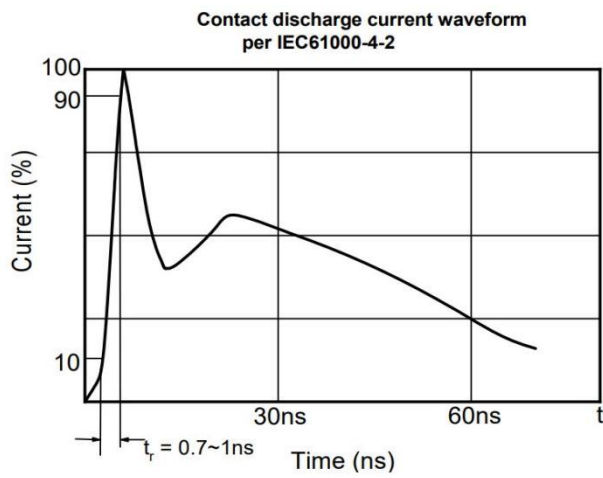
Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current





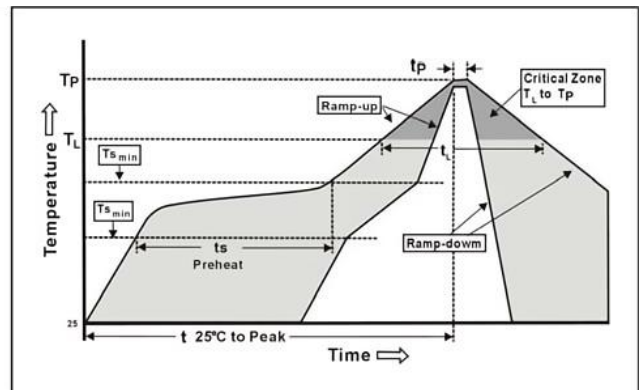
Typical Characteristics



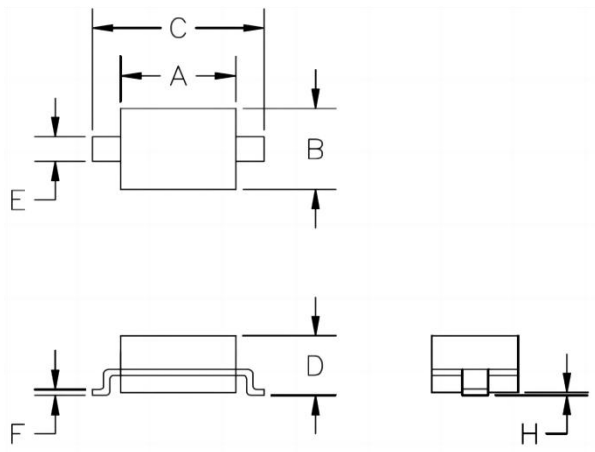


Soldering Parameters

Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ($T_{s(Min)}$)	150°C
	- Temperature Max ($T_{s(Max)}$)	200°C
	- Time (Min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second Max
$T_{s(Max)}$ to T_L - Ramp-up Rate		3°C/second Max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		250 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second Max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C

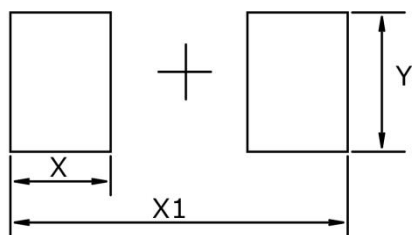


SOD-323 Outline Drawing



SOD-323		
Dim	Min	Max
A	1.5	1.8
B	1.2	1.4
C	2.3	2.7
D	-	1.1
E	0.3	0.4
F	0.1	0.25
H	-	0.1
All Dimensions in mm		

Land Pattern



SOD-323	
DIM	(mm)
X	0.8
X1	3.05
Y	0.8