

1. Features

- Protects one data or power line
- Working voltage: 12V
- High peak pulse current capability
- Ultra low clamping voltage
- RoHS Compliant
- IEC 61000-4-2 (ESD Air): $\pm 30\text{KV}$

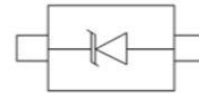
2. Pin Description



3. Applications

- Mobile Phones and Accessories
- Battery Protection
- Power Supply Protection
- Hand Held Portable Applications
- Peripherals

4. Schematic Diagram



5. Order Information

Type	Package	Delivery Form	Delivery Quantity
SCSD14L1500	SOD-123	7" T&R	3,000

6. Limiting Values($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Max	Unit
V_{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	± 30	kV
		IEC 61000-4-2; Air Discharge	-	± 30	kV
P_{PP}	Peak Pulse Power	$t_P = 8/20\text{ }\mu\text{s}$	-	5950	W
I_{PPM}	Rated Peak Pulse Current	$t_P = 8/20\text{ }\mu\text{s}$	-	170	A
T_A	Ambient Temperature Range	-	-55	125	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-	-55	150	$^{\circ}\text{C}$

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

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	$T_A = 25\text{ }^{\circ}\text{C}$	-	-	12.0	V
V_{BR}	Breakdown Voltage	$I_R = 1\text{ mA}$	13.5	-	-	V
I_R	Reverse Leakage Current	$V_{RWM} = 12\text{ V}$	-	-	1	μA
V_C	Clamping Voltage	$I_{PP}=1\text{ A}$, $t_P=8/20\mu\text{s}$	-	-	35	V
C_J	Junction Capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	-	1500	-	pF

8. Typical Characteristics

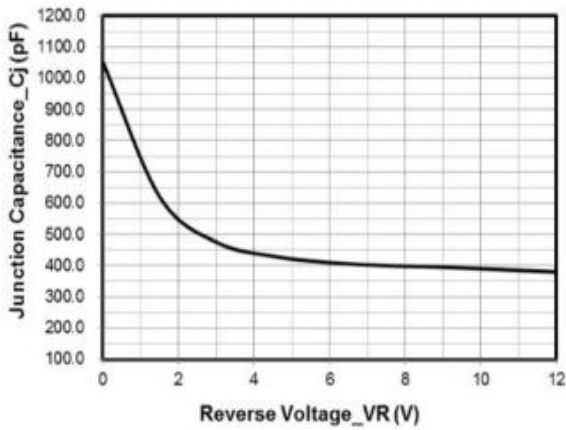


Fig.1 Junction Capacitance vs. Reverse Voltage

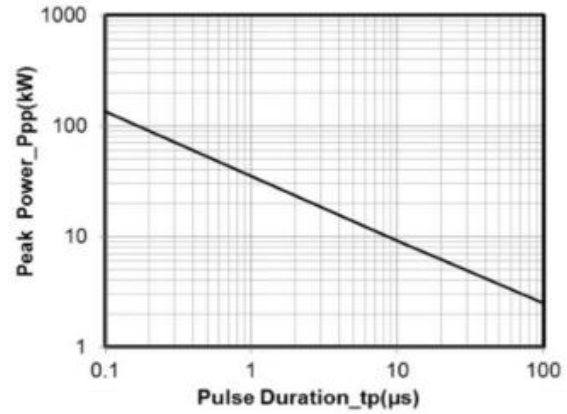


Fig.2 Peak Pulse Power vs. Pulse Time

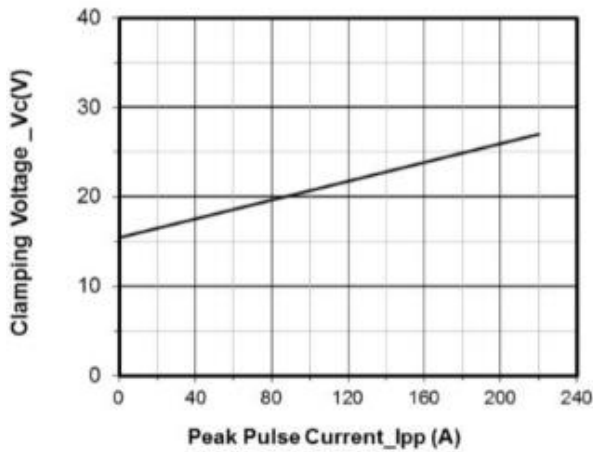


Fig.3 Clamping Voltage vs. Peak Pulse Current

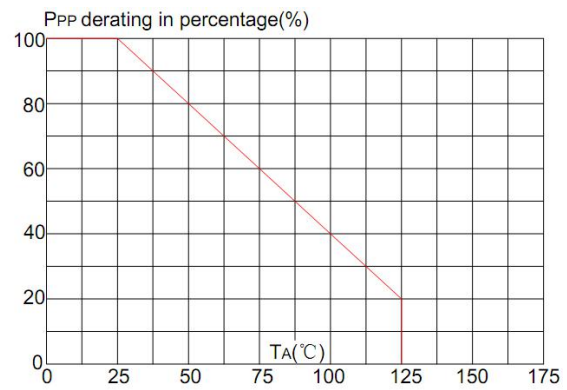


Fig.4 Power Derating Curve

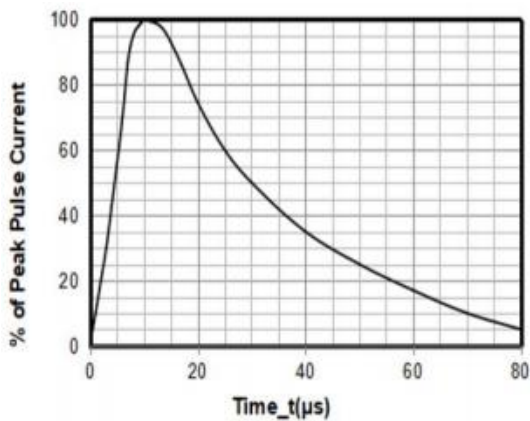


Fig.5 Pulse Waveform-8/20 μ s

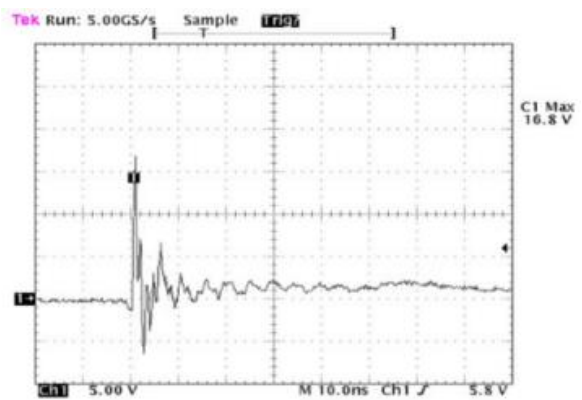
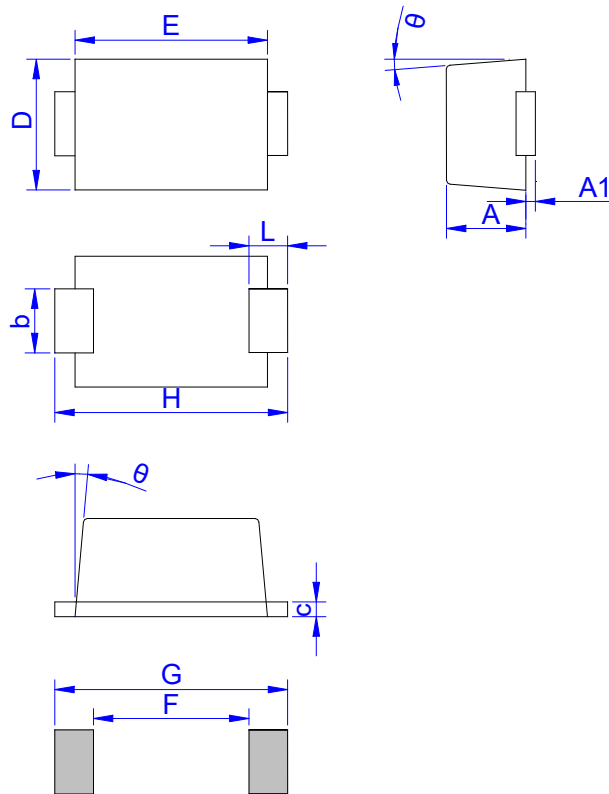


Fig.6 8kV Contact per IEC61000-4-2

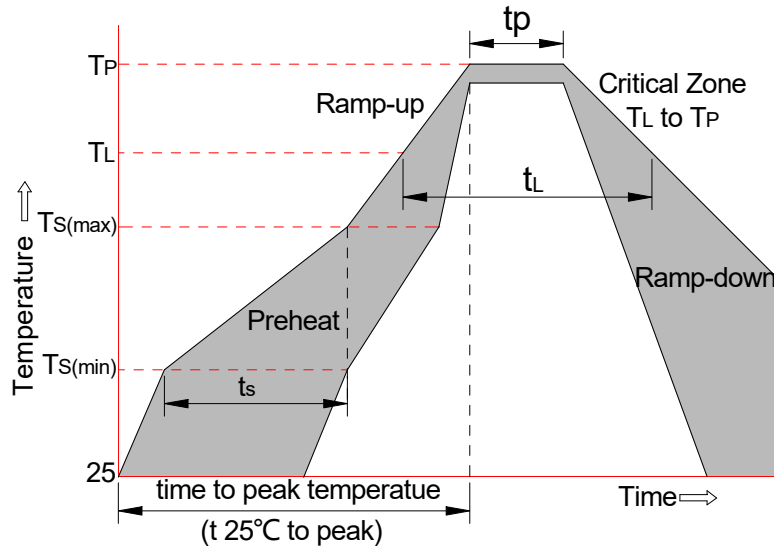
9. Package Dimension

SOD-123 Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.000	0.035	0.039
A1	0.000	0.100	0.000	0.004
b	0.700	1.100	0.028	0.043
c	0.100	0.200	0.004	0.008
D	1.500	1.800	0.059	0.071
E	2.500	2.900	0.098	0.114
F	2.360	-	0.093	-
G	4.19	-	0.165	-
H	3.400	3.800	0.134	0.150
L	0.550	0.950	0.022	0.037
θ	0°	8°	0°	8°

10. Soldering Parameters



Reflow Condition		Pb-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 (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C