

**Features**

- I 300 Watts Peak Pulse Power per Line (tp = 8/20µs)
- I Bidirectional Configuration
- I Protects One Power or I/O Port
- I ESD Protection > 40 kilovolts
- I Low Clamping Voltages
- I Ultra Low Capacitance: 1.0 pF Typical

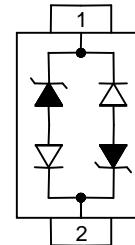


SOD-323

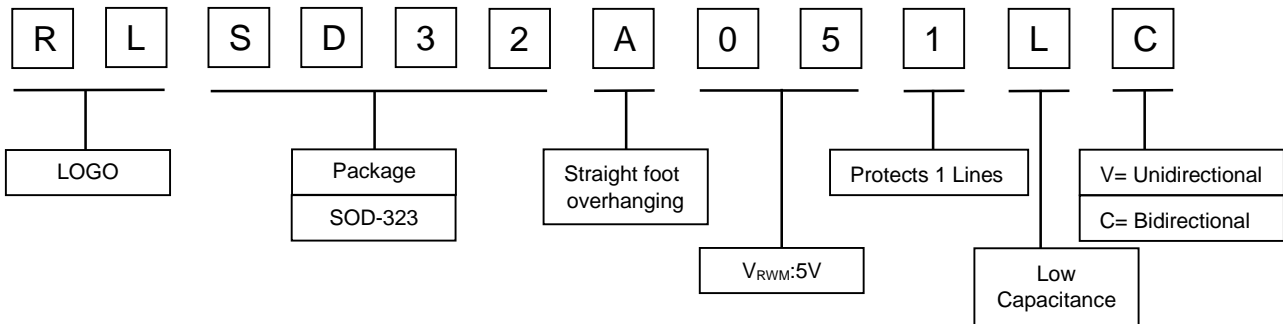
**Applications**

- I Ethernet - 10/100/1000 Base T
- I Cellular Phones
- I Handheld - Wireless Systems
- I Personal Digital Assistant (PDA)
- I USB Interface

**Electrical symbol**



**Part Number Code**



**Absolute Maximum Rating**

Rating	Symbol	Value	Units
Peak Pulse Power (tp = 8/20µs)	P <sub>PP</sub>	300	Watts
ESD Voltage (Contact)	V <sub>ESD</sub>	±8	kV
ESD Voltage (Air)	V <sub>ESD</sub>	±15	kV
Operating Temperature	T <sub>OPT</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

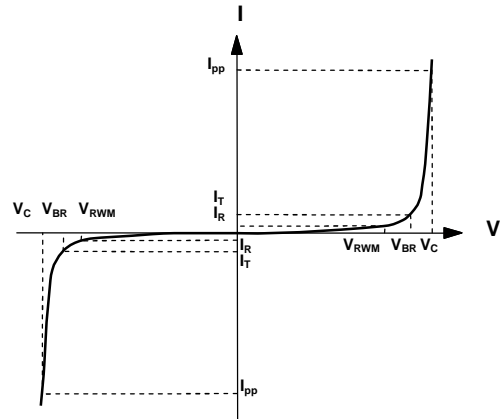
**Electrical Characteristics (@ 25°C Unless Otherwise Specified)**

Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20µS	V <sub>C</sub> @8/20µS		Reverse Leakage @V <sub>RWM</sub>	Typical Capacitance
	V <sub>RWM</sub>	V <sub>BR</sub> @1mA	V <sub>C</sub> @1A	(max.)	@I <sub>PP</sub>	I <sub>R</sub> @V <sub>RWM</sub>	DC=0V C <sub>J</sub> @ 1 MHz
	V	V	V	V	A	µA	pF
RLSD32A051LC	5.0	6.0	9.8	20	20	1	1
RLSD32A081LC	8.0	8.5	13.4	25	15	1	1
RLSD32A121LC	12.0	13.3	19.0	30	8	1	1
RLSD32A151LC	15.0	16.7	24.0	40	6	1	1
RLSD32A241LC	24.0	26.7	43.0	60	3	1	1



**Electrical Parameters (T=25°C)**

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
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



**Characteristic Curves**

Fig 1. 8/20µs Pulse Waveform

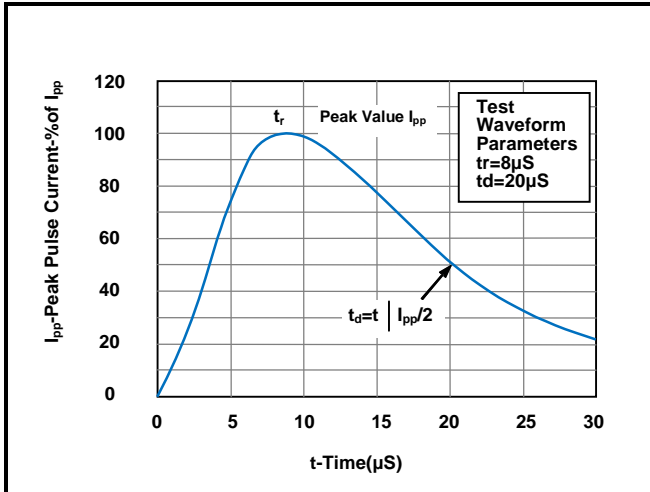


Fig 3. Power Derating Curve

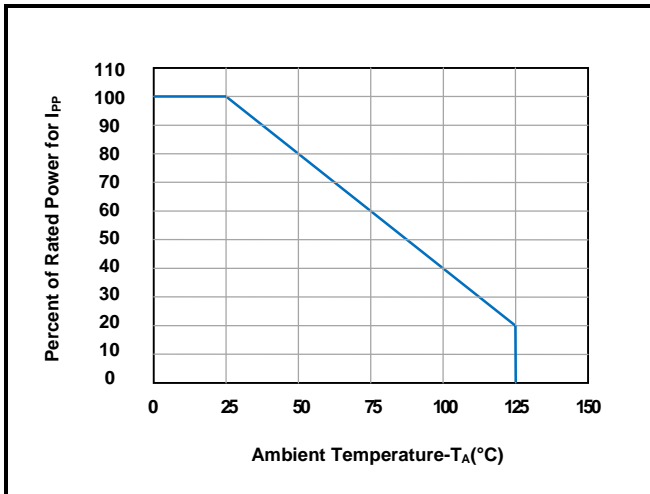


Fig2.ESD Pulse Waveform (according to IEC61000-4-2)

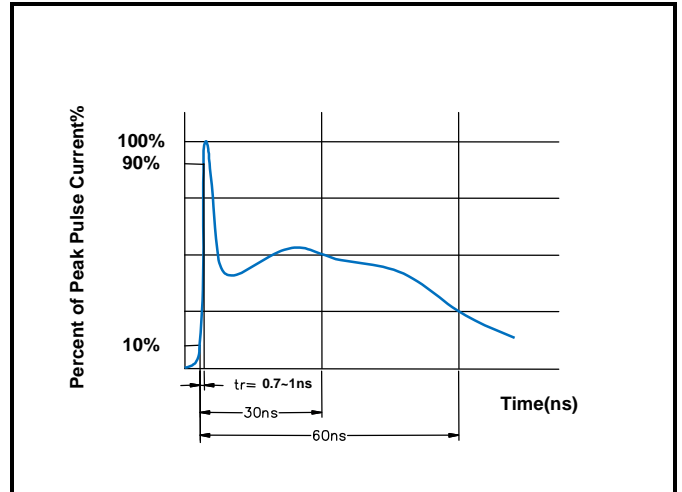
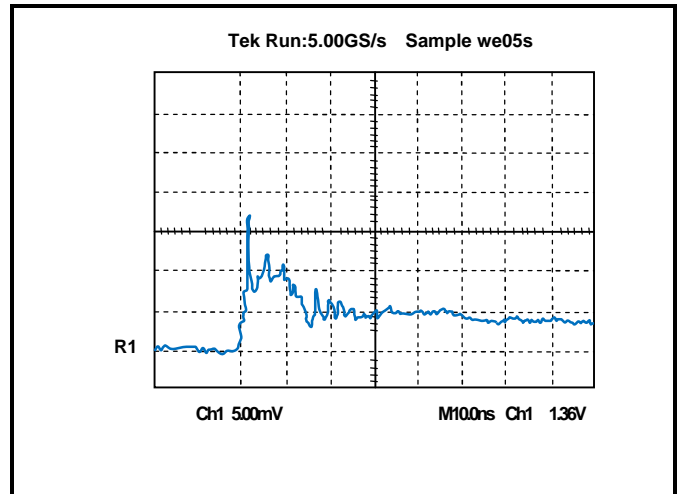
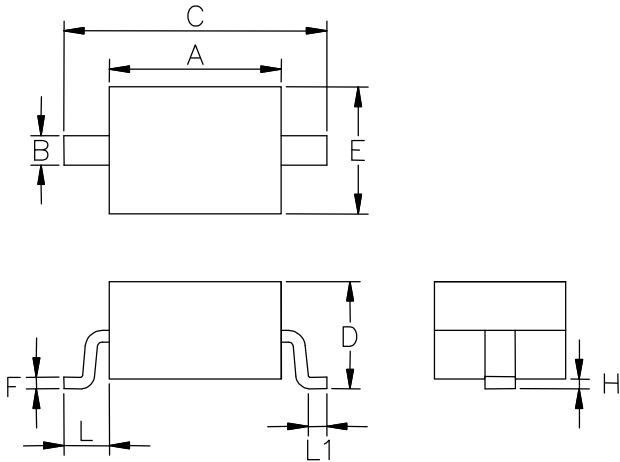


Figure 4.ESD Clamping(8KV Contact per IEC61000-4-2)



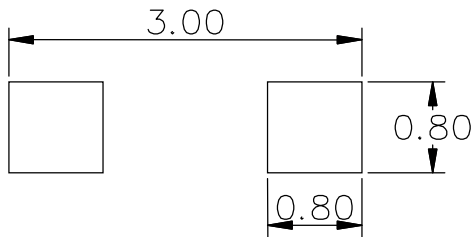
**Dimensions**



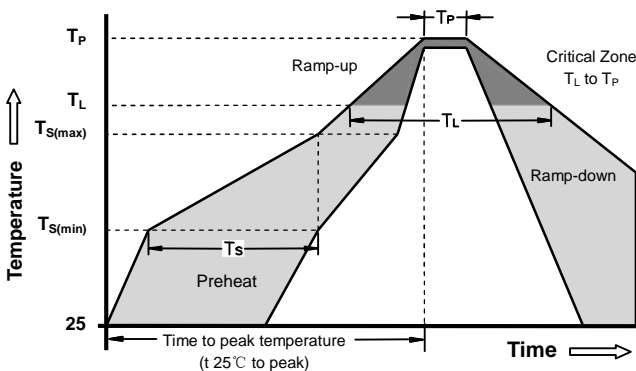
DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.00	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.00	0.004

Part Number	Component package	Quantity	Reel Size	Molding compound flammability rating	Lead Finish
RLSD32A051LC	SOD-323	3000	7 inch	UL 94V-0	Lead Free

**Mounting PAD (mm)**



**Soldering Parameters - Reflow Soldering (Surface Mount Devices)**



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 Seconds
Average ramp up rate ( Liquids Temp $T_L$ ) to peak		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	- Temperature ( $T_L$ ) (Liquids)	217°C
	- Time (min to max) ( $t_s$ )	60 -150 Seconds
Peak Temperature ( $T_P$ )		260 +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		280°C

