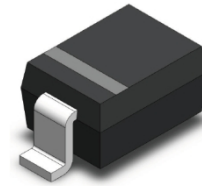


**Description**

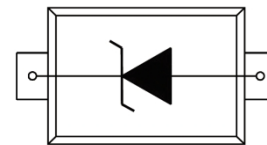
The RLSD32AXX1V is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.



**Features**

- I 300 Watts Peak Pulse Power per Line (tp=8/20µs)
- I Protects one I/O line or power line
- I Low clamping voltage
- I Working voltages : 3.3V,5V,8V,12V,15V,24V,36V
- I Low leakage current
- I IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- I IEC61000-4-4 (EFT) 40A (5/50ns)
- I IEC61000-4-5 (Lightning) 24A (8/20 µ s)

**Circuit Diagram**



**Applications**

- I Cell Phone Handsets and Accessories
- I Microprocessor based equipment
- I Personal Digital Assistants (PDA's)
- I Notebooks, Desktops, and Servers
- I Portable Instrumentation
- I Peripherals
- I Pagers

**Mechanical Characteristics**

- I JEDEC SOD-323 Package
- I Molding Compound Flammability Rating : UL 94V-0
- I Weight 5 Milligrams (Approximate)
- I Lead Finish : Lead Free

**Absolute Maximum Rating**

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20µs)	P <sub>PK</sub>	300	Watts
ESD Voltage (Contact)	V <sub>ESD</sub>	±8	kV
ESD Voltage (Air)	V <sub>ESD</sub>	±15	kV
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature	T <sub>J</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

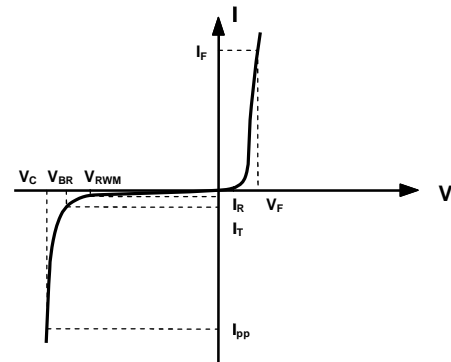


**Electrical Characteristics (@ 25°C Unless Otherwise Specified)**

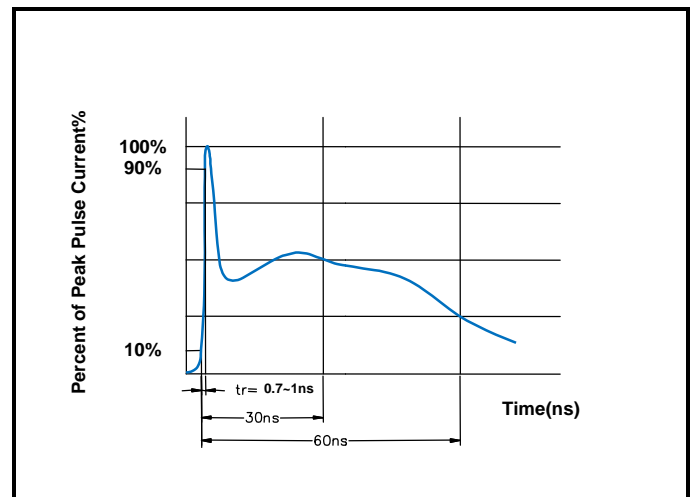
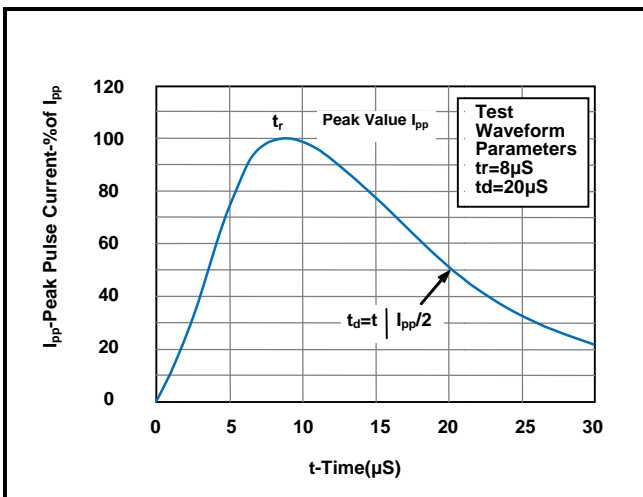
Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20µS	$V_C$ @8/20µS		Reverse Leakage @ $V_{RWM}$	Typical Capacitance
	$V_{RWM}$	$V_{BR}$ @1mA	$V_C$ @1A	(max.)	@ $I_{PP}$	$I_R$ @ $V_{RWM}$	DC=0V $C_J$ @ 1 MHz
	V	V	V	V	A	µA	pF
RLSD32A031V	3.3	5	7.8	15	20	1	195
RLSD32A051V	5	6	9.8	15	21	5	228
RLSD32A081V	8	8.5	13.4	21	18	10	150
RLSD32A121V	12	13.3	19.0	25.9	15	1	120
RLSD32A151V	15	16.7	24.0	30	12	1	100
RLSD32A241V	24	26.7	43.0	48	8	1	80
RLSD32A361V	36	40.0	60.0	75	5	1	30

**I-V Curve Characteristics**

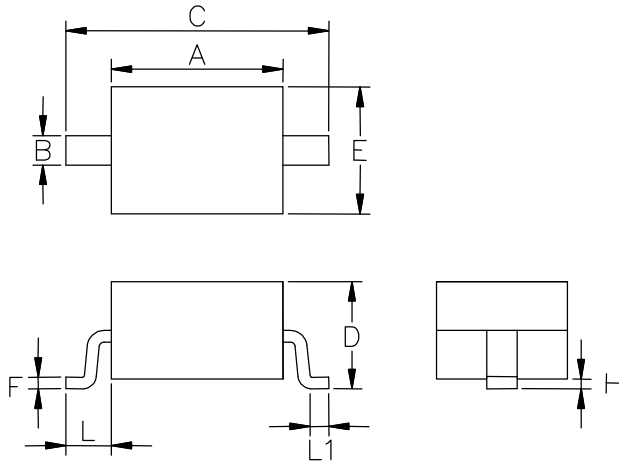
Symbol	Parameter
$I_{pp}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{pp}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



**Characteristic Curves**



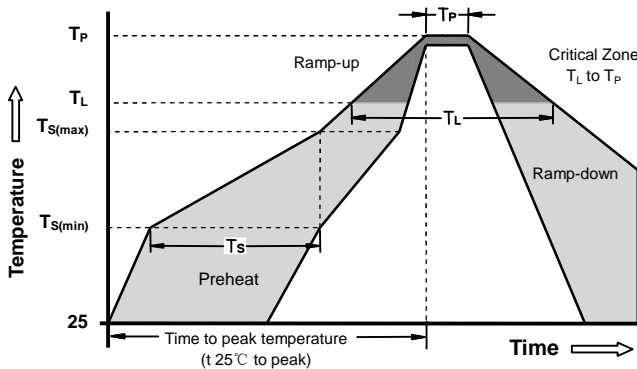
**Dimensions**



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
RLSD32AXX1V	SOD-323	3000	7 inch	UL 94V-0	Lead Free

**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

