

## Description

The LY323DAXX is a uni-directional TVS diode, using leading monolithic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. It complies with IEC 61000-4-2 (ESD),  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into a lead-free SOD-323 package. It is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers and PDA's.

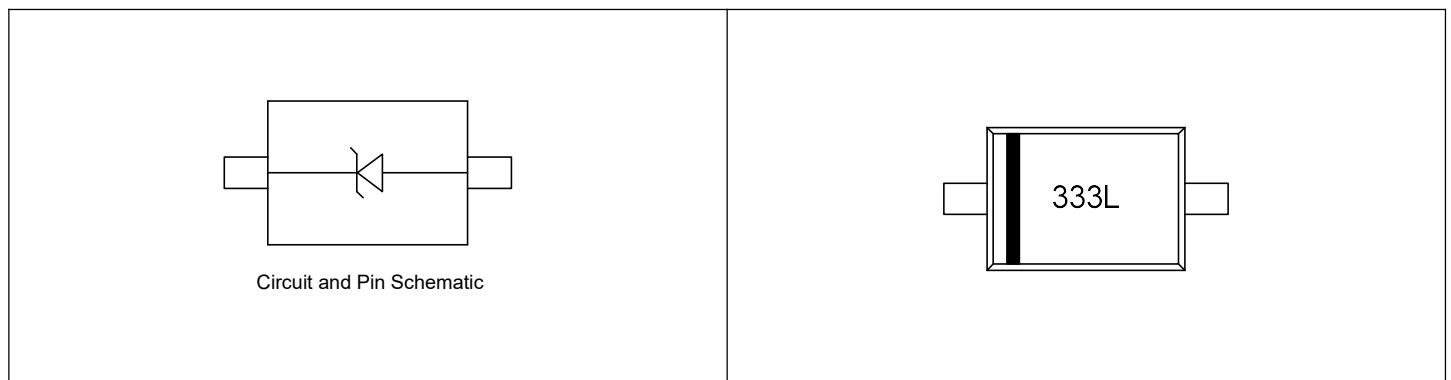
## Features

- Protects one data or power line
- Ultra low leakage current
- Operating voltage: 3.3V~36V
- RoHS compliant
- IEC-61000-4-2 ESD  $\pm 30\text{kV}$  Air,  $\pm 30\text{kV}$  Contact
- Packaging: 7 inch reel, 3000pcs/reel

## Applications

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

## Pin Configuration and Marking



**Absolute Maximum Ratings (T<sub>A</sub>=25°C)**

Parameter	Symbol	Value
Peak Pulse Power (8/20μs)	P <sub>PP</sub>	300W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	±30kV ±30kV
Ambient Temperature Range	T <sub>A</sub>	-55°C to +125°C
Storage Temperature Range	T <sub>STG</sub>	-55°C to +150°C

**Electrical Characteristics (T<sub>A</sub>=25°C)**

Part Number	Marking	Reverse Working Voltage	Reverse Breakdown Voltage @I <sub>T</sub> =1mA	Reverse Leakage Current @V <sub>RWM</sub>	Clamping Voltage @8/20μs		Peak Pulse Current	Junction Capacitance @V <sub>R</sub> =0V, f=1MHz
		V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>R</sub> (μA)	V <sub>C</sub> (V)		I <sub>PP</sub> (A)	C <sub>J</sub> (pF)
		Max.	Min.	Max.	@1A	@I <sub>PP</sub> Max.	Max.	Max.
LY323DA03	333L	3.3	4.2	0.2	5	11.5	27	160
LY323DA05	305L	5.0	6.0	0.2	8	12	25	160
LY323DA08	308L	8.0	9.5	0.2	12	17	18	120
LY323DA12	312L	12.0	13.2	0.2	16	25	12	80
LY323DA15	315L	15.0	16.8	0.2	20	30	10	70
LY323DA24	324L	24.0	27.0	0.2	30	60	5	60
LY323DA36	336L	36.0	38.0	0.2	42	75	4	35

Typical Characteristic Curves ( $T_A=25^\circ\text{C}$ )

Figure 1. Peak Pulse Power Rating Curve

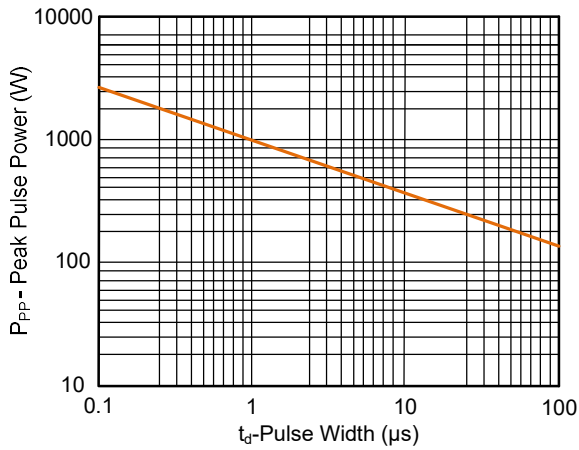


Figure 2. Pulse Derating Curve



Figure 3. Pulse Waveform (8/20 $\mu\text{s}$ )

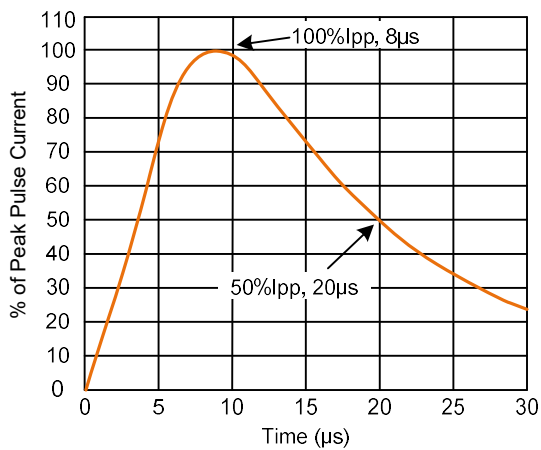
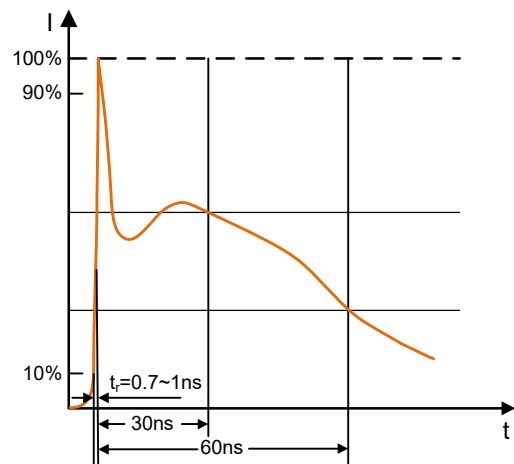


Figure 4. Pulse Waveform (IEC61000-4-2)



## Soldering Parameters



Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat -Temperature Min ( $T_{S\ min}$ ) -Temperature Max ( $T_{S\ max}$ ) -Time (min to max) ( $t_s$ )	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature ( $T_L$ ) -Time ( $t_L$ )	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	260°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	8 minutes max.

Dimensions (SOD-323)

