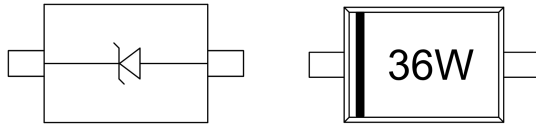


LY323EA36

General Purpose ESD Protection

**Description**

The LY323EA36 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), $\pm 15\text{kV}$ air and $\pm 8\text{kV}$ 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.

Pin Configuration and Marking

Circuit and Pin Schematic

Features

- Low clamping voltage
- Low leakage current
- Operating voltage: 36V
- RoHS compliant
- IEC-61000-4-2 ESD $\pm 15\text{kV}$ Air, $\pm 8\text{kV}$ Contact

Maximum Ratings(T_A=25°C unless otherwise noted)

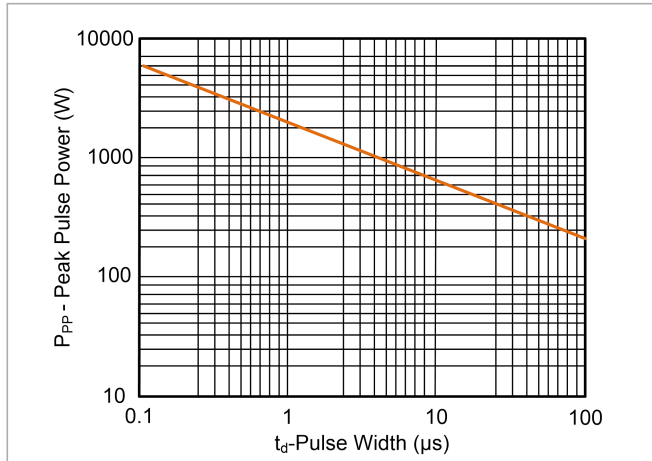
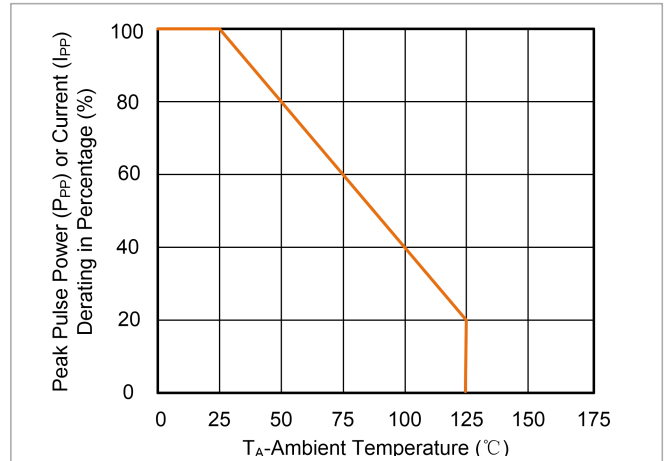
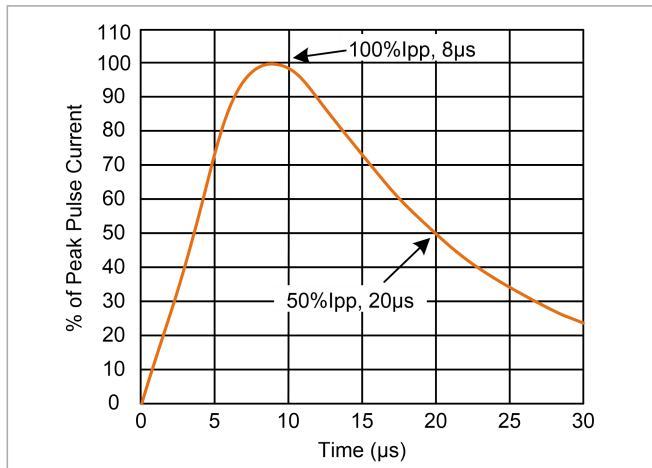
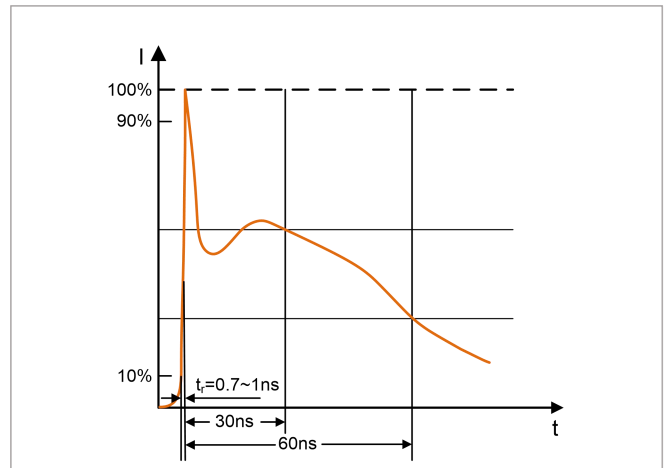
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{PP}	500	W
Peak Pulse Current (8/20μs)	I _{PP}	6	A
ESD (Air Discharge) ESD (Contact Discharge)	V _{ESD}	± 15 ± 8	kV
Operating Temperature Range	T _J	-55 to 125	°C
Storage Temperature Range	T _{STG}	-55 to 150	°C

Applications

- Personal Digital Assistant
- Cell Phone Handsets and Accessories
- Microprocessor Based Equipment
- Notebooks, Desktops and Servers
- Portable Instrumentation

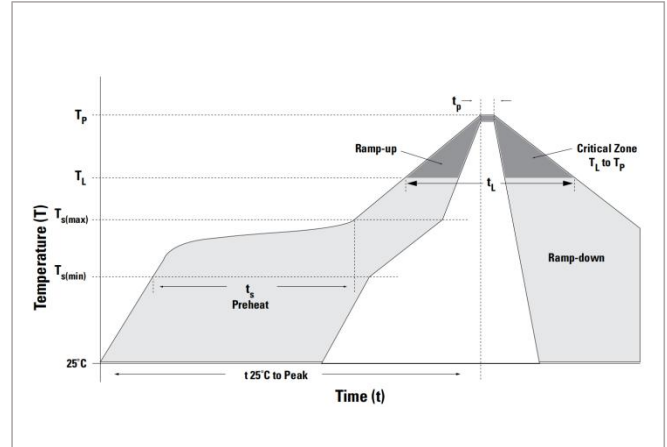
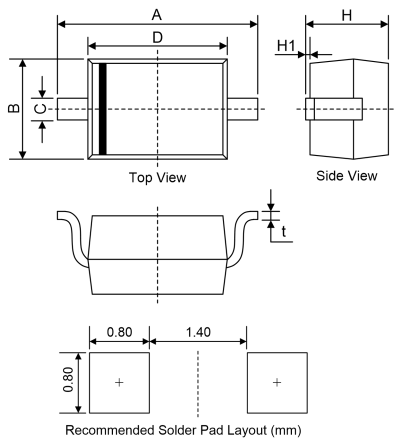
Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.
Reverse Working Voltage	V _{RWM}		-	-	36V
Breakdown Voltage	V _{BR}	I _T = 1mA	39V	-	-
Reverse Leakage Current	I _R	V _{RWM} = 36V	-	-	0.1μA
Clamping Voltage	V _C	I _{PP} = 1A (8/20μs)	-	45V	55V
		I _{PP} = 6A (8/20μs)	-	60V	65V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz	-	35pF	45pF

LY323EA36**General Purpose ESD Protection****Typical Characteristic Curves** ($T_A=25^\circ\text{C}$ unless otherwise noted)**Figure 1:**
Peak Pulse Power Rating Curve**Figure 2:**
Pulse Derating Curve**Figure 3:**
Pulse Waveform (8/20 μs)**Figure 4:**
Pulse Waveform (IEC61000-4-2)

LY323EA36**General Purpose ESD Protection****Soldering Parameters**

Reflow Condition		Lead-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
	-Time (min to max) (t_L)	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.
Do not exceed		260°C

**Dimensions****SOD-323**

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.30	2.80	0.091	0.110
B	1.15	1.45	0.045	0.057
C	0.25	0.40	0.001	0.016
D	1.60	1.90	0.063	0.075
H	-	1.10	-	0.043
H1	0.00	0.10	0.000	0.004
t	0.08	0.20	0.003	0.008

Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
LY323EA36	SOD-323	3000	Tape & Reel – 8mm tape/7" reel	EIA STD RS-481

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