

## Description

The LY143DA05UL is a TVS array, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. It complies with IEC 61000-4-2 (ESD),  $\pm 25\text{kV}$  air and  $\pm 20\text{kV}$  contact discharge. It is assembled into a lead-free SOT-143 package. The small size, very low capacitance and high ESD surge protection make it an ideal choice to protect cell phone, digital video interfaces, high speed data ports, and many other portable applications.

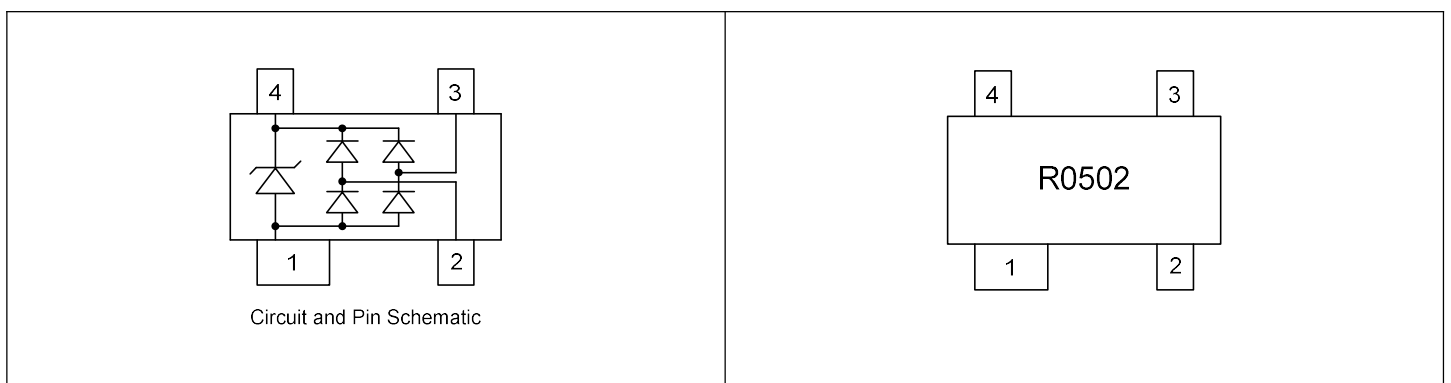
## Features

- Low clamping voltage
- Ultra low leakage current
- Operating voltage: 5V
- RoHS compliant
- IEC-61000-4-2 ESD  $\pm 25\text{kV}$  Air,  $\pm 20\text{kV}$  Contact
- Packaging: 7 inch reel, 3000pcs/reel

## Applications

- Cellular Handsets and Accessories
- Portable Instrumentation
- Audio Players
- Notebooks and Handhelds
- Digital Cameras
- Peripherals

## Pin Configuration and Marking



### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{PP}$	75W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	5A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 25\text{kV}$ $\pm 20\text{kV}$
Ambient Temperature Range	$T_A$	$-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	$-55^{\circ}\text{C}$ to $+150^{\circ}\text{C}$

### Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Test Condition	Min.	Typ.	Max.
Reverse Working Voltage	$V_{RWM}$		-	-	5V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	6V	-	-
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$	-	-	0.5 $\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ (8/20 $\mu\text{s}$ )	-	-	10V
		$I_{PP} = 5\text{A}$ (8/20 $\mu\text{s}$ )	-	-	15V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$ , between I/O pins	-	0.3pF	0.4pF
		$V_R = 0\text{V}$ , $f = 1\text{MHz}$ , between I/O pins to ground	-	-	0.8pF

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

Figure 1. Peak Pulse Power Rating Curve

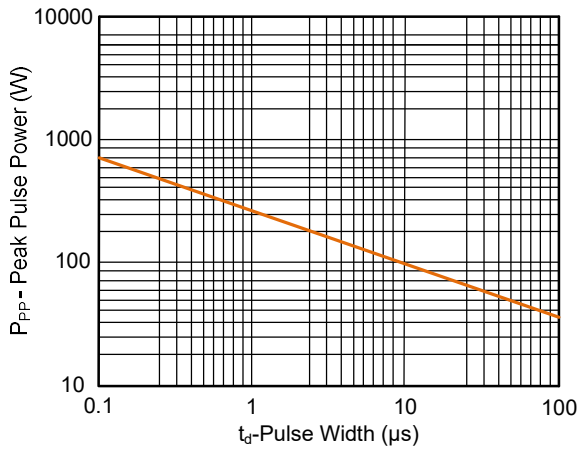


Figure 2. Pulse Derating Curve

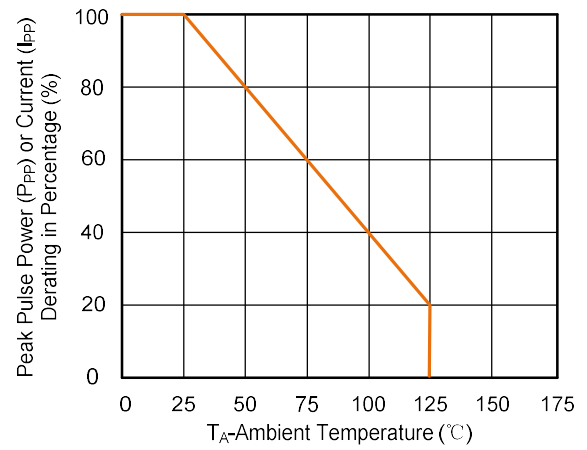


Figure 3. Clamping Voltage vs. Peak Pulse Current

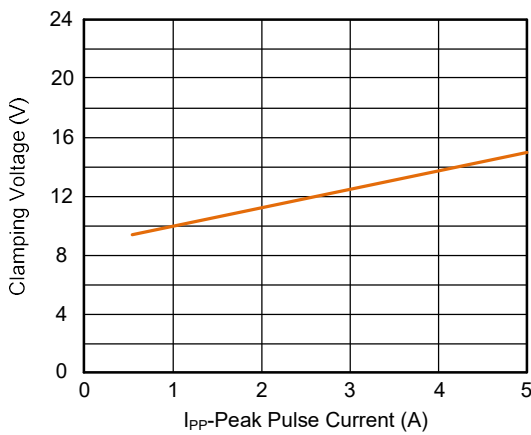


Figure 4. Junction Capacitance vs. Reverse Voltage

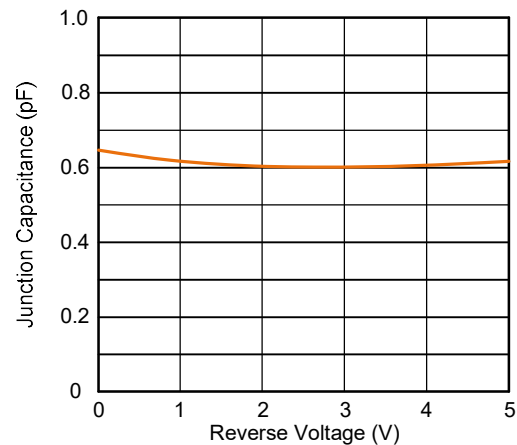


Figure 5. Pulse Waveform (8/20μs)

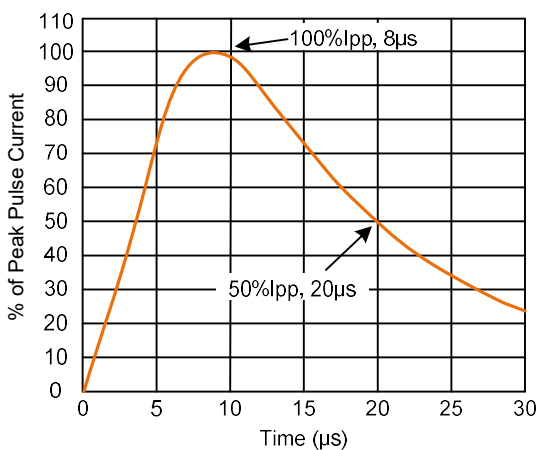
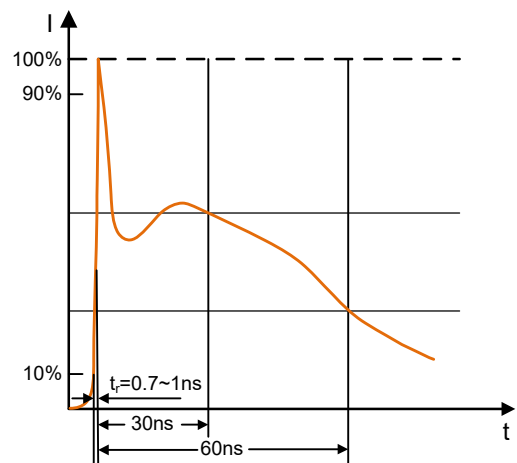
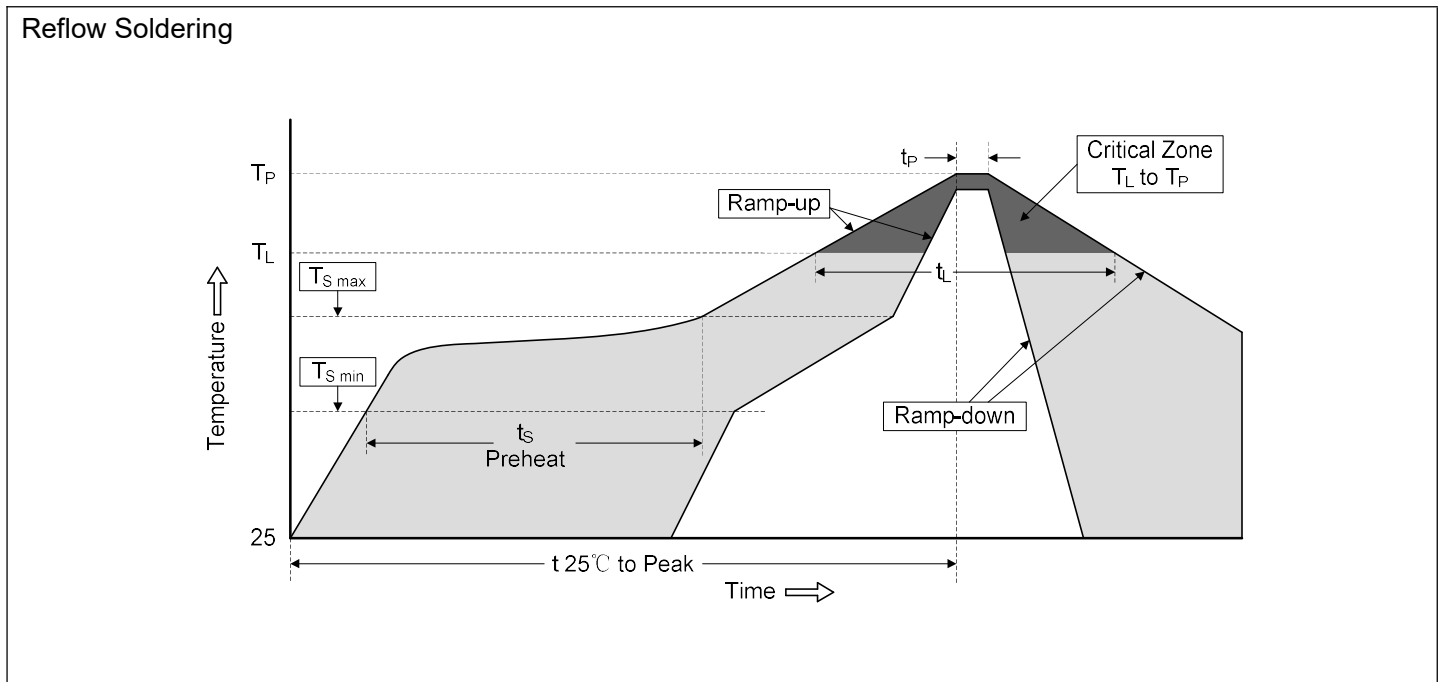


Figure 6. Pulse Waveform (IEC61000-4-2)

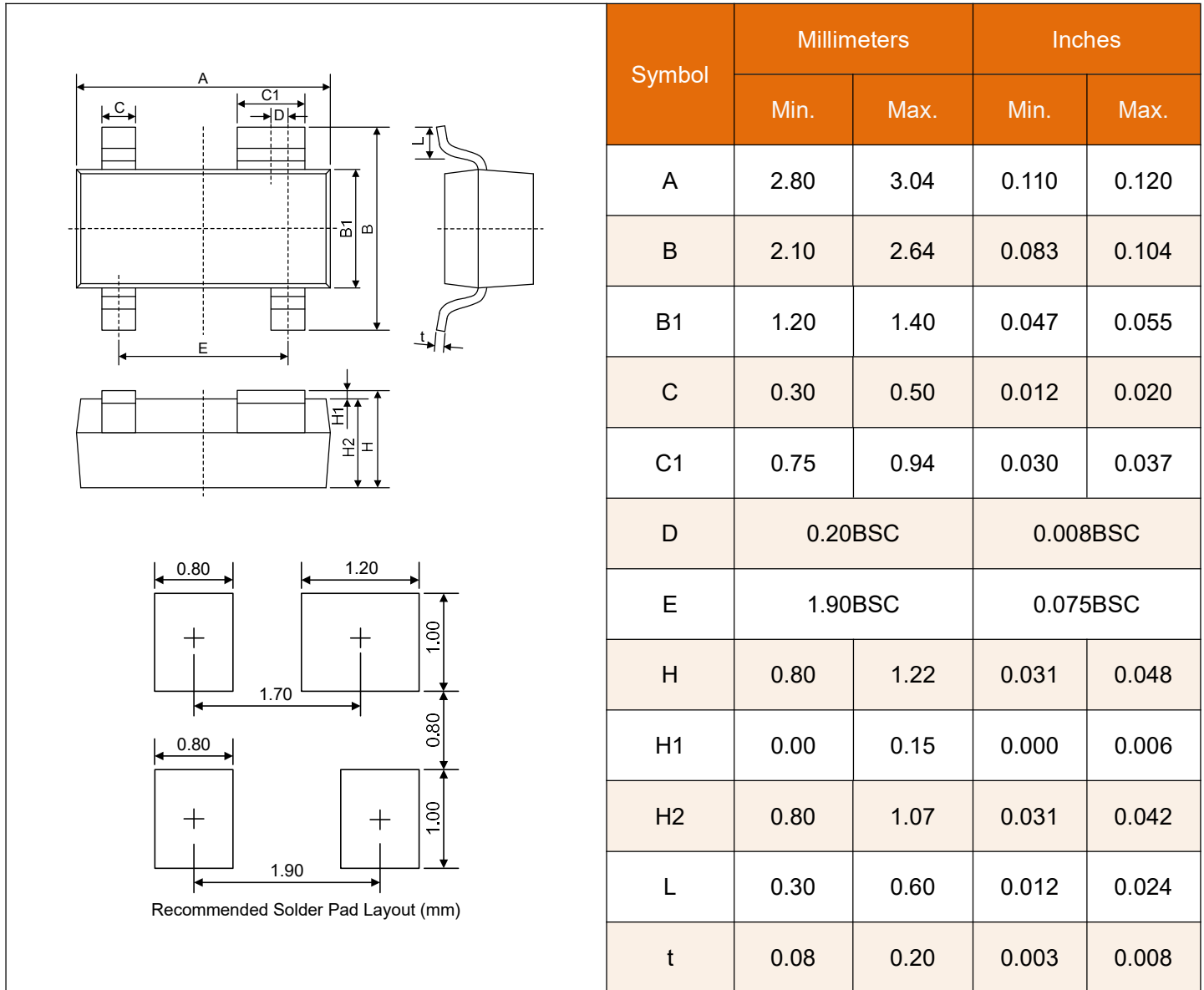


## Soldering Parameters



Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat <ul style="list-style-type: none"> <li>-Temperature Min (<math>T_{S\ min}</math>)</li> <li>-Temperature Max (<math>T_{S\ max}</math>)</li> <li>-Time (min to max) (<math>t_s</math>)</li> </ul>	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ <ul style="list-style-type: none"> <li>-Ramp-up Rate</li> </ul>	3°C/second max.
Time maintained above: <ul style="list-style-type: none"> <li>-Temperature (<math>T_L</math>)</li> <li>-Time (<math>t_L</math>)</li> </ul>	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 (SOT-143)**



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Liown](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [DESD5V0U1BB-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#) [P6KE8.2A](#)  
[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
[3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#)  
[SCM1293A-04SO](#) [ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#) [VESD12A1A-HD1-GS08](#)  
[CPDUR5V0R-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [D1213A-02WL-7](#) [MMAD1108/TR13](#)  
[5KP100A](#) [5KP15A](#) [5KP18A](#) [5KP48A](#) [5KP90A](#) [5KP90CA](#)