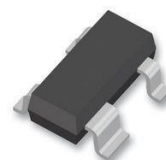


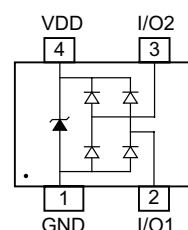
## 1. General description

The ESDALD05UJ2 is a low capacitance TVS (Transient Voltage Suppressor) array designed to protect high speed data interfaces. It has been specifically designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress caused by ESD (Electrostatic Discharge).



## 2. Features and benefits

- Peak pulse power 136W @ 8/20μs waveform
- Protects two I/O lines and one V<sub>CC</sub> line
- IEC 61000-4-2 (ESD) ±15kV(air), ±8kV(contact)
- IEC 61000-4-5 (Lightning) 5A (8/20μs)
- Low capacitance
- Low leakage current
- 5V operating voltage
- Solid-state silicon avalanche technology
- Device meets MSL 1 requirements
- Halogen free and RoHS compliant



## 3. Applications

- xDSL
- USB 2.0
- IEEE 1394 Firewire Ports
- Notebooks & Handhelds
- Projection TV & Monitors
- Set-top box
- Flat Panel Displays

## 4. Ordering information

Type number	Package Name	Orderable part number	Packing method	Small packing quantity	Marking	Package issue date
ESDALD05UJ2	SOT143	ESDALD05UJ2X	Tape and reel	3000	R05	13-Oct-2020

## 5. Absolute maximum ratings

In accordance with the Absolute Maximum Rating System (IEC 60134).

T<sub>j</sub> = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions	Values	Unit
<b>Absolute maximum rating</b>				
P <sub>PPM</sub>	peak pulse power	t <sub>p</sub> = 8/20 μs	136	W
I <sub>PP</sub>	peak pulse current	t <sub>p</sub> = 8/20 μs	8	A
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (air) ESD per IEC 61000-4-2 (contact)		±15 ±8	kV kV
T <sub>stg</sub>	storage temperature range		-55 to 150	°C
T <sub>j</sub>	operating temperature range		-55 to 150	°C

## 6. Characteristics

$T_j = 25^\circ\text{C}$  unless otherwise specified.

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{RWM}$	Reverse Working Voltage	Any I/O pin to GND	-	-	5	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1\text{ mA}$ ; Any I/O pin to GND	6	-	-	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 5\text{ V}$ ; Any I/O pin to GND	-	-	100	nA
$V_F$	Diode Forward Voltage	$I_F = 15\text{ mA}$	-	0.85	1.2	V
$V_C$	Clamping Voltage	$I_{PP} = 1\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$ ; Any I/O pin to GND	-	-	12	V
		$I_{PP} = 5\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$ ; Any I/O pin to GND	-	-	15	V
		$I_{PP} = 8\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$ ; Any I/O pin to GND	-	-	17	V
$C_j$	Junction Capacitance	$V_R = 0\text{ V}$ ; $f = 1\text{ MHz}$ ; Between I/O pins	-	0.6	0.8	pF
		$V_R = 0\text{ V}$ ; $f = 1\text{ MHz}$ ; Any I/O pin to GND	-	1.35	-	pF

Note: I/O pins are pin2,3

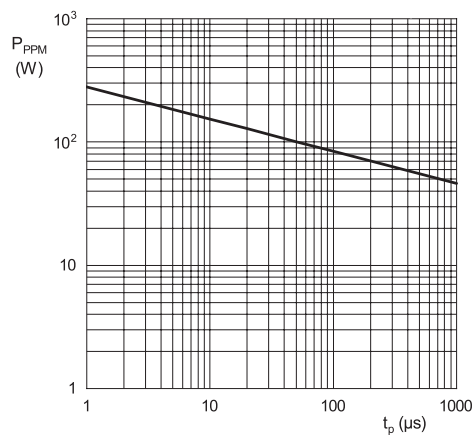


Fig. 1. Pulse rating curve

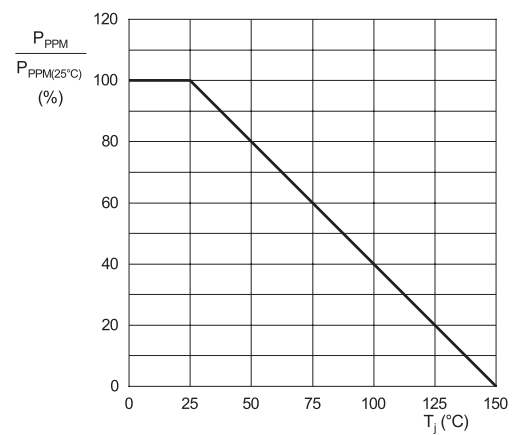


Fig. 2. Peak pulse power derating curve

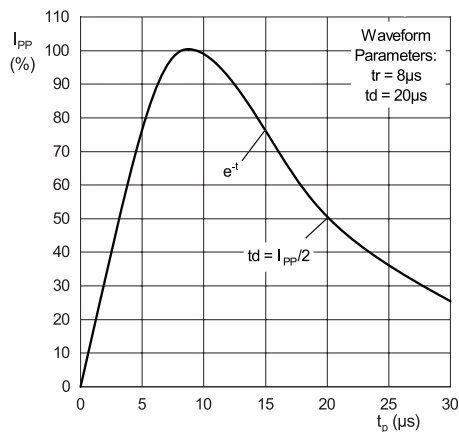


Fig. 3. Pulse waveform

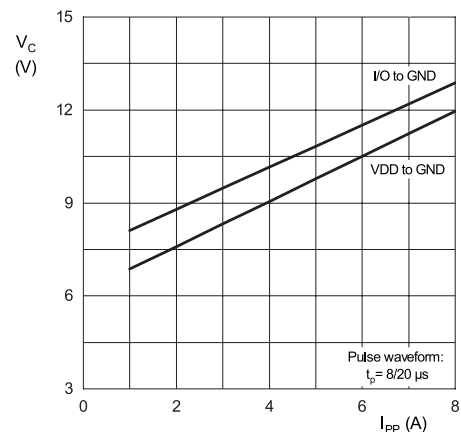


Fig. 4. Clamping voltage vs Peak pulse current

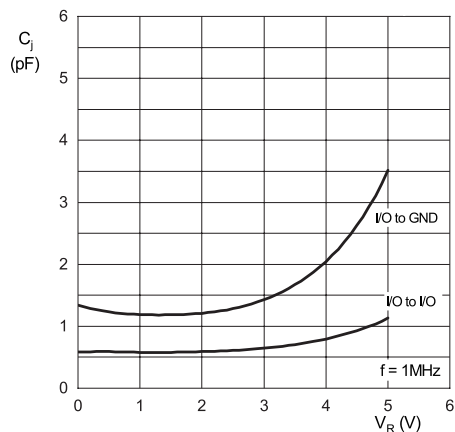


Fig. 5. Capacitance vs Reverse voltage

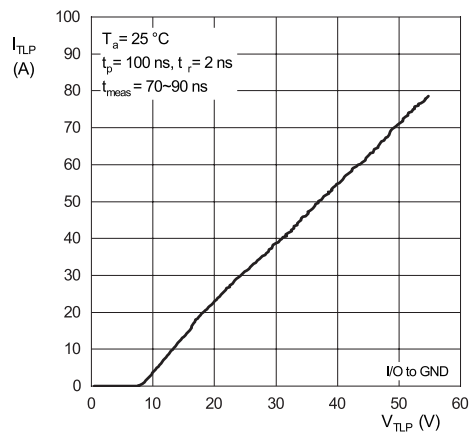


Fig. 6. TLP I-V Curve

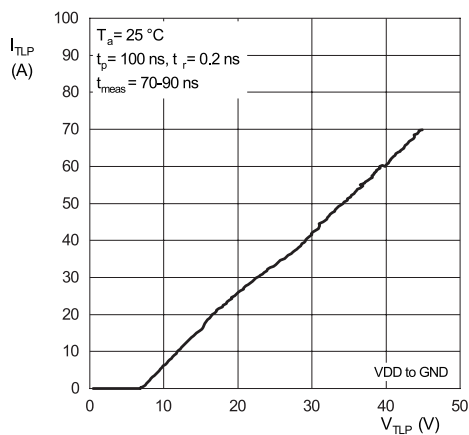


Fig. 7. TLP I-V Curve

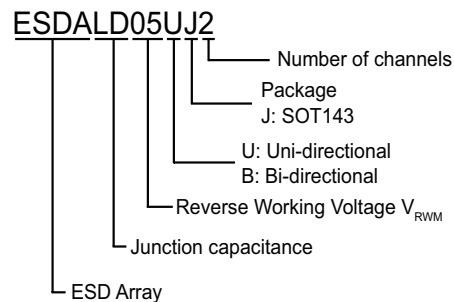
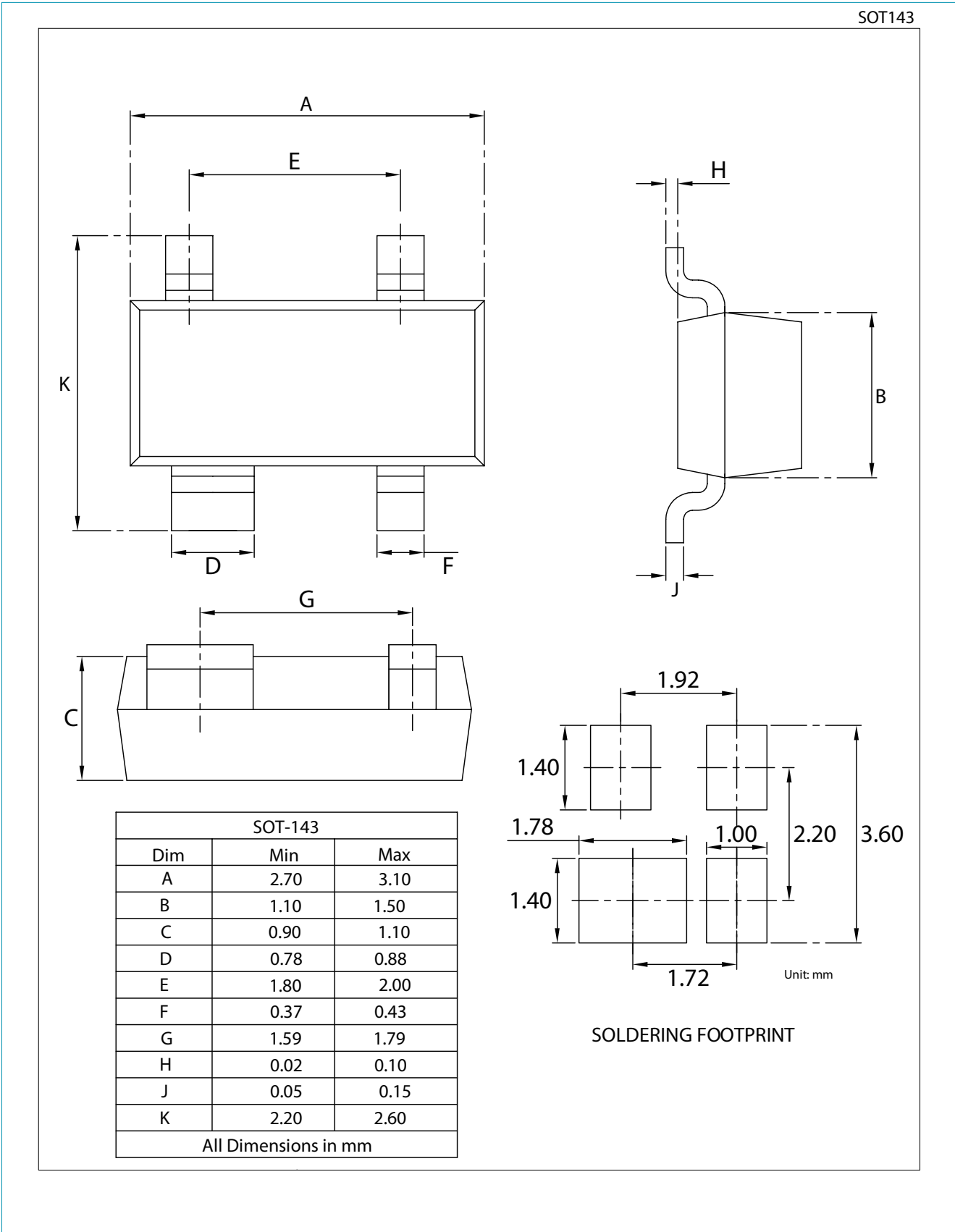


Fig. 8. Part numbering

7. Package outline



## 8. Legal information

### Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

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- [2] The term 'short data sheet' is explained in section "Definitions".
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