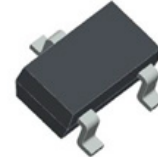


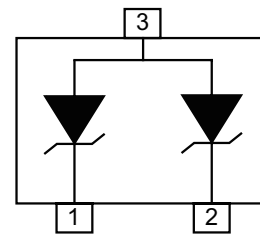
1. General description

The ESDAHDxxUE2 series are designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).



2. Features and benefits

- Peak pulse power 300W @ 8/20 μ s waveform
- Protects one bidirectional line or two unidirectional lines
- ESD, IEC 61000-4-2, ± 30 kV (air), ± 30 kV (contact)
- Low leakage current
- Low clamping voltage
- Working voltages: 3V, 5V, 12V, 24V
- Meet MSL level1
- Halogen free and RoHS compliant



3. Applications

- Notebooks, Desktops, and Servers
- Test and Medical Equipment
- Legacy Ports (RS-232, RS-485)
- Motor Controls
- Point-of-Sale Terminals
- Security and Alarm Systems



4. Ordering information

Type number	Package Name	Orderable part number	Packing method	Small packing quantity	Package issue date
ESDAHDxxUE2	SOT23	ESDAHDxxUE2X	Tape and reel	3000	13-Oct-2020
ESDAHD05UE2	SOT23	ESDAHD05UE2X	Tape and reel	3000	13-Oct-2020

5. Absolute maximum ratings

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

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

Symbol	Parameter	Conditions	Values	Unit
Absolute maximum rating				
P_{PPM}	peak pulse power	$t_p = 8/20 \mu\text{s}$	300	W
V_{ESD}	ESD per IEC 61000-4-2 (air) ESD per IEC61000-4-2 (contact)		± 30 ± 30	kV kV
T_{stg}	storage temperature range		-55 to 150	$^\circ\text{C}$
T_j	operating temperature range		-55 to 150	$^\circ\text{C}$

6. Characteristics

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

Product type	Max. Reverse Working Voltage V_{RWM} (V)	Min. Breakdown Voltage V_{BR} @ $I_T = 1\text{ mA}$ (V)	Max. Clamping Voltage V_C @ $I_{PP} = 1\text{ A}$ (V)	Max. Clamping Voltage V_C @ Max I_{PP} (V)	Max. Peak Pulse current I_{PP} @ 8/20 μs (A)	Maximum Reverse Leakage I_R @ V_R (μA)	Max. C_j (pF) @ 0 V, 1 MHz	Marking
ESDAHD03UE2	3	4	8	15	20	1	195	M03
ESDAHD05UE2	5	6	9.8	19	16	1	150	M05
ESDAHD12UE2	12	13.3	19	32	11	1	120	M12
ESDAHD15UE2	15	16.5	22	30	10	1	75	M15
ESDAHD18UE2	18	19.5	26	35	9	1	65	M18
ESDAHD24UE2	24	26	43	52	7	1	60	M24

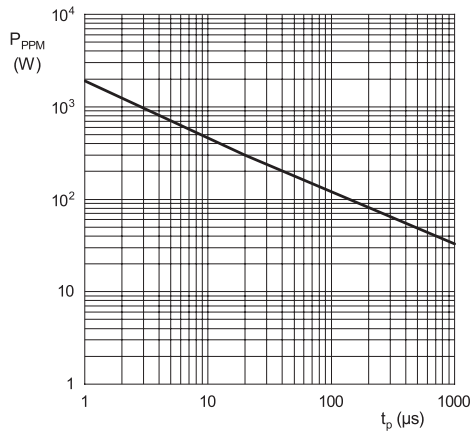


Fig. 1. Pulse rating curve

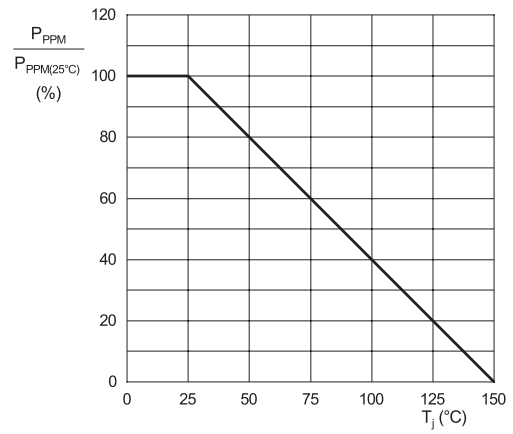


Fig. 2. Peak pulse power derating curve

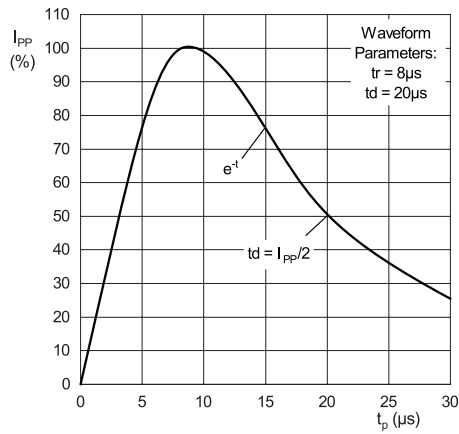


Fig. 3. Pulse waveform

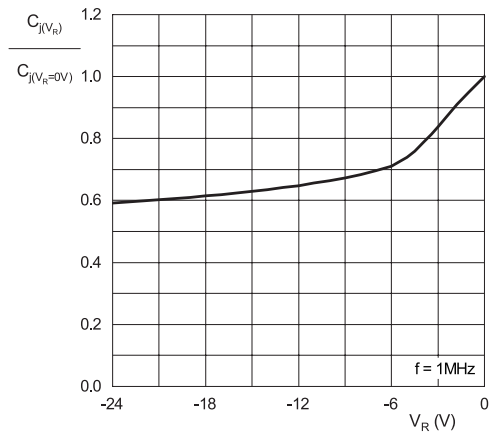
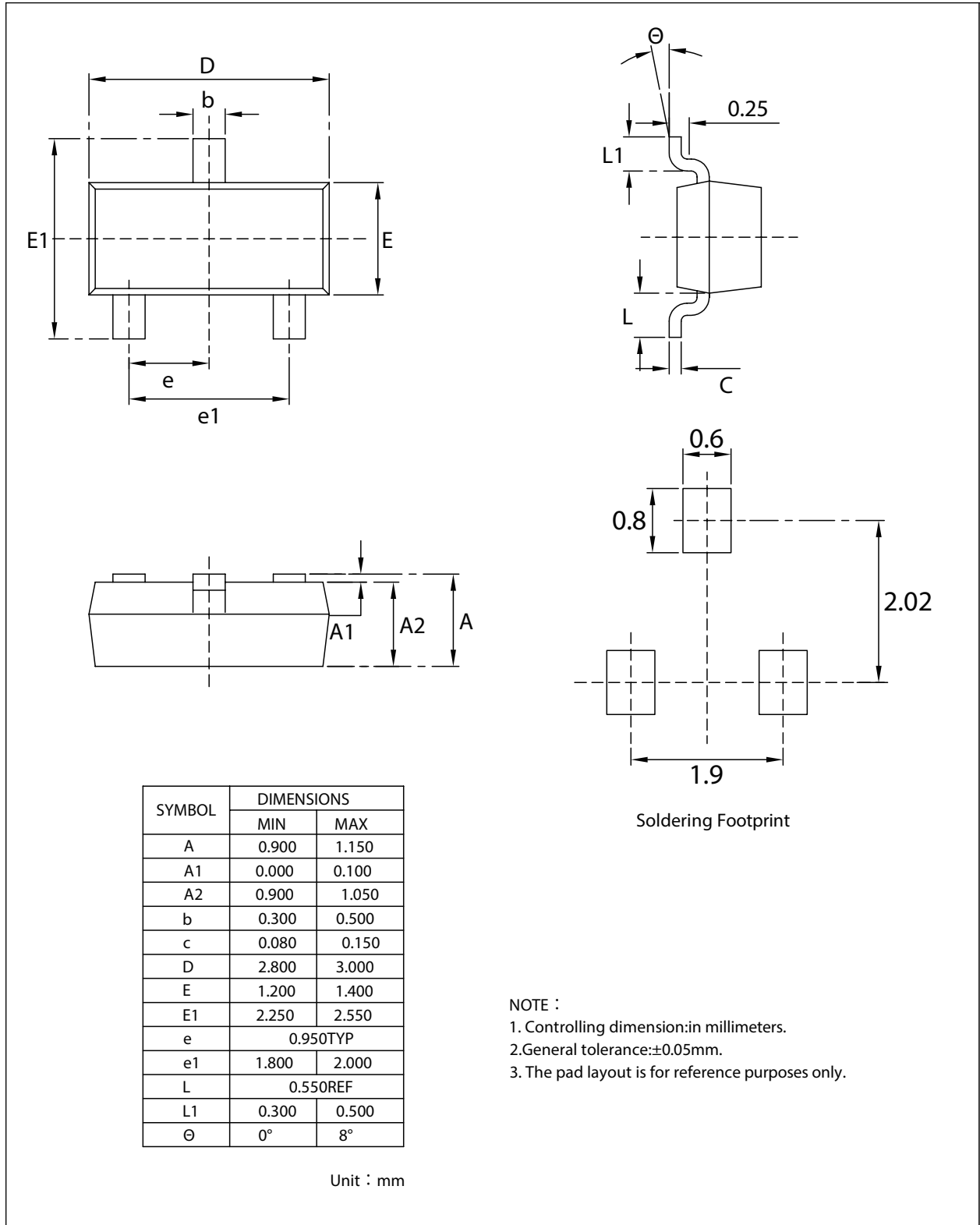


Fig. 4. Capacitance vs Reverse voltage

7. Package outline

SOT23



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.

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
- [3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.ween-semi.com>.

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