

1. Description

This device is a diode array designed to protect 1 line or 2 lines against ESD transients. The device is ideal for applications where both reduced line capacitance and board space saving are required. It can also be used as bidirectional suppressor by connecting only pin 1 and 2.

3. Features

- Unidirectional device
- Low leakage current (I_R max. $< 20 \mu A$ at V_{BR})
- 300 W peak pulse power (8/20 μs)

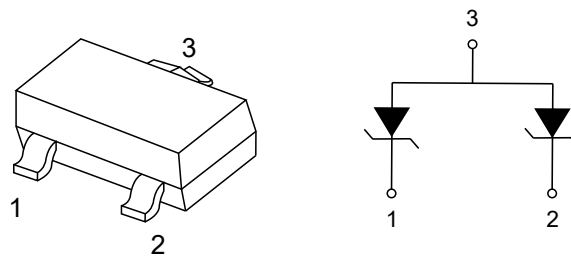
2. Applications

- Where transient overvoltage protection in ESD sensitive equipment is required, such as:
 - Entertainment
 - Signal communications
 - Connectivity
 - Comfort and convenience

4. Benefits

- High ESD protection level: up to 30 kV
- High integration
- Suitable for high density boards

5. Pinning information



SOT-23



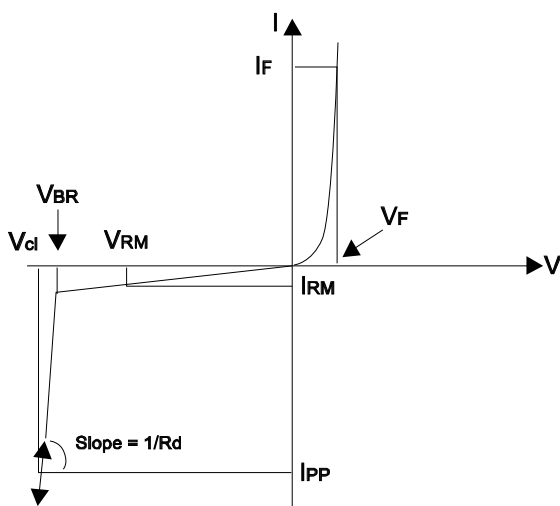
6. Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value	Units
Peak pulse voltage ⁽¹⁾	V_{PP}	30	kV
		30	kV
Peak pulse power (8/20 μs)	P_{PP}	300	W
Peak pulse current (8/20 μs) ESDA37	I_{PP}	6.3	A
Junction temperature range	T_J	-40 to 150	$^\circ\text{C}$
Storage junction temperature range	T_{STG}	-65 to 150	$^\circ\text{C}$
Maximum lead temperature for soldering during 10 s at 5 mm from case	T_L	260	$^\circ\text{C}$

Notes:

⁽¹⁾ For a surge greater than the maximum values, the diode will fail in short-circuit.

7. Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)



Symbol	Parameter
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
V_{RM}	Stand-off voltage
I_{RM}	Leakage current
I_F	Forward current
I_{PP}	Peak pulse current
I_R	Breakdown current
V_F	Forward voltage drop
C	Capacitance
R_d	Dynamic impedance
αT	Voltage temperature



8.Electrical Characteristic (T_{amb}=25°C)

Order code	V _{BR} at I _R			I _{RM} at V _{RM}		Rd ⁽¹⁾	αT ⁽²⁾	C _{line}	V _F at I _F	
	Min.	Max.		Max.		Typ.	Max.	Typ. at 0 V bias	Max.	
	V	V	mA	μA	V	mΩ	10 ⁻⁴ /°C	pF	V	mA
ESDA37L	36	43.3	1	1	36	2400	10	48	0.9	10

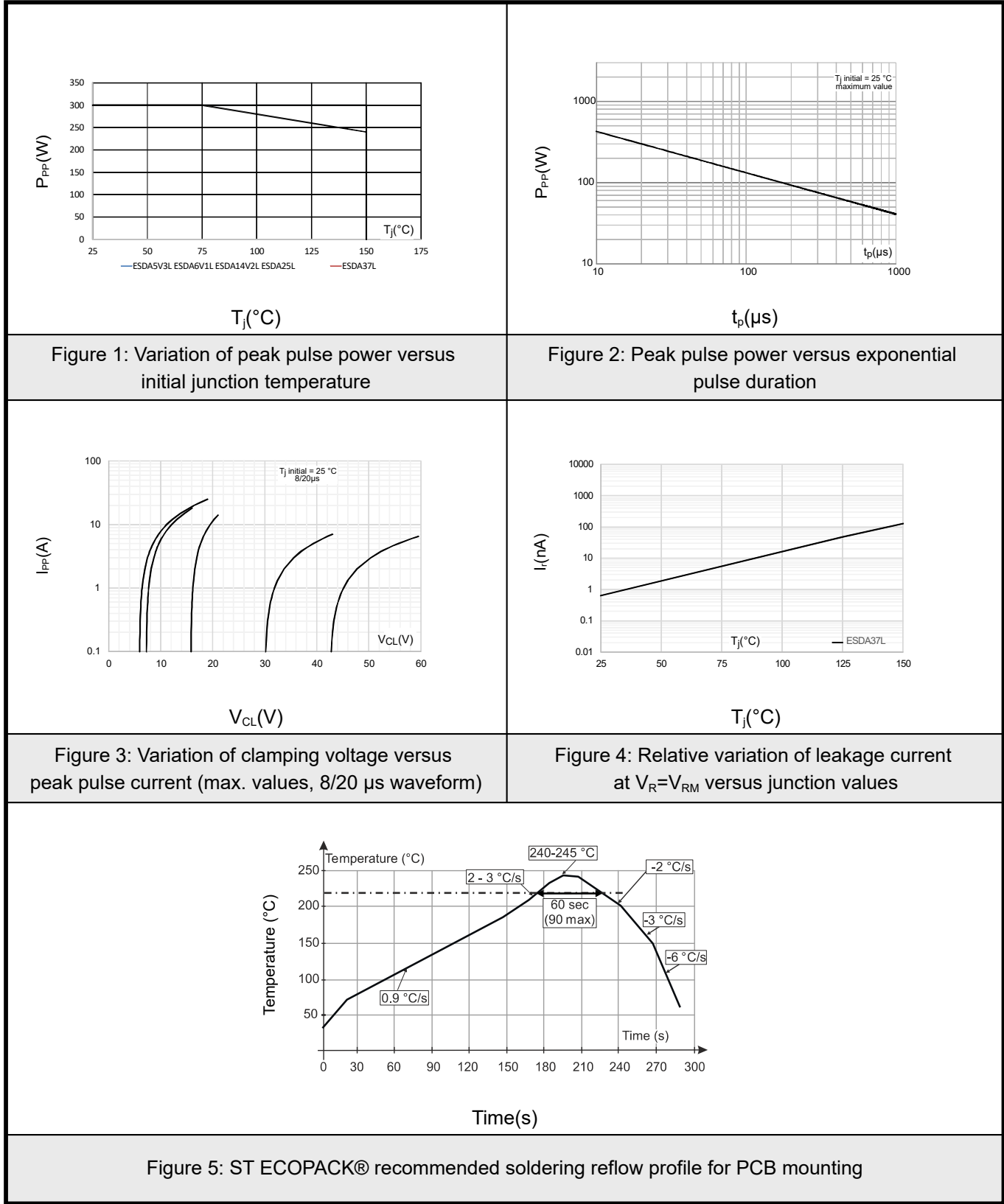
Notes:

⁽¹⁾ Square pulse I_{pp}=15A, t_p=2.5μs

⁽²⁾ Δ V_{BR} = αT x (T_{amb} -25 °C) x V_{BR} (25 °C)

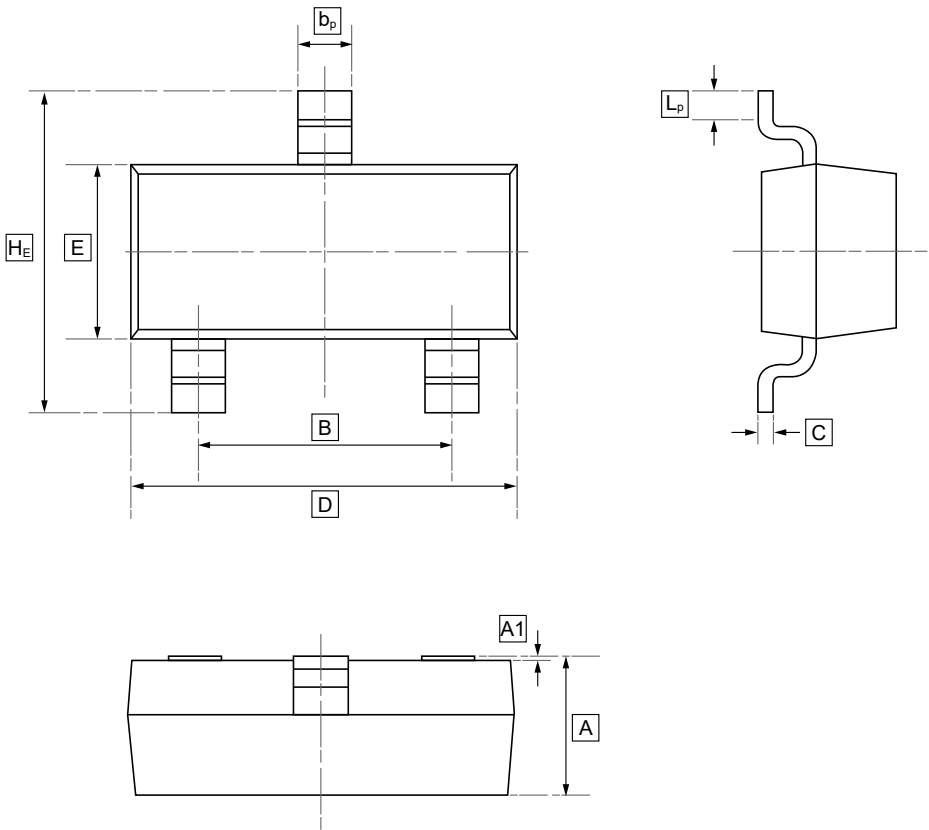


9. Typical characteristic





10.SOT-23 Package Outline Dimensions

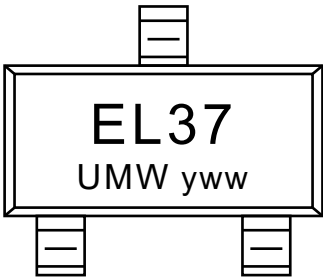


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b _p	C	D	E	H _E	A1	L _p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50



11.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW ESDA37L	SOT-23	3000	Tape and reel



12.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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