

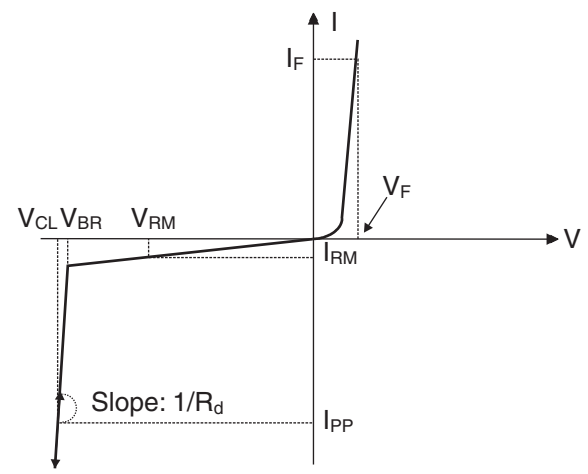
1 Characteristics

Table 1. Absolute Ratings ($T_{amb} = 25^{\circ}\text{C}$)

Symbol	Parameter		Value	Unit
P_{PP}	Peak pulse power (8/20 μs)	ESDA25W	400	W
		ESDA25W5 / ESDA6V1W5	150	
		ESDA6V1-5W6	100	
T_j	Junction temperature		125	$^{\circ}\text{C}$
T_{stg}	Storage temperature range		-55 to +150	$^{\circ}\text{C}$
T_L	Maximum lead temperature for soldering during 10s		260	$^{\circ}\text{C}$
T_{op}	Operating temperature range ⁽¹⁾	ESDA25W / ESDA25W5 / ESDA6V1W5	-40 to +125	$^{\circ}\text{C}$
		ESDA6V1-5W6	-40 to +125	

1. The values of the operating parameters versus temperature are given through curves and αT parameter.

1.1 Electrical Characteristics ($T_{amb} = 25^{\circ}\text{C}$)

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

Part Numbers	V_{BR}			I_{RM} @ V_{RM}		V_F @ I_F		R_d	αT	C
			@ I_R			max.		typ. ⁽¹⁾	max. ⁽²⁾	typ.
	min.	max.								0V bias
	V	V	mA	μA	V	V	mA	Ω	$10^{-4}/^{\circ}C$	pF
ESDA25W	25	30	1	1	24	1.2	10	1.1	10	65
ESDA25W5	25	30	1	1	24	1.2	10	1.9	10	30
ESDA6V1-5W6	6.1	7.2	1	1	3	1.25	200	0.61	6	50
ESDA6V1W5	6.1	7.2	1	1	3	1.25	200	0.35	6	90

1. Square pulse $I_{pp} = 15\text{ A}$, $t_p = 2.5\text{ }\mu\text{s}$
2. $V_{BR} = aT * (T_{amb} - 25\text{ }^{\circ}C) * V_{BR}(25\text{ }^{\circ}C)$

Figure 1. Peak power dissipation versus initial junction temperature

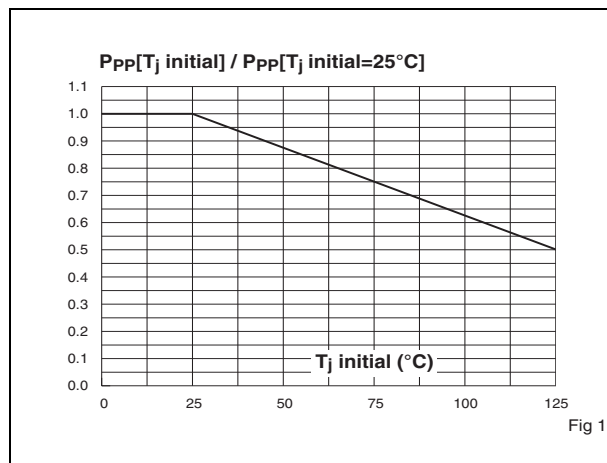


Figure 2. Peak pulse power versus exponential pulse duration ($T_j \text{ initial} = 25^{\circ}C$) (ESDA25W)

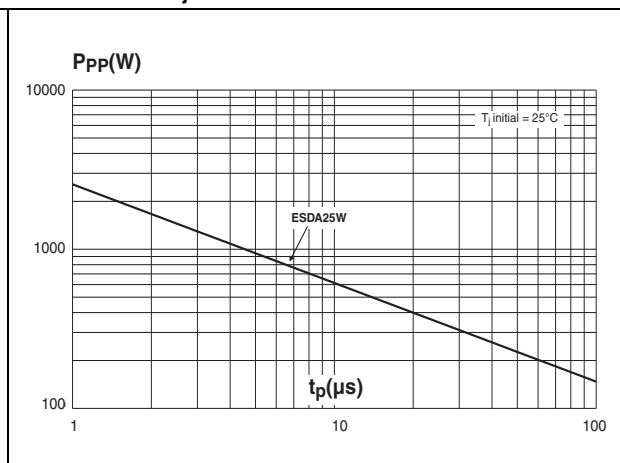


Figure 3. Peak pulse power versus exponential pulse duration (T_j initial = 25°C) (ESDA25W5 / ESDA6V1W5 / ESDA6V1-5W6)

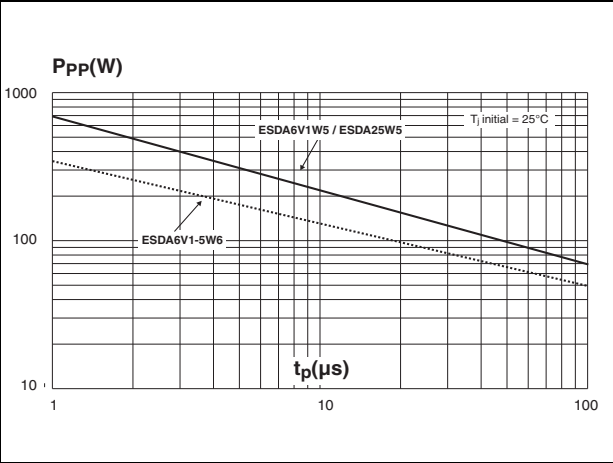


Figure 4. Clamping voltage versus peak pulse current (T_j initial = 25°C, rectangular waveform, $t_p = 2.5 \mu s$) (ESDA25W / ESDA25W5)

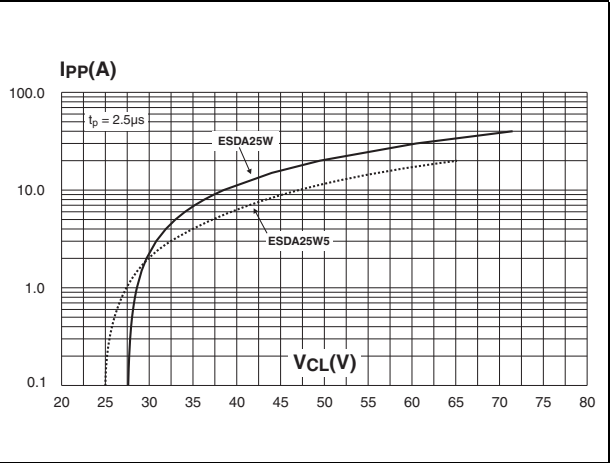


Figure 5. Clamping voltage versus peak pulse current (T_j initial = 25°C, rectangular waveform, $t_p = 2.5 \mu s$) (ESDA6V1W5 / ESDA6V1-5W6)

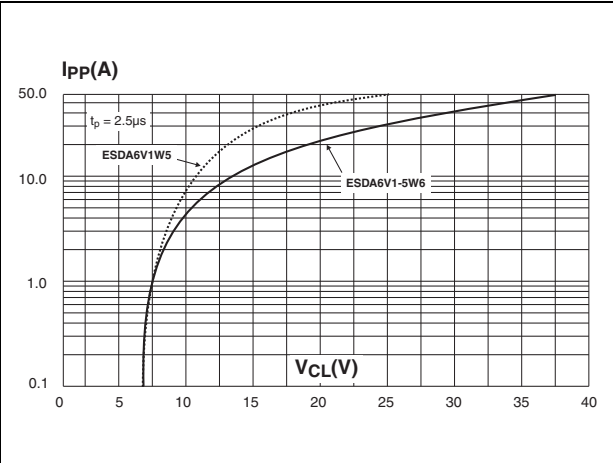


Figure 6. Capacitance versus reverse applied voltage (typical values) (ESDA25W / ESDA25W5)

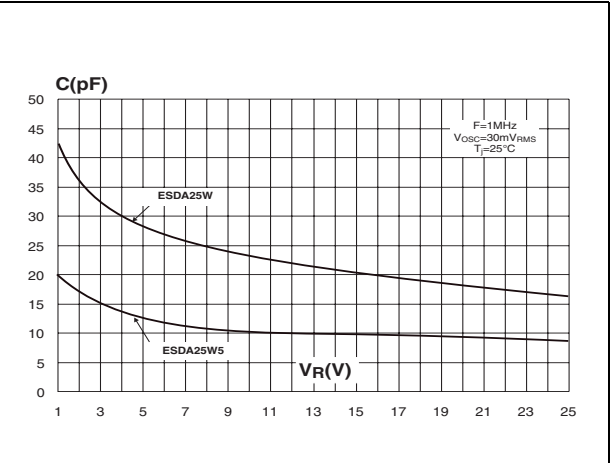


Figure 7. Capacitance versus reverse applied voltage (typical values) (ESDA6V1W5 / ESDA6V1-5W6)

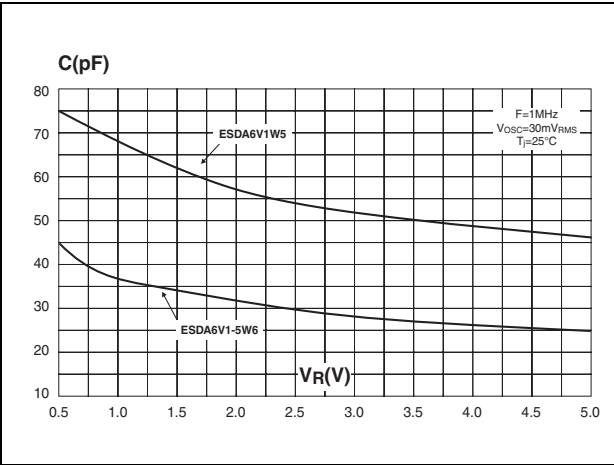


Figure 8. Relative variation of leakage current versus junction temperature (typical values)

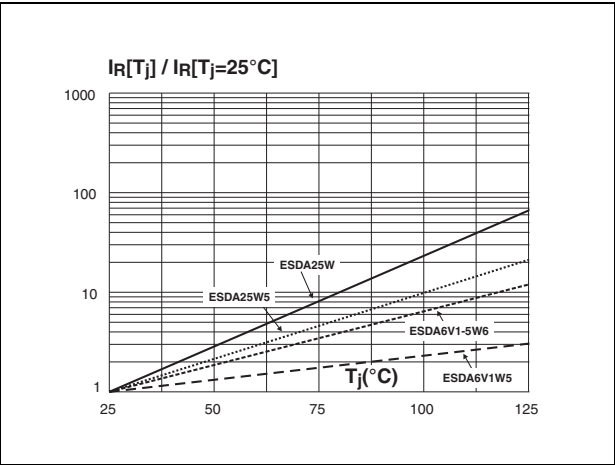


Figure 9. Peak forward voltage drop versus peak forward current (typical values) (ESDA25W / ESDA25W5)

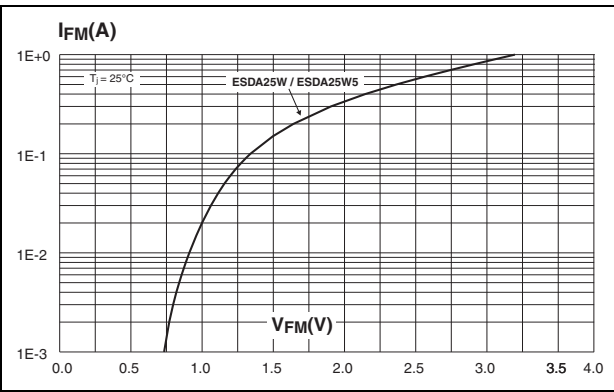


Figure 10. Peak forward voltage drop versus peak forward current (typical values) (ESDA6V1W5 / ESDA6V1-5W6)

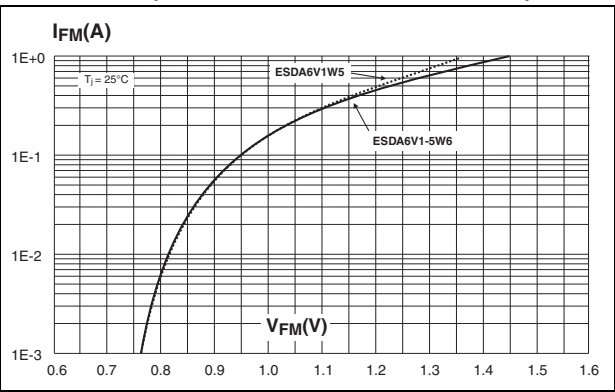
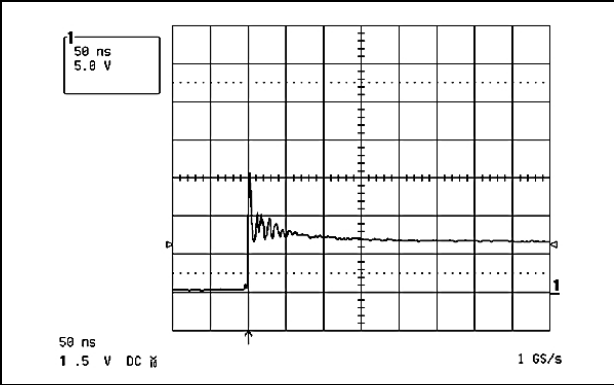
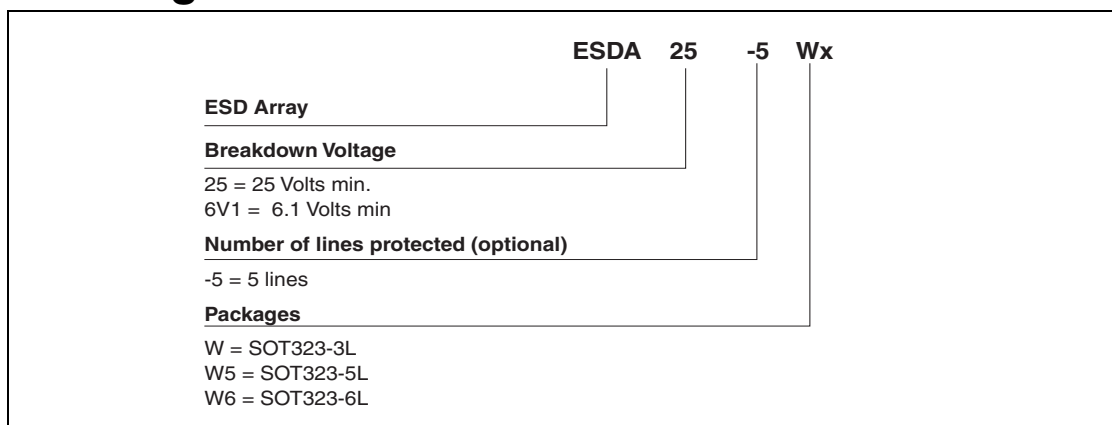


Figure 11. ESD response to IEC61000-4-2 (air discharge 15 kV, positive surge)



2 Ordering information scheme



3 Package mechanical data

3.1 SOT323-3L package

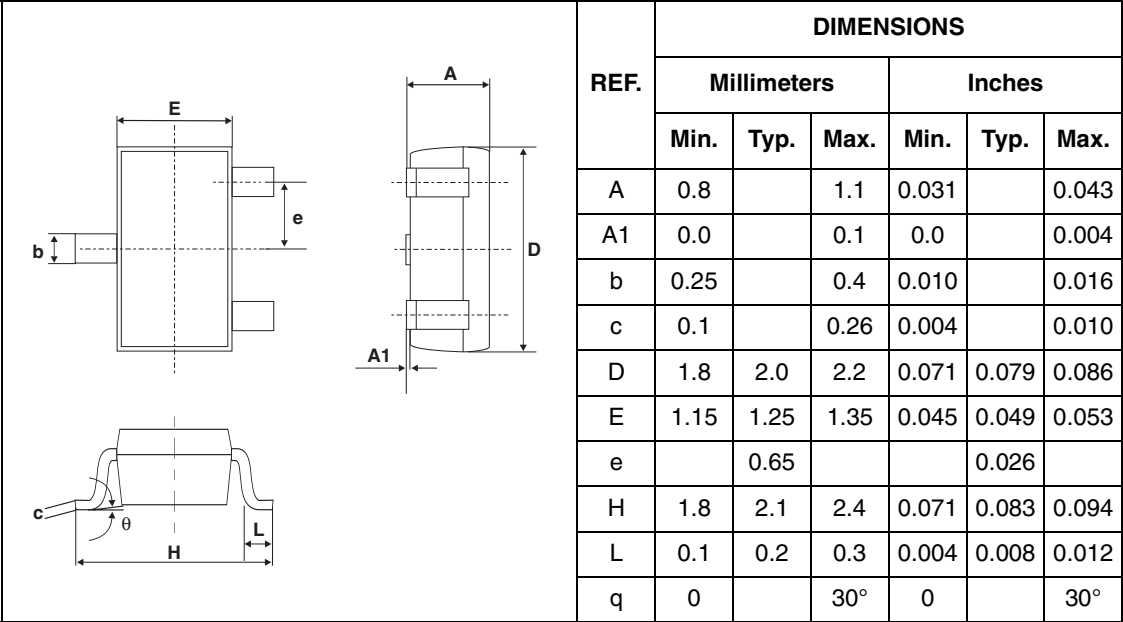
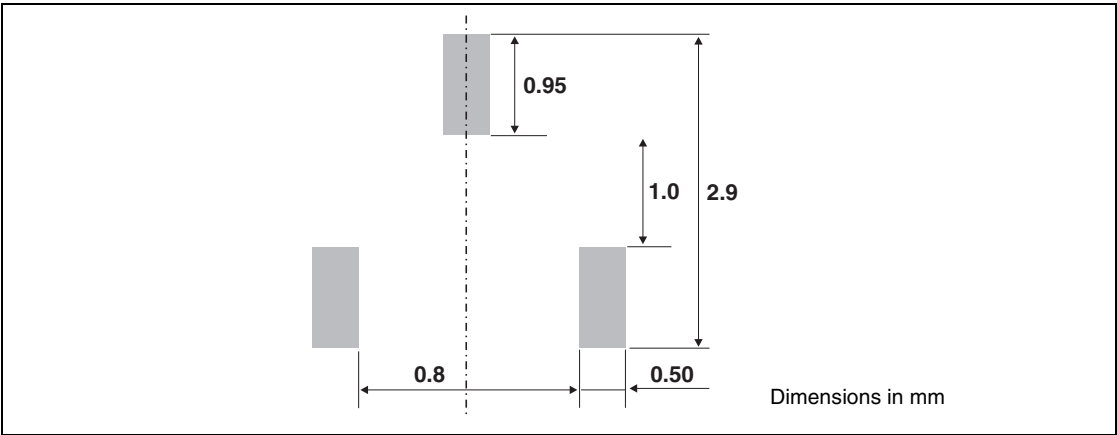


Figure 12. Footprint dimensions



3.2 SOT323-5L package

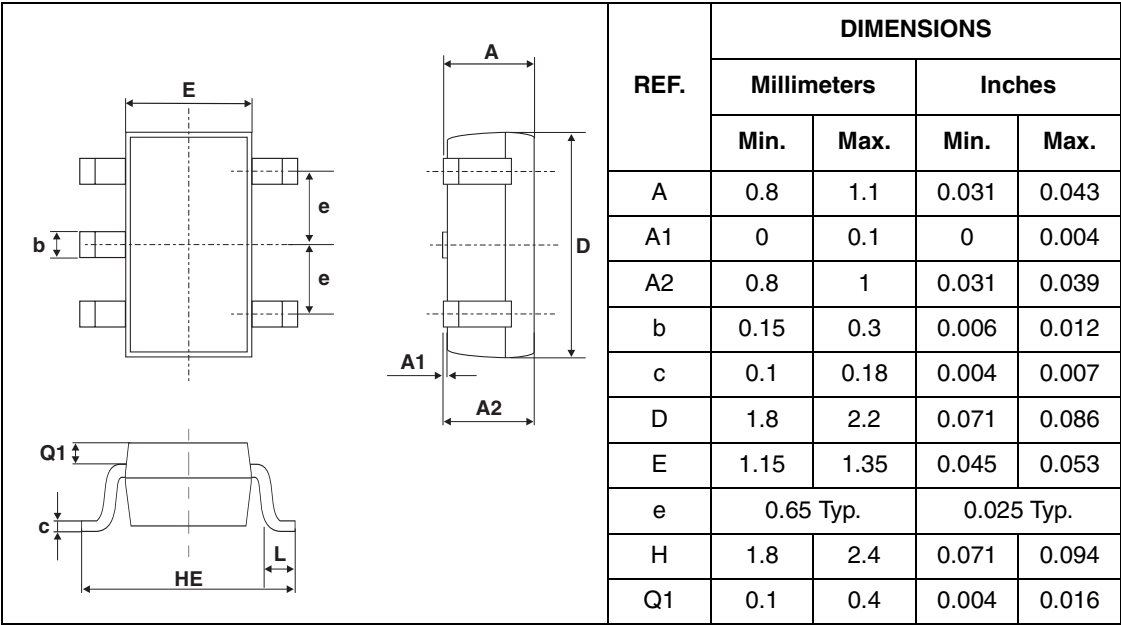
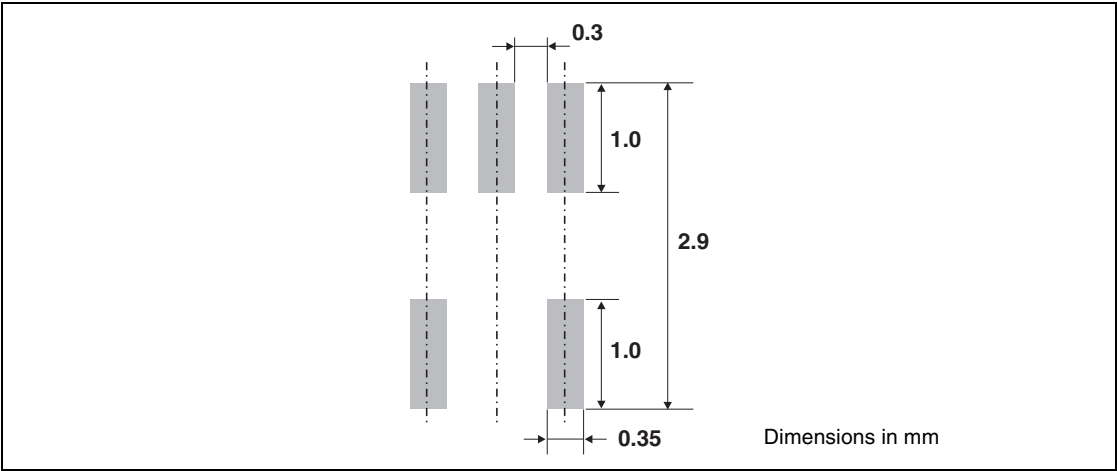


Figure 13. Footprint dimensions



3.3 SOT323-6L package

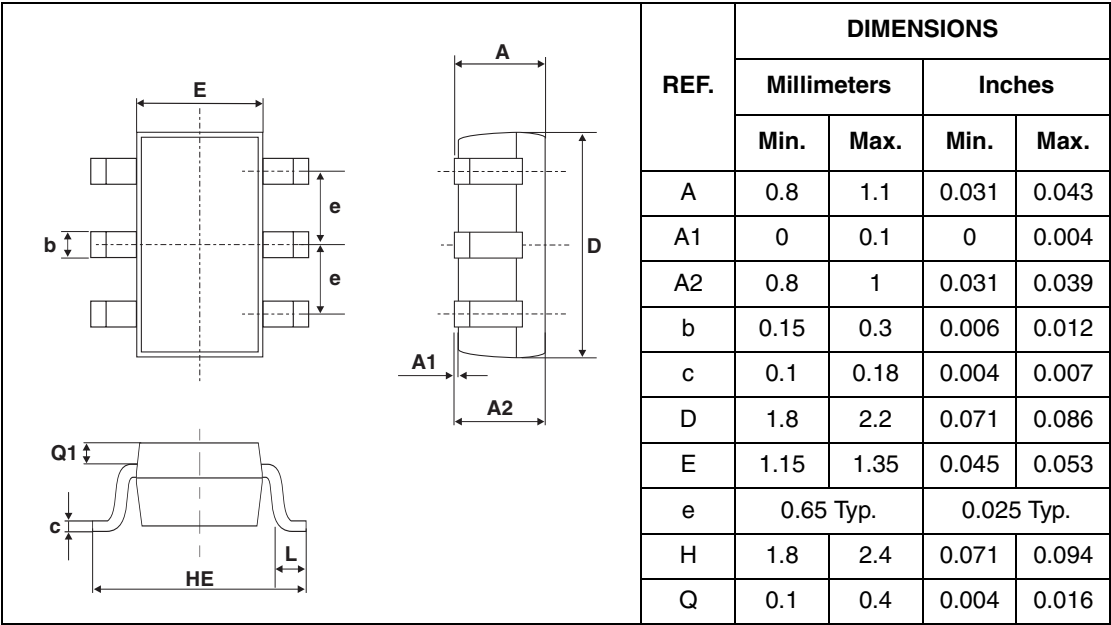
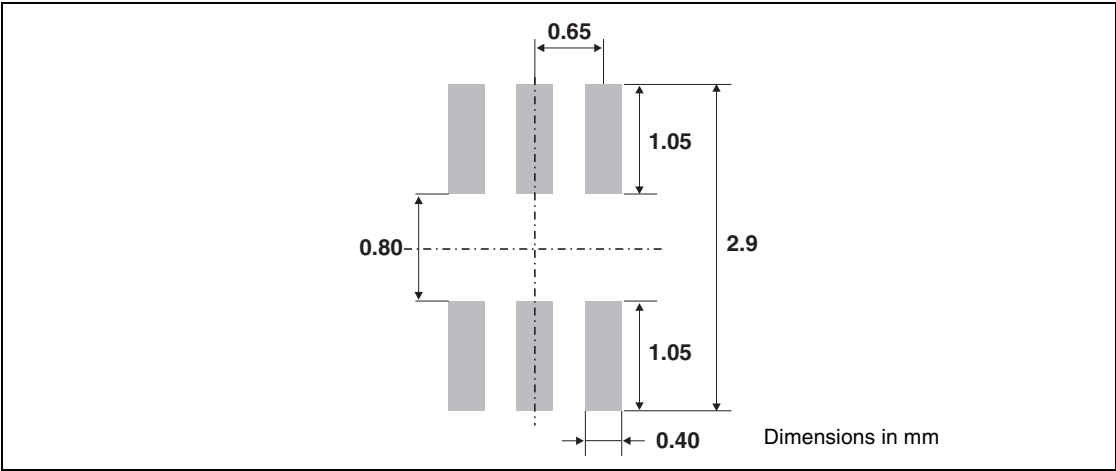


Figure 14. Footprint dimensions



4 Ordering information

Part Number	Marking	Package	Weight	Base qty	Delivery mode
ESDA6V1W5	E61	SOT323-5L	6 mg	3000	Tape & reel
ESDA6V1-5W6	E62	SOT323-6L			
ESDA25W	E25	SOT323-3L			
ESDA25W5	E25	SOT323-5L			

5 Revision history

Date	Revision	Changes
20-Jul-2005	1	Initial release
29-Aug-2005	2	Added notes to table on page2, removed annotations in Figure 1.

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