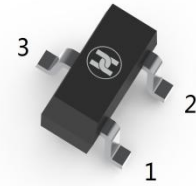


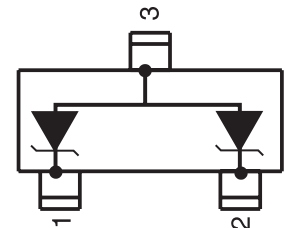
Dual transil array for ESD protection

Features:

- 2 Unidirectional Transil functions
- Low leakage current: $I_R \text{ max} < 20 \mu\text{A}$ at V_{BR}
- 300W peak pulse power(8/20 μs)
- High ESD protection level: up to 25 kV
- Complies with the following standards:
 - IEC61000-4-2 Level 4
 - MIL STD 883c - Method 3015-6 Class 3(Human Body Model)



SOT-23



FUNCTIONAL DIAGRAM

Mechanical Data:

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.013 grams (approximate)

Maximum Ratings($T_A=25^\circ\text{C}$ Unless Otherwise Noted)

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation ($t_p= 8/20\mu\text{s}$)	P_{pp}	300	W
Lead Soldering Temperature	T_L	260(10s)	$^\circ\text{C}$
Junction Temperature Range	T_J	150	$^\circ\text{C}$
Operating Temperature Range	T_{op}	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Electrostatic discharge MILSTD 833C-Method 3015-6 IEC61000-4-2 Air discharge IEC61000-4-2 ContactAir discharge	V_{pp}	25 16 9	kv

Electrical Characteristics

Part Numbers	V_{BR}		I_R	V_{RM}	I_{RM}	V_F	I_F	R_d	αT	C
	Min.	Max.				Max.		Typ ⁽¹⁾	Max ⁽²⁾	Typ. 0v bias
	V	V				V		m Ω	10 ⁻⁴ / $^\circ\text{C}$	pF
ESDA5V3L	5.3	5.9	1	3	2	1.25	200	280	5	220
ESDA6V1L	6.1	7.2	1	5.25	20	1.25	200	350	6	140
ESDA14V2L	14.2	15.8	1	12	5	1.25	200	650	10	90
ESDA25L	25	30	1	24	1	1.2	10	1000	10	50

1. Square pulse $I_{PP}=15\text{A}$, $t_p=2.5\mu\text{s}$.

2. $\Delta V_{BR}=\alpha T*(T_{amb}-25^\circ\text{C}) * V_{BR}(25^\circ\text{C})$.

Dual transient array for ESD protection

Electrical Parameter

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

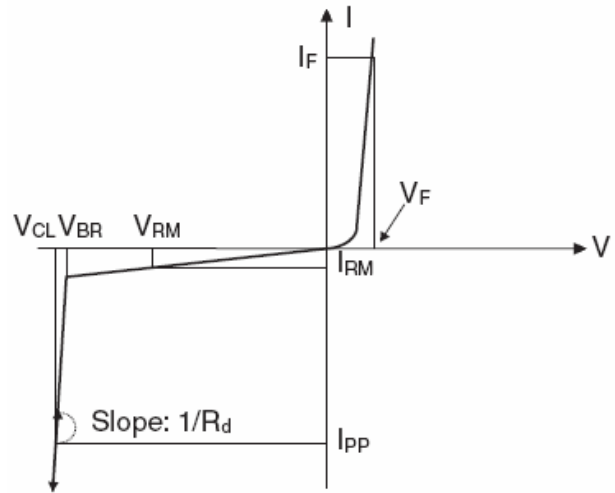


Fig. 1: Peak power dissipation versus initial junction temperature.

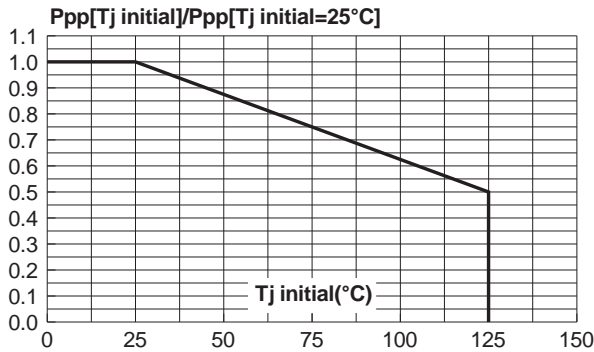


Fig. 3: Clamping voltage versus peak pulse current ($T_j \text{ initial} = 25^\circ\text{C}$). Rectangular waveform $t_p = 2.5 \mu\text{s}$.

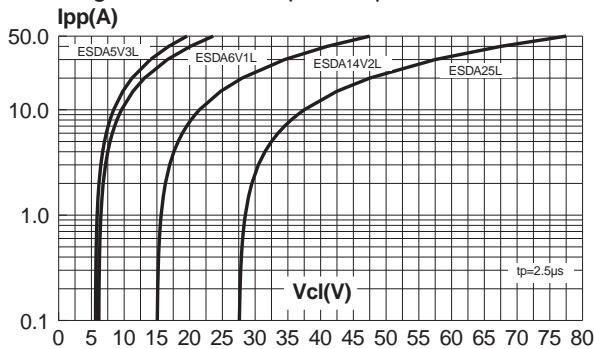


Fig. 5: Relative variation of leakage current versus junction temperature (typical values).

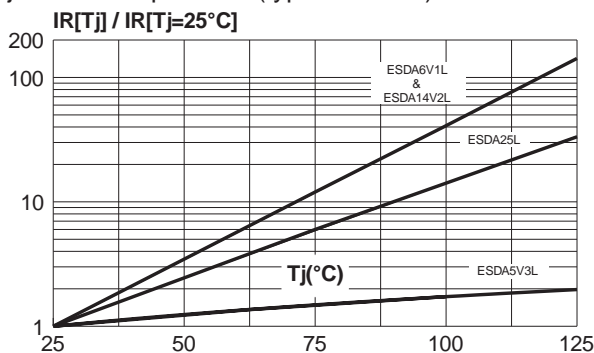


Fig. 2: Peak pulse power versus exponential pulse duration ($T_j \text{ initial} = 25^\circ\text{C}$).

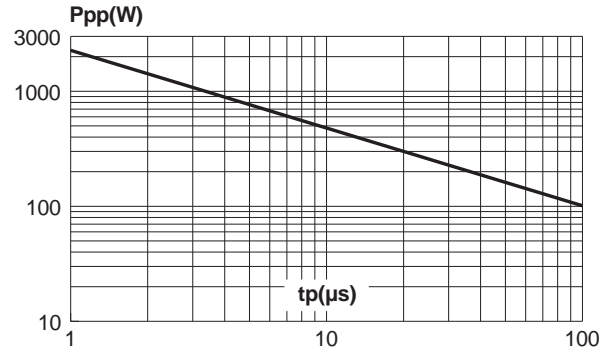


Fig. 4: Capacitance versus reverse applied voltage (typical values).

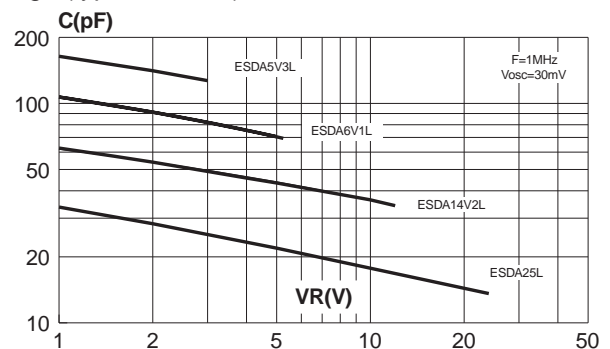
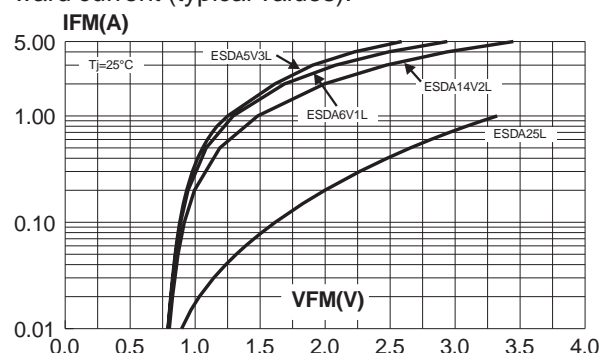
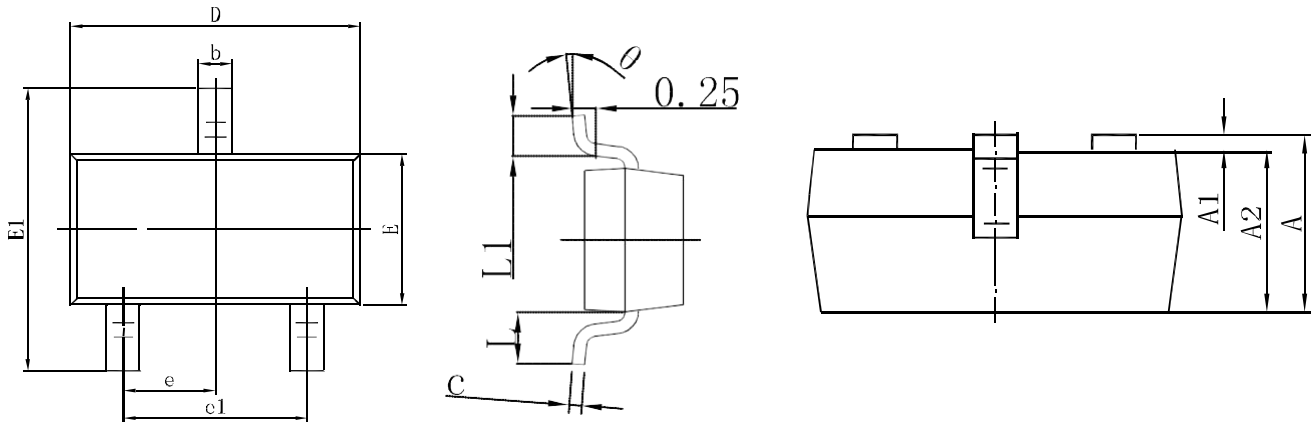


Fig. 6: Peak forward voltage drop versus peak forward current (typical values).



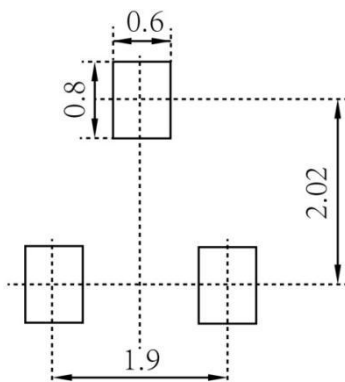
Dual transil array for ESD protection

SOT-23 Package Outline Dimensions



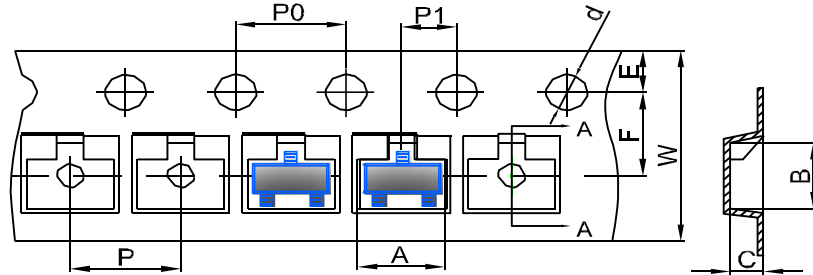
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

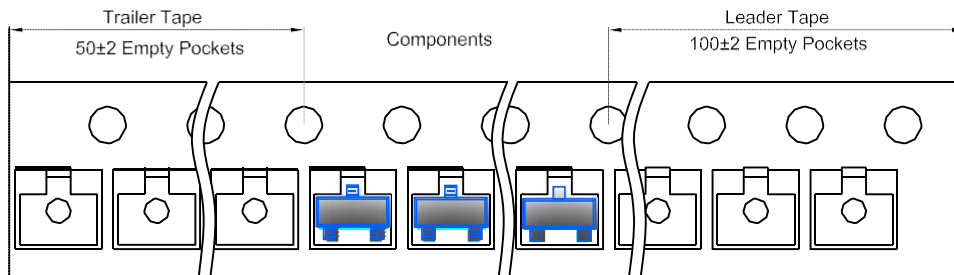
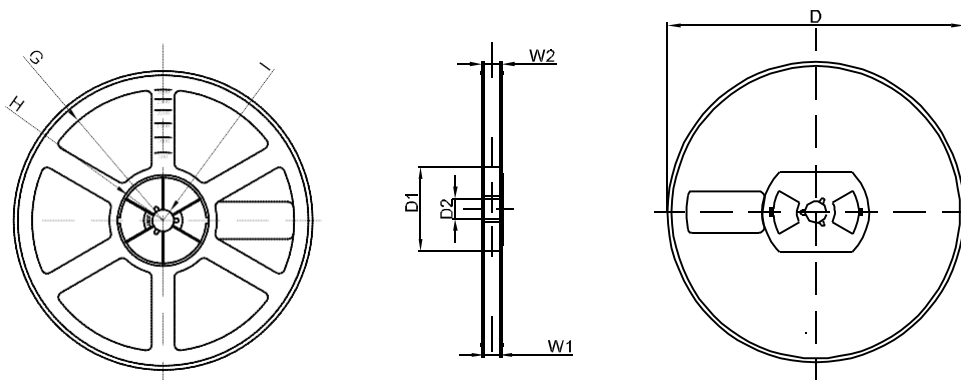


Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

Dual transil array for ESD protection
SOT-23 Tape and Reel
SOT-23 Embossed Carrier Tape


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-23 Tape Leader and Trailer

SOT-23 Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1