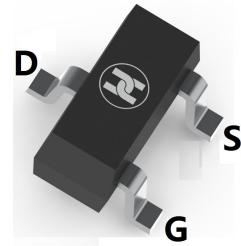
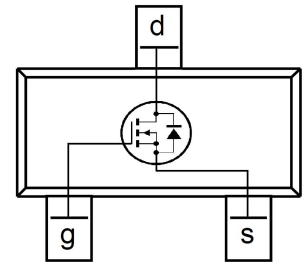


N-CHANNEL MOSFET
FEATURES

- Low On-Resistance
- Low Gate Threshold Voltage
- Fast Switching Speed
- Low Input / Output Leakage
- Sub-miniature surface mount package


SOT-23

MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)
- Marking: J1

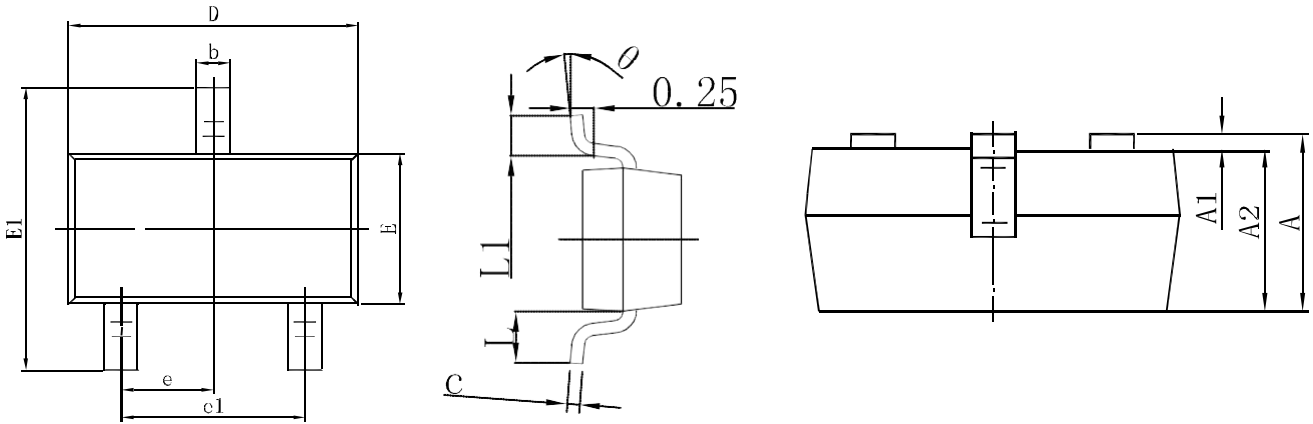
MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V _{DS}	50	V
Gate-source voltage	V _{GS}	±12	V
Continuous drain current	I _D	0.22	A
Power dissipation	P _D	0.35	W
Thermal resistance from Junction to ambient	R _{θJA}	357	°C/W
Junction temperature	T _J	150	°C
Storage temperature	T _{STG}	-55 ~ +150	°C

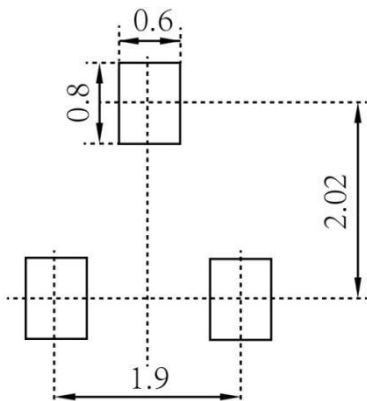
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Drain-Source breakdown voltage	V _{(BR)DSS}	50			V	V _{GS} =0V, I _D =250μA
Zero gate voltage drain current	I _{DSS}			0.1	μA	V _{DS} =50V, V _{GS} =0V
Gate-body leakage current	I _{GSS}			±1	μA	V _{DS} =0V, V _{GS} =±12V
				±0.5	μA	V _{DS} =0V, V _{GS} =±5V
				±0.05	μA	V _{DS} =0V, V _{GS} =±12V
Gate-threshold voltage	V _{GS(th)}	0.6		1.20	V	V _{DS} =V _{GS} , I _D =250μA
Drain-source on-resistance	R _{DSON}			2.50	Ω	V _{GS} =1.8V, I _D =0.05A
				2.0	Ω	V _{GS} =2.5V, I _D =0.05A
				1.6	Ω	V _{GS} =5V, I _D =0.05A
Forward trans-conductance	g _{FS}	0.2			S	V _{DS} =10V, I _D =0.2A
Diode forward voltage (note 1)	V _{SD}			1.2	V	I _S =0.115A, V _{GS} =0V
Input capacitance(note 1)	C _{iss}		58		pF	V _{DS} =25V, V _{GS} =0V, f=1MHz
Output capacitance(note 1)	C _{oss}		9.75		pF	
Reverse transfer capacitance(note 1)	C _{rss}		5.2		pF	
Gate resistance(note 1)	R _G		281		Ω	V _{DS} =5V, V _{GS} =10mV, f=1MHz
Turn-on delay time(note 1)	t _{d(on)}			5	nS	V _{DD} =30V, V _{GS} =10V, R _{GEN} =6Ω, I _D =0.29A
Turn-on rise time(note 1)	t _r			5	nS	
Turn-off delay time(note 1)	t _{d(off)}			60	nS	
Turn-off fall time(note 1)	t _f			35	nS	

Note:1. These parameters have no way to verify..

N-CHANNEL MOSFET
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°

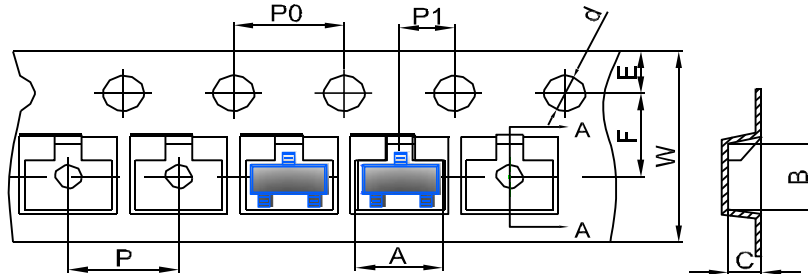
SOT-23 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

N-CHANNEL MOSFET

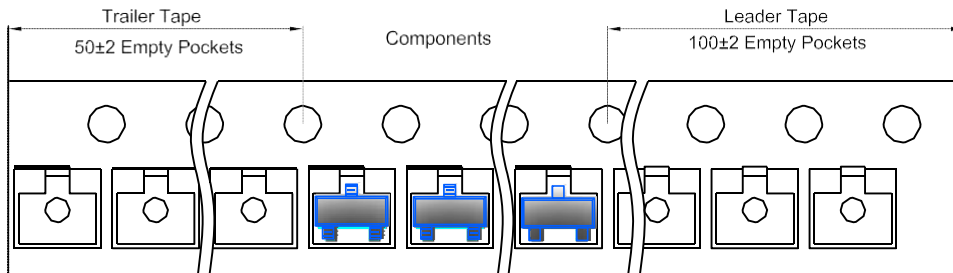
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

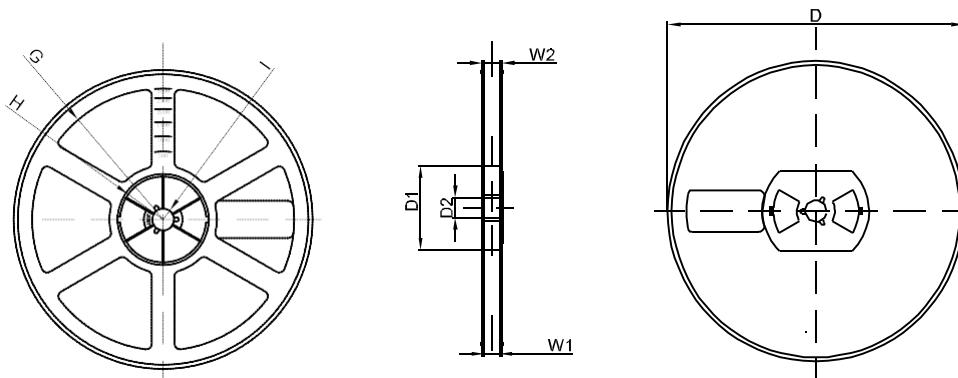


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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