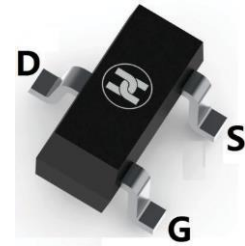
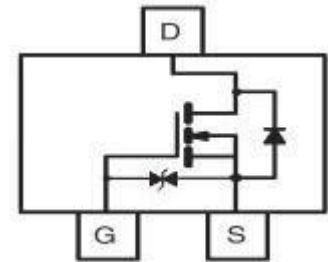


MOSFET (N-CHANNEL)
FEATURES

- Low on resistance $R_{DS(ON)}$
- Low gate threshold voltage
- Low input capacitance
- ESD protected up to 2KV

MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)
- Marking: 6Z


SOT-23

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	60	V
Drain-gate voltage ($R_{GS} = 20 \text{ k}\Omega$)	V_{DGR}	60	V
Gate-source voltage	V_{GS}	$\pm 20\text{V}$	V
Continuous drain current	I_D	300	mA
Pulsed drain current (Note 1)	I_{DM}	800	mA
Power dissipation	P_D	0.35	W
Thermal resistance from Junction to ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction And Storage temperature Range	T_J, T_{STG}	-65 ~ +150	$^\circ\text{C}$

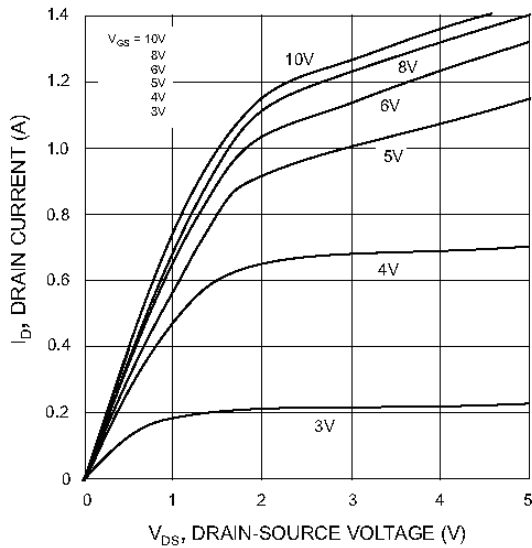
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symb	Min	Typ	Max	Unit	Conditions
Static Characteristics						
Drain-Source breakdown voltage	$V_{(BR)DSS}$	60			V	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$
Gate-threshold voltage (note 1)	$V_{GS(th)}$	1.0	1.5	2.5	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Zero gate voltage drain current	I_{DSS}			1	μA	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$
Gate-body leakage current	I_{GSS}			± 10	μA	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$
Drain-source on-resistance (note 1)	$R_{DS(ON)}$			3	Ω	$V_{GS}=10\text{V}, I_D=500\text{mA}$
				4	Ω	$V_{GS}=4.5\text{V}, I_D=200\text{mA}$
Forward Trans conductance	g_{fs}		80		ms	$V_{DS}=50\text{V}, I_D=115\text{mA}$
Diode forward voltage (note 1)	V_{SD}		0.8	1.2	V	$I_S=300\text{mA}, V_{GS}=0\text{V}$
Dynamic Characteristics						
Input capacitance	C_{iss}			50	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$
Output capacitance	C_{oss}			25	pF	
Reverse transfer capacitance	C_{rss}			5	pF	
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$			20	nS	$V_{DD}=25\text{V}, V_{GEN}=10\text{V}, R_G=3 \Omega, I_D=115\text{mA}, R_L=50\Omega$
Turn-off delay time	$t_{d(off)}$			40	nS	

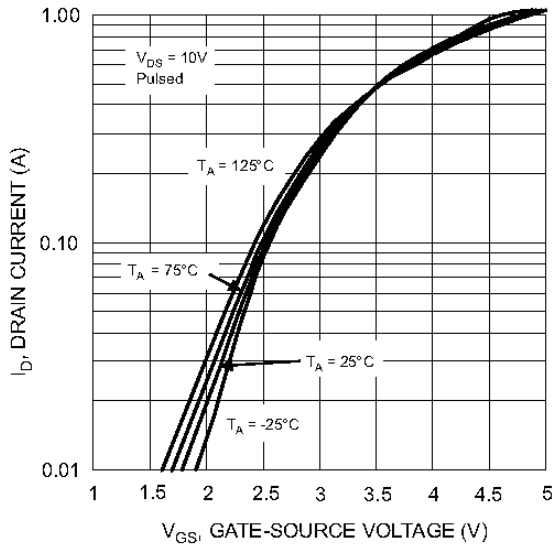
Note:1. Pulse test ; Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

MOSFET (N-CHANNEL)

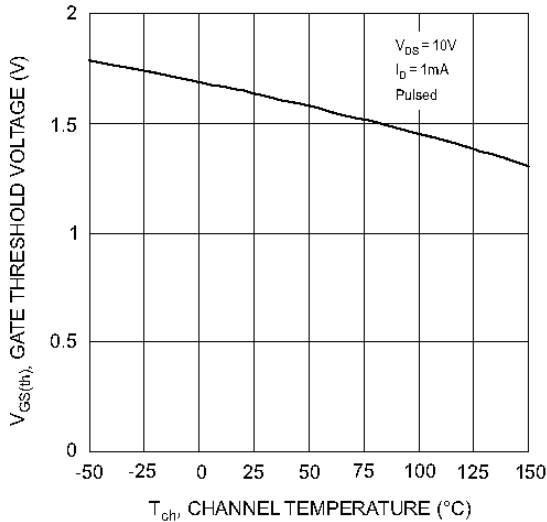
Typical Characteristics



V_{DS} , DRAIN-SOURCE VOLTAGE (V)
Fig. 1 Typical Output Characteristics



V_{GS} , GATE-SOURCE VOLTAGE (V)
Fig. 2 Typical Transfer Characteristics



T_{ch} , CHANNEL TEMPERATURE (°C)
Fig. 3 Gate Threshold Voltage vs. Channel Temperature

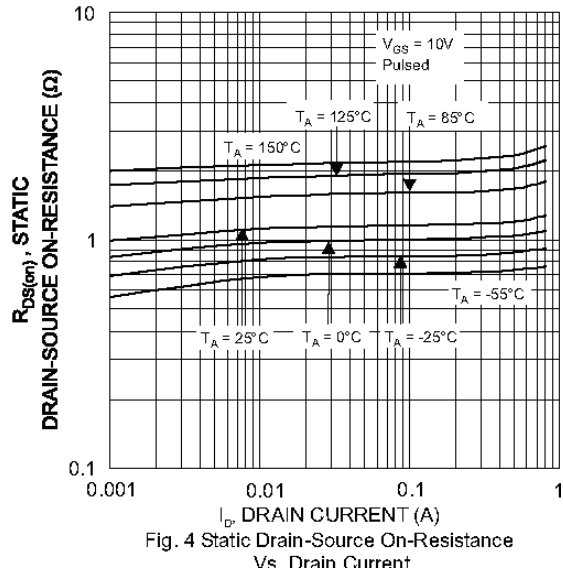


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

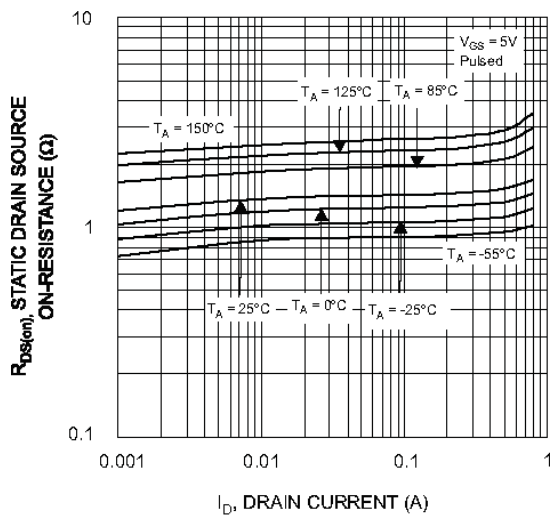


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

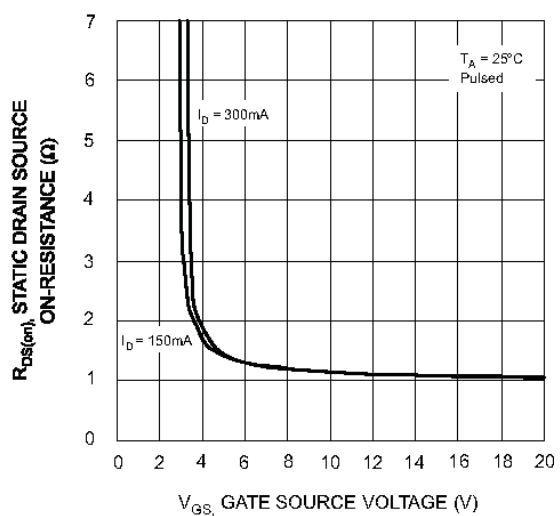
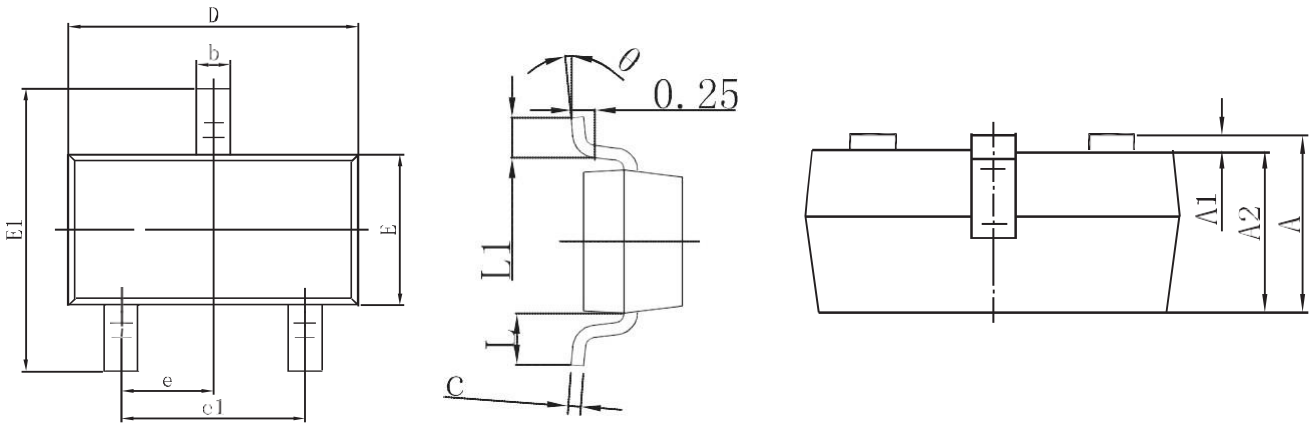
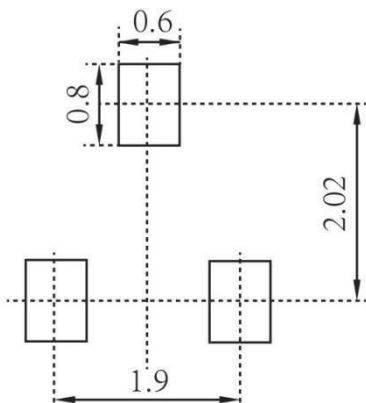


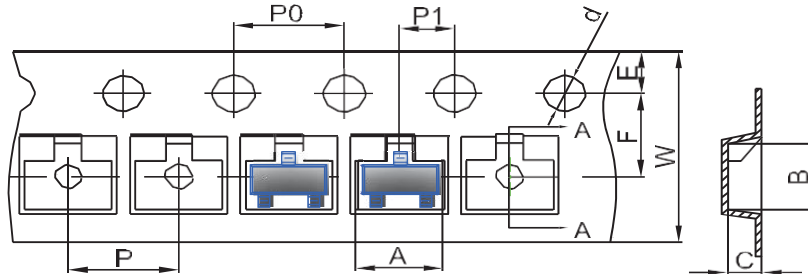
Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

MOSFET (N-CHANNEL)
SOT-23 Package Outline Dimensions


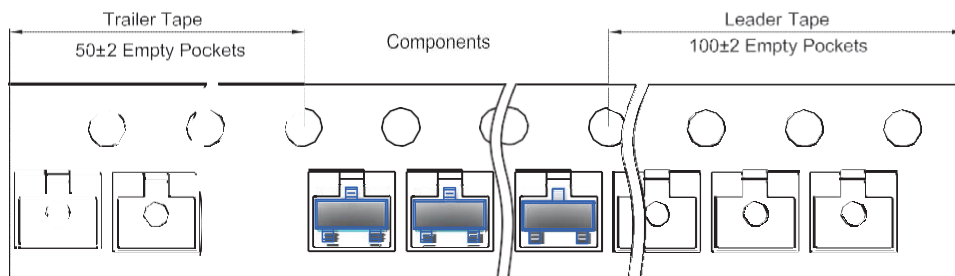
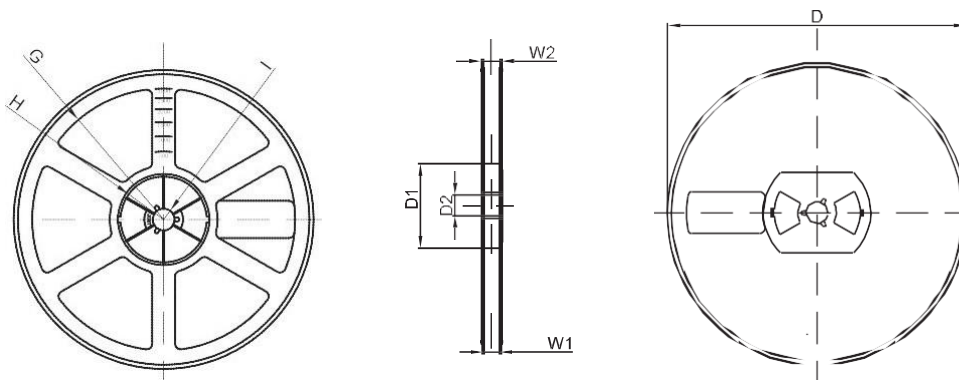
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		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

MOSFET (N-CHANNEL)
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