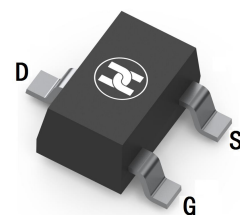
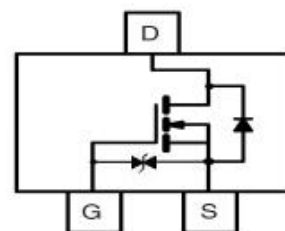


N-CHANNEL MOSFET

FEATURES

- Low On-Resistance
- Low Gate Threshold Voltage
- Fast Switching Speed
- Low Input / Output Leakage
- Sub-miniature surface mount package
- ESD Protected up to 2KV


SOT-323


MECHANICAL DATA

- Case: SOT-323
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.006 grams (approximate)

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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	0.3	A
Power dissipation	P_D	0.35	W
Thermal resistance from Junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 ~+150	$^\circ\text{C}$

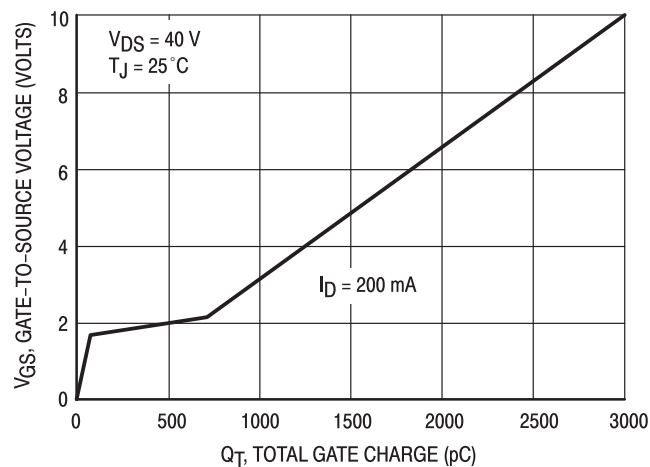
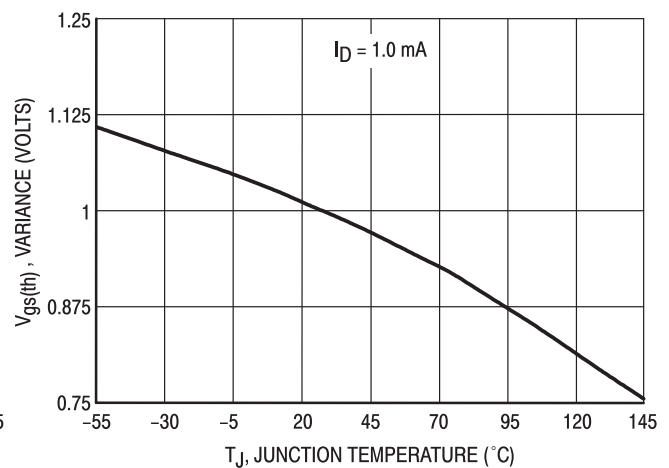
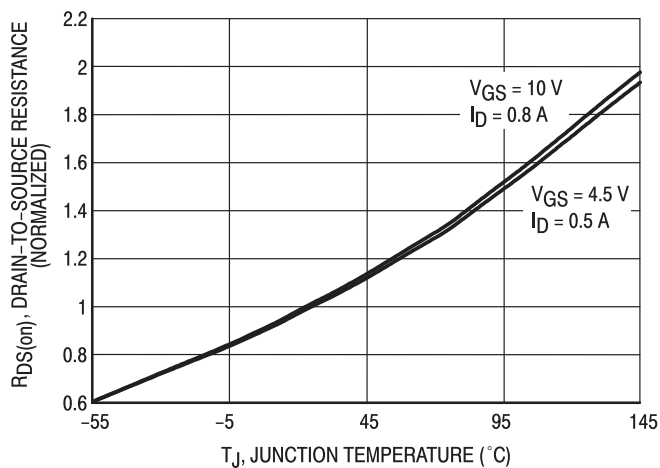
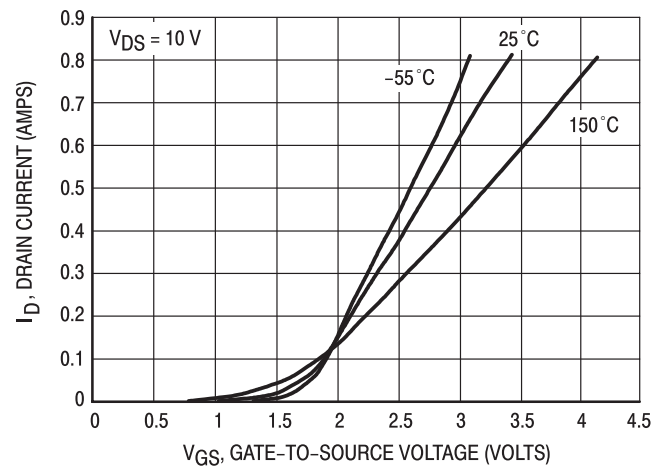
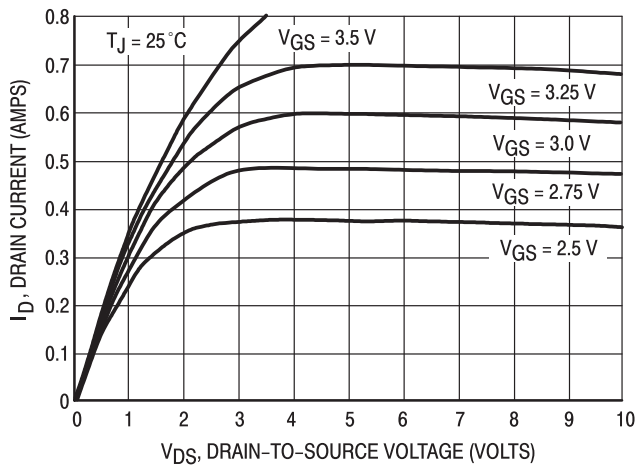
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Drain-Source breakdown voltage	$V_{(BR)DSS}$	50			V	$V_{GS}=0V, I_D=250\mu A$
Zero gate voltage drain current	I_{DSS}			1	μA	$V_{DS}=50V, V_{GS}=0V$
Gate-body leakage current	I_{GSS}			± 10	μA	$V_{DS}=0V, V_{GS}=\pm 12V$
Gate-threshold voltage	$V_{GS(th)}$	0.5		1.2	V	$V_{DS}=V_{GS}, I_D=250\mu A$
Drain-source on-resistance	$R_{DS(on)}$			2.5	Ω	$V_{GS}=4.5V, I_D=0.3A$
				4.5	Ω	$V_{GS}=2.5V, I_D=0.2A$
				5.0	Ω	$V_{GS}=1.8V, I_D=0.1A$
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	$V_{DD}=30V, V_{GS}=10V, R_{GEN}=6\Omega, I_D=0.29A$
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	

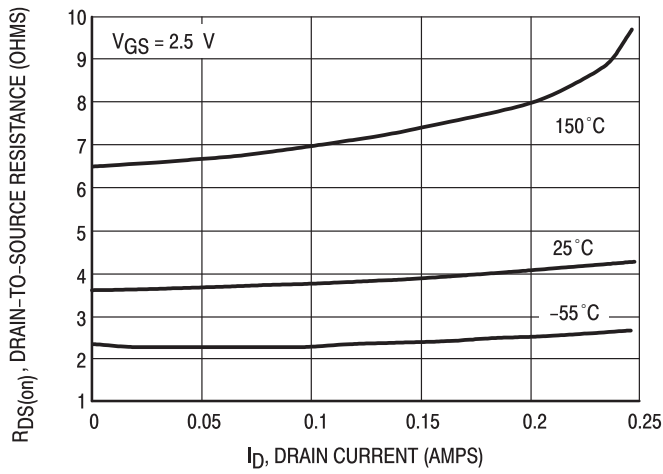
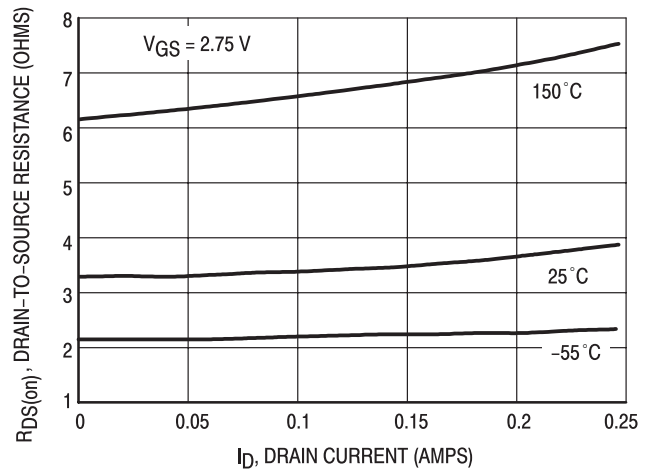
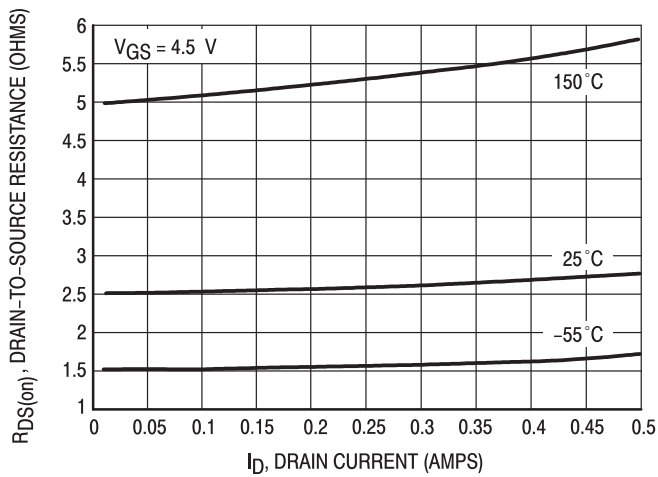
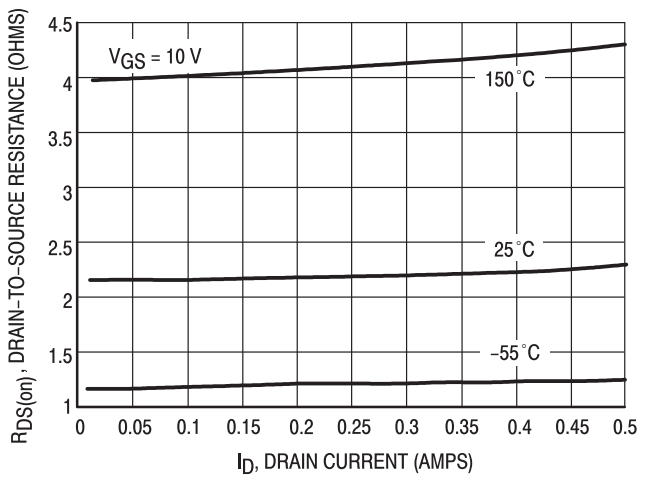
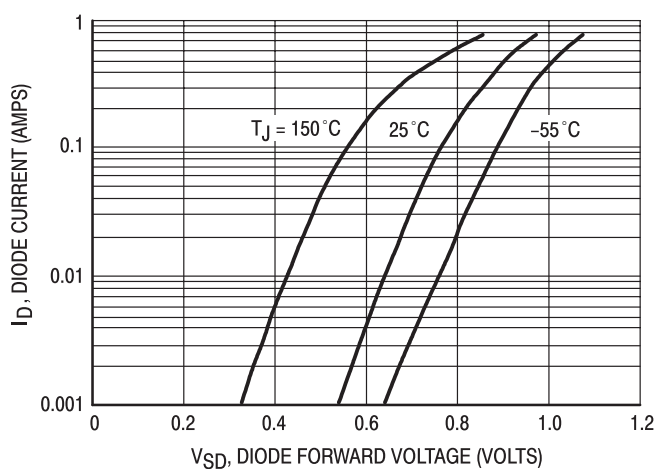
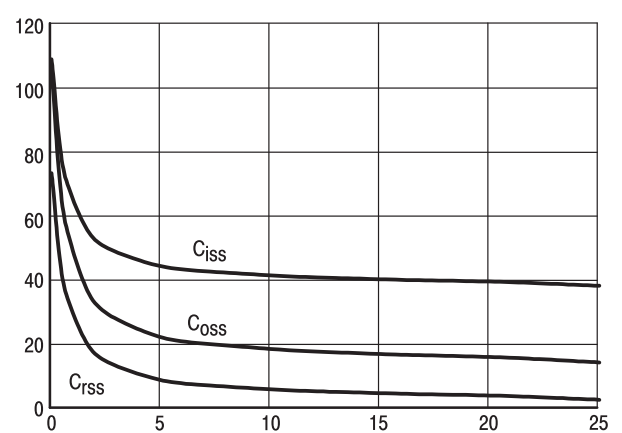
Note:1. These parameters have no way to verify..

N-CHANNEL MOSFET

Typical Characteristics

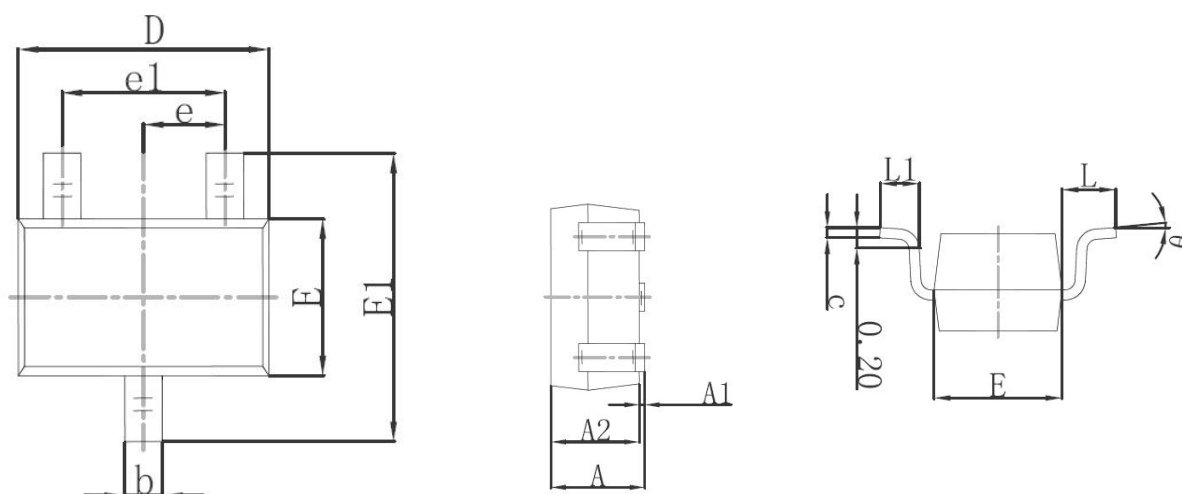


N-CHANNEL MOSFET


Fig.6 On-Resistance versus Drain Current

Fig.7 On-Resistance versus Drain Current

Fig.8 On-Resistance versus Drain Current

Fig.9 On-Resistance versus Drain Current

Fig.10 Body Diode Forward Voltage

Fig.11 Capacitance

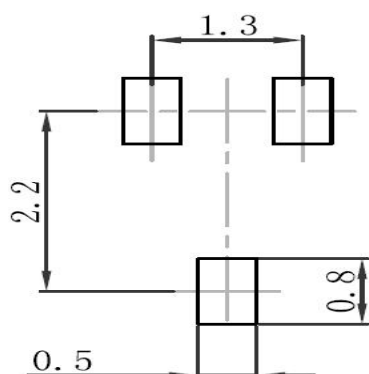
N-CHANNEL MOSFET

SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.200	1.400	0.047	0.055
L	0.525REF		0.021REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



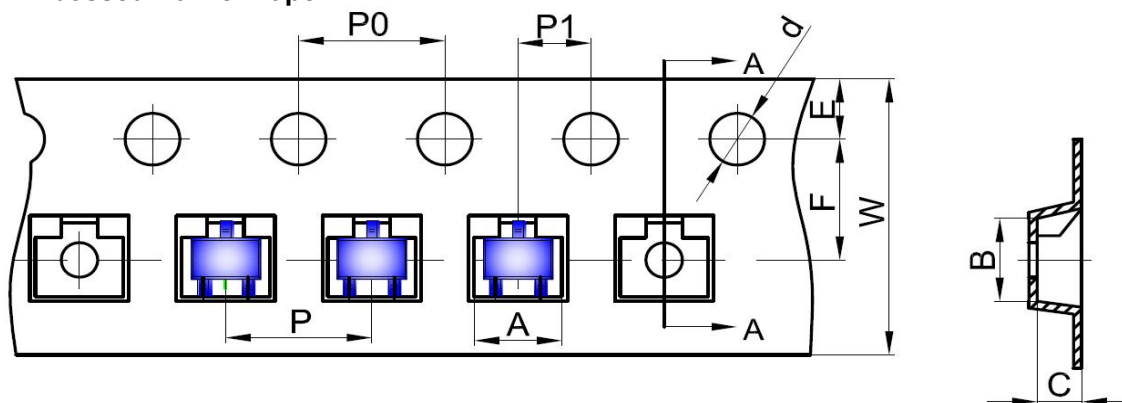
Note:

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

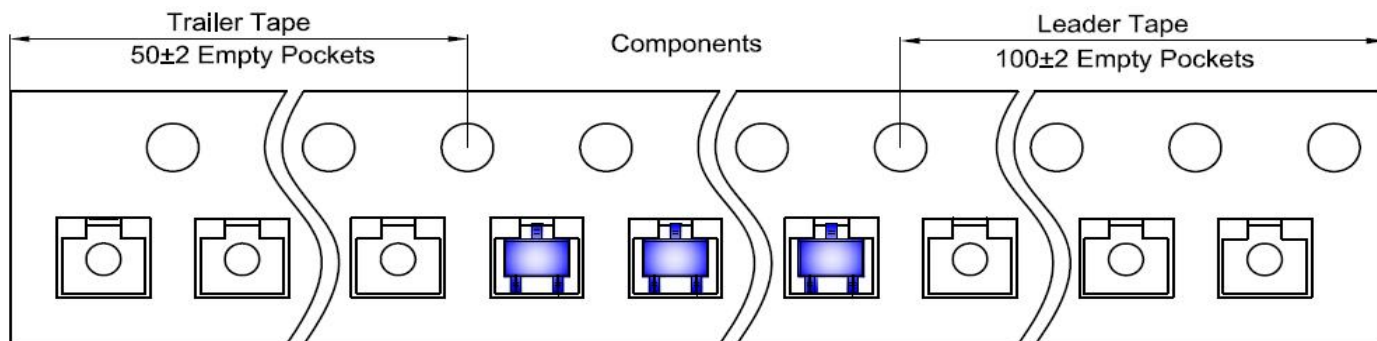
SOT-323 Tape and Reel

SOT-323 Embossed Carrier Tape

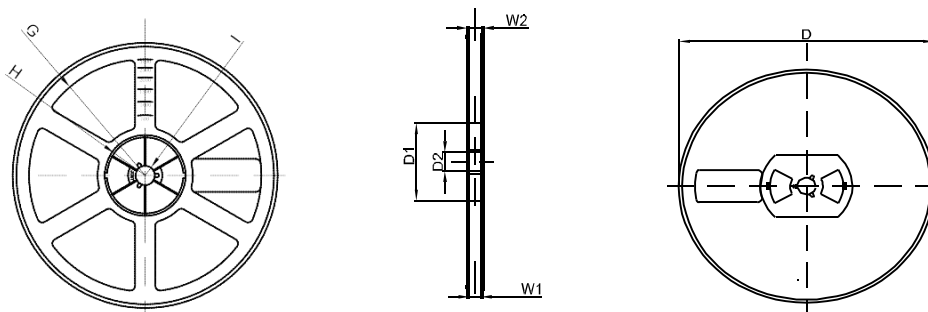


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-323 Tape Leader and Trailer



SOT-323 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