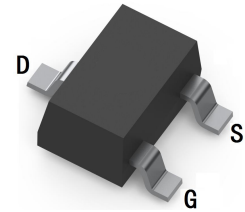
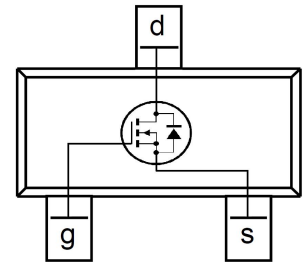


N-CHANNEL MOSFET
FEATURES

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


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°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V _{DS}	50	V
Gate-source voltage	V _{GS}	±20	V
Continuous drain current	I _D	200	mA
Power dissipation	P _D	200	mW
Thermal resistance from Junction to ambient	R _{θJA}	625	°C/W
Operating and Storage temperature	T _J , T _{STG}	-55 ~ +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
OFF CHARACTERISTICS (Note 3)						
Drain-Source breakdown voltage	V _{(BR)DSS}	50	75		V	V _{GS} =0V, I _D =250μA
Zero gate voltage drain current	I _{DSS}			0.5	μA	V _{DS} =50V, V _{GS} =0V
Gate-body leakage current	I _{GSS}			±0.1	μA	V _{DS} =0V, V _{GS} =±20V
ON CHARACTERISTICS (Note 3)						
Gate-threshold voltage	V _{GS(th)}	0.5	1.2	1.5	V	V _{DS} =V _{GS} , I _D =250μA
Drain-source on-resistance	R _{DS(on)}		1.4	3.5	Ω	V _{GS} =10V, I _D =0.22A
Forward trans-conductance	g _{FS}	100			mS	V _{DS} =25V, I _D =0.2A, f=1KHz
DYNAMIC CHARACTERISTICS						
Input capacitance	C _{iss}			50	pF	V _{DS} =10V, V _{GS} =0V, f=1MHz
Output capacitance	C _{oss}			25	pF	
Reverse transfer capacitance	C _{rss}			8.0	pF	
SWITCHING CHARACTERISTICS						
Turn-on delay time	t _{d(on)}			20	nS	V _{DD} =30V, R _{GEN} =50Ω, I _D =0.2A
Turn-off delay time	t _{d(off)}			20	nS	

Note: 1. R_{GS} ≤ 20KΩ

2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on suggested pad layout.

3. Short duration test pulse used to minimize self-heating effect.

N-CHANNEL MOSFET

Typical Characteristics

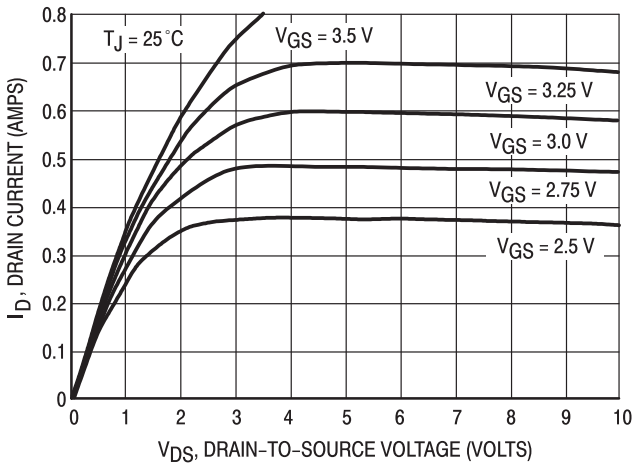


Fig.1 On-Region Characteristics

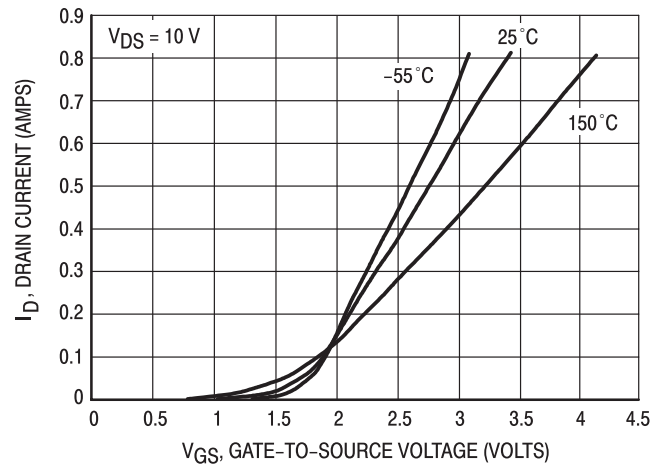


Fig.2 Transfer Characteristics

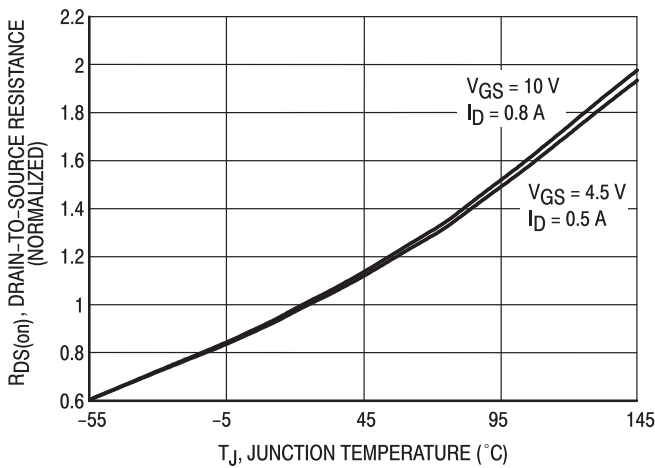


Fig.3 On-Resistance Variation with Temperature

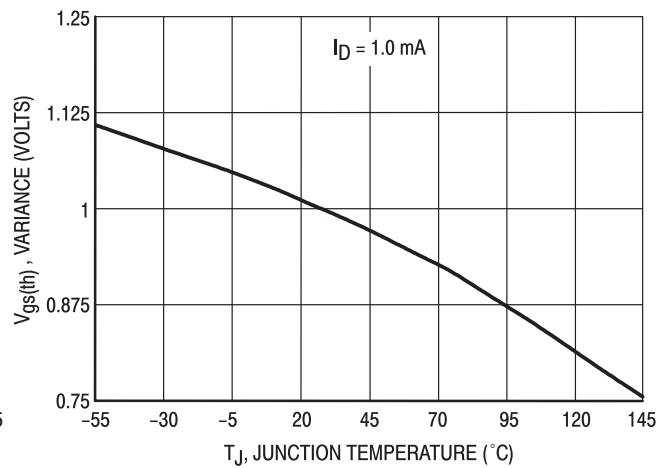


Fig.4 Threshold Voltage Variation with Temperature

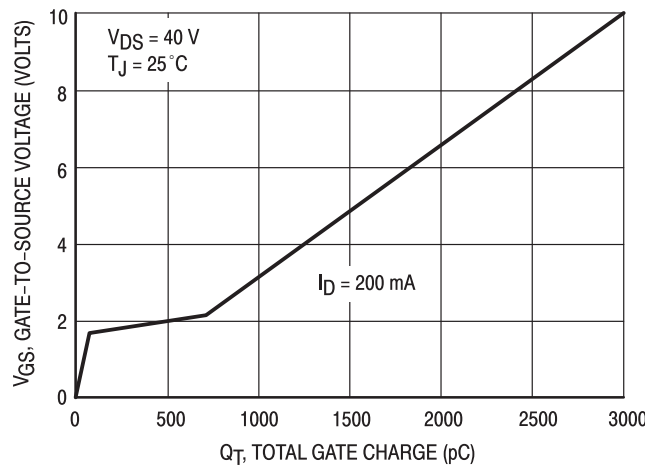


Fig.5 Gate Charge

N-CHANNEL MOSFET

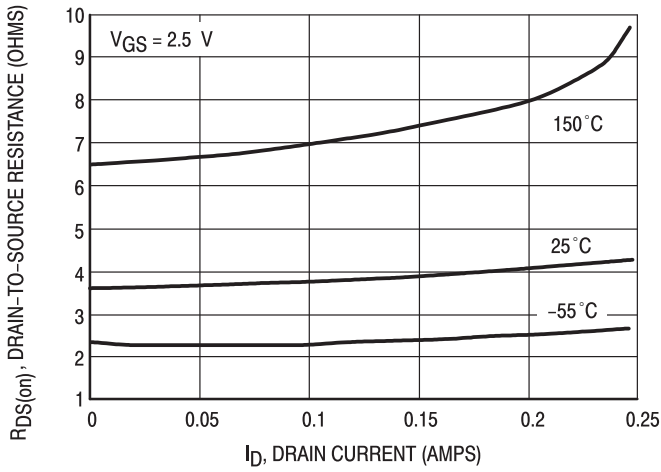


Fig.6 On-Resistance versus Drain Current

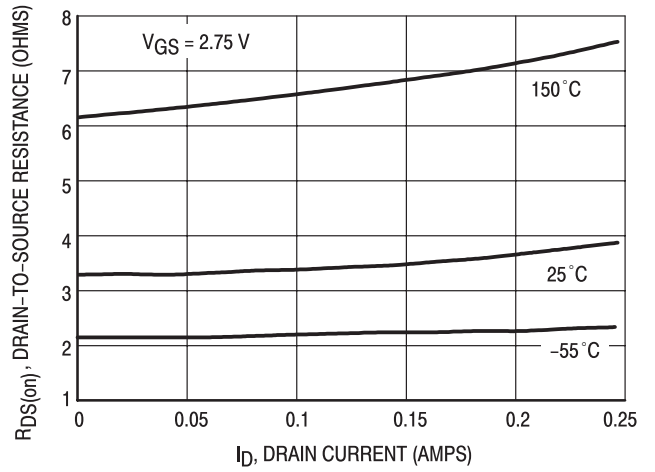


Fig.7 On-Resistance versus Drain Current

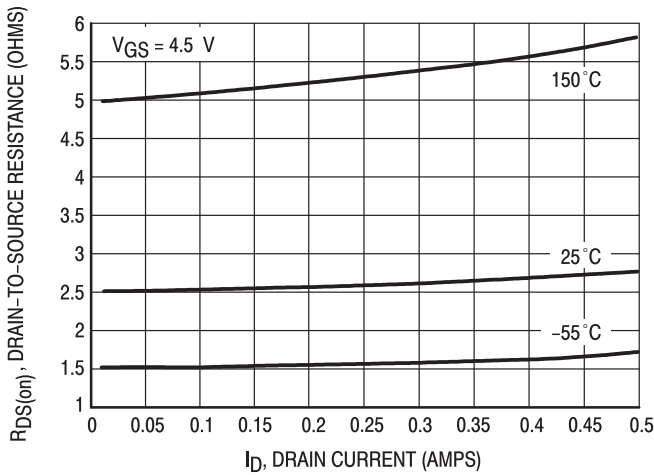


Fig.8 On-Resistance versus Drain Current

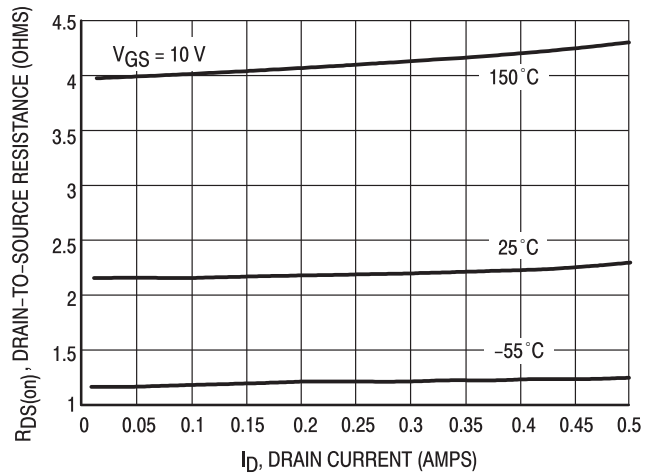


Fig.9 On-Resistance versus Drain Current

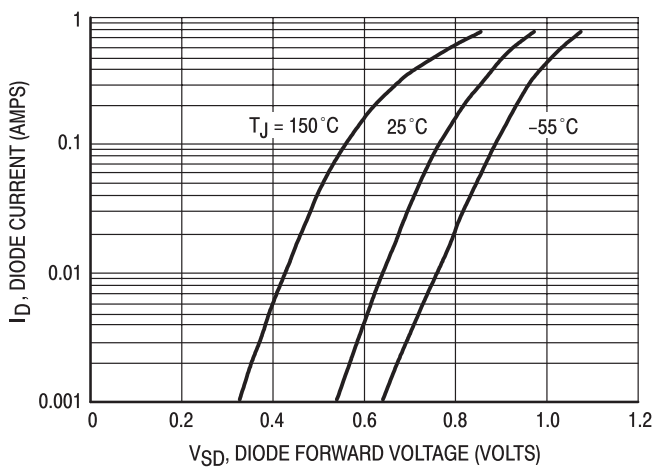


Fig.10 Body Diode Forward Voltage

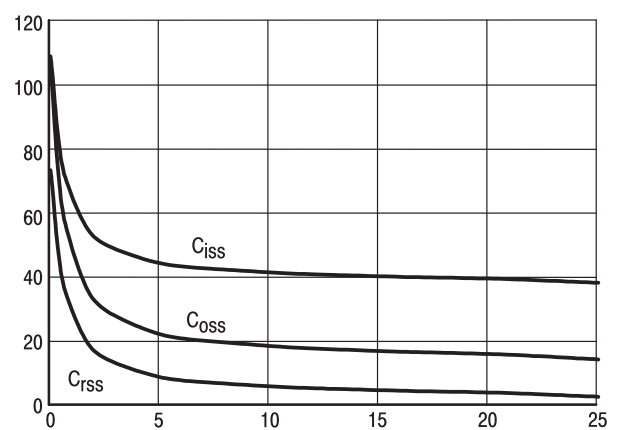
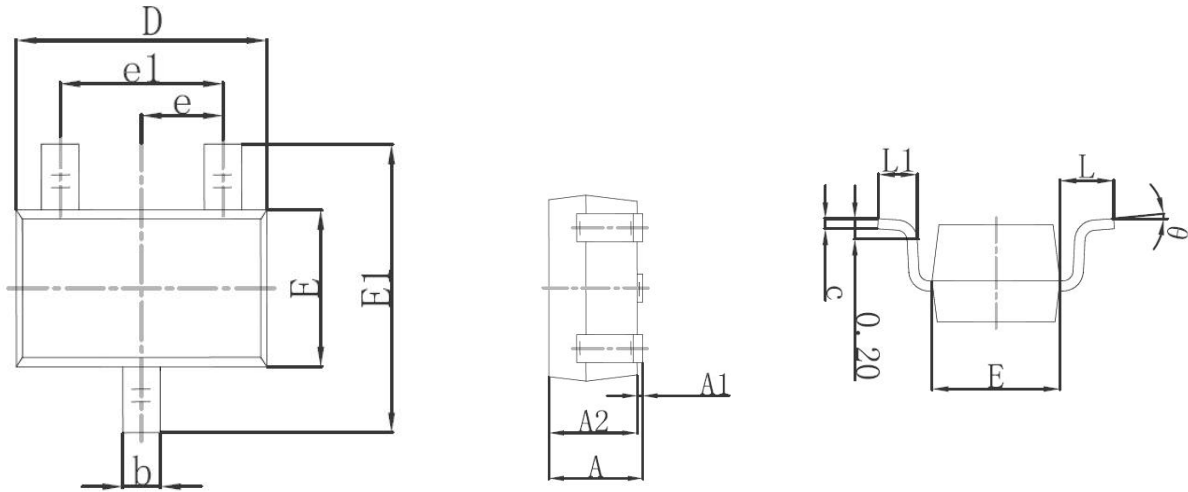


Fig.11 Capacitance

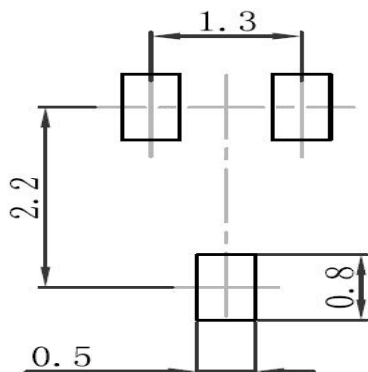
N-CHANNEL MOSFET

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



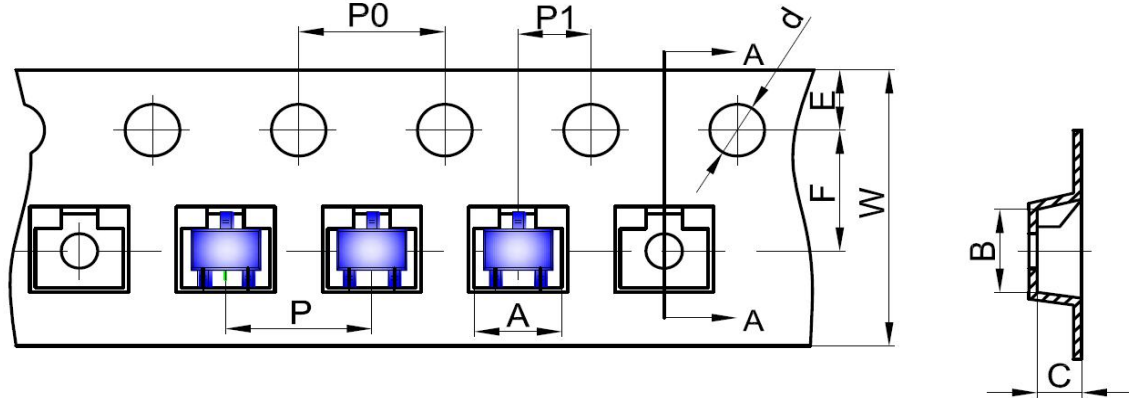
Note:

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

N-CHANNEL MOSFET

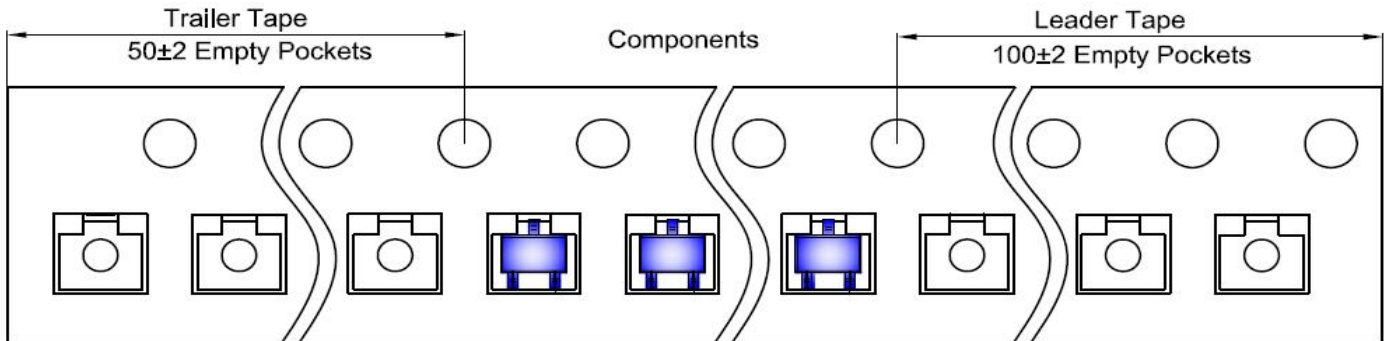
SOT-323 Tape and Reel

SOT-323 Embossed Carrier Tape

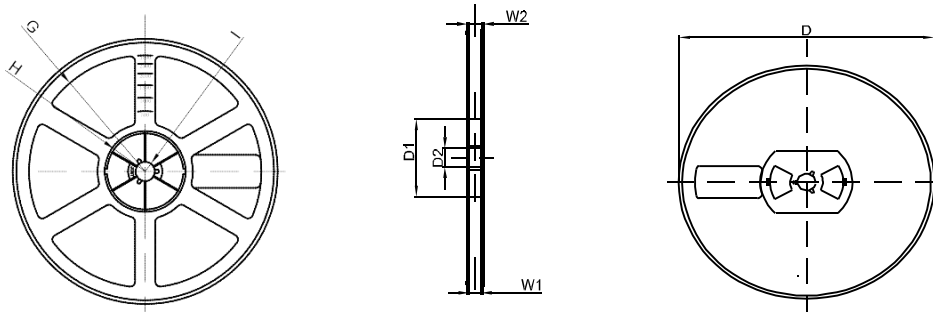


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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