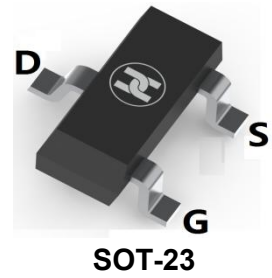
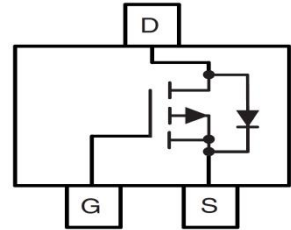


HIGH VOLTAGE MOSFET (P-CHANNEL)
FEATURES

- $V_{DS}=-100V, R_{DS(ON)}\leq 20\Omega @ V_{GS}=-10V, I_D=-75mA$
- Surface Mount device


MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.008 grams (approximate)


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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	-100	V
Gate-source voltage	V_{GS}	± 20	V
Continuous drain current	I_D	-75	mA
Pulsed drain current	I_{DM}	-1.2	A
Power dissipation	P_D	0.33	W
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{STG}	-55 ~ +150	$^\circ C$

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

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Drain-Source breakdown voltage	$V_{(BR)DSS}$	-100			V	$V_{GS}=0V, I_D=-1mA$
Zero gate voltage drain current	I_{DSS}			-1	μA	$V_{DS}=-100V, V_{GS}=0V$
				-50	μA	$V_{DS}=-80V, V_{GS}=0V, T_J=125^\circ C$
Gate-body leakage current	I_{GSS}			-20	nA	$V_{DS}=0V, V_{GS}=\pm 20V$
Gate-threshold voltage	$V_{GS(th)}$	-1.5		-3.5	V	$V_{DS}=V_{GS}, I_D=-1mA$
On-State Drain Current(1)	$I_{D(ON)}$	-300			mA	$V_{DS}=-25V, V_{GS}=-10V$
Drain-source on-resistance (1)	$R_{DS(ON)}$			20	Ω	$V_{GS}=-10V, I_D=-150mA$
Forward Trans-conductance (1) (2)	g_{fs}	50			mS	$V_{DS}=-25V, I_D=-150mA$
Input capacitance(2)	C_{iss}			50	pF	$V_{DS}=-25V, V_{GS}=0V, f=1MHz$
Output capacitance(2)	C_{oss}			15	pF	
Reverse transfer capacitance(2)	C_{rss}			5	pF	
Turn-on delay time(2)(3)	$t_{d(on)}$			8	nS	$V_{DD}=-25V, I_D=-150mA$
Turn-on rise time(2)(3)	t_r			8	nS	
Turn-off delay time(2)(3)	$t_{d(off)}$			8	nS	
Turn-off fall time(2)(3)	t_f			8	nS	

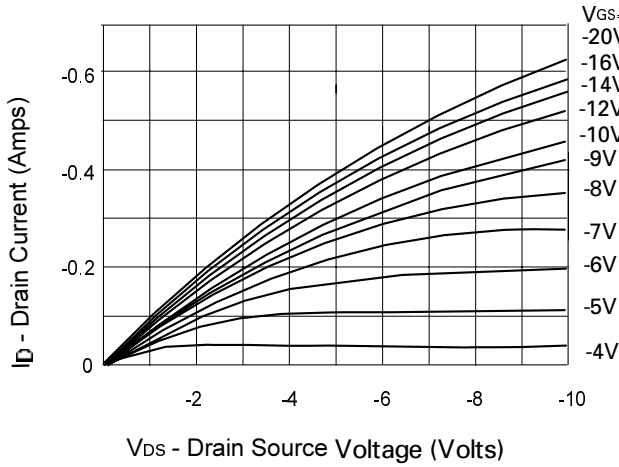
Note:(1) Measured under pulsed conditions. Width=300 μs . Duty cycle $\leq 2\%$.

(2) Sample test.

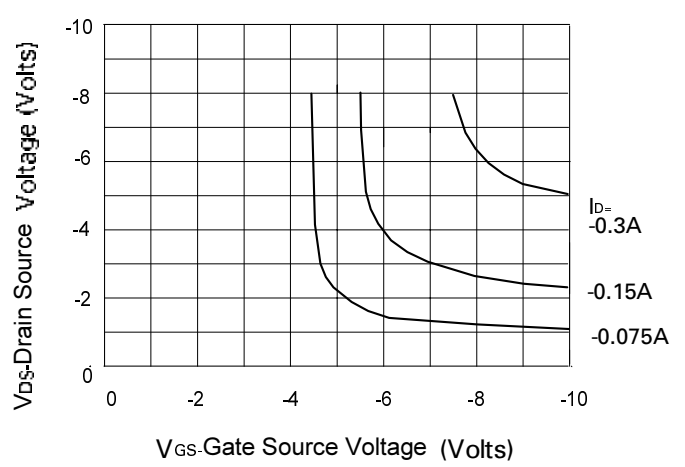
(3) Switching times measured with 50 Ω source impedance and <5ns rise time on a pulse generator

HIGH VOLTAGE MOSFET (P-CHANNEL)

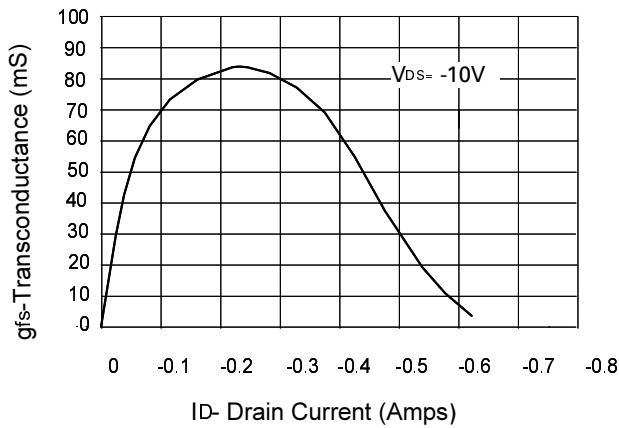
Typical Characteristics



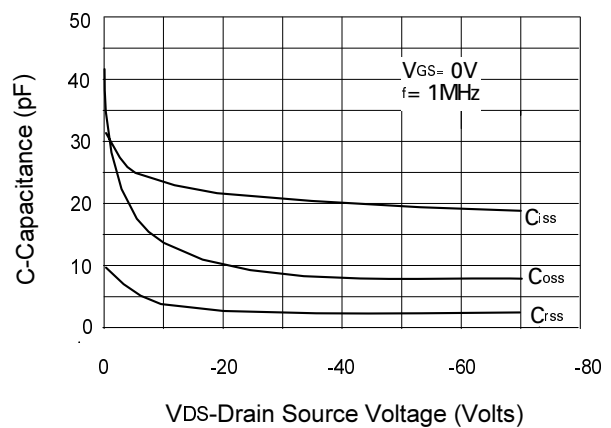
Saturation Characteristics



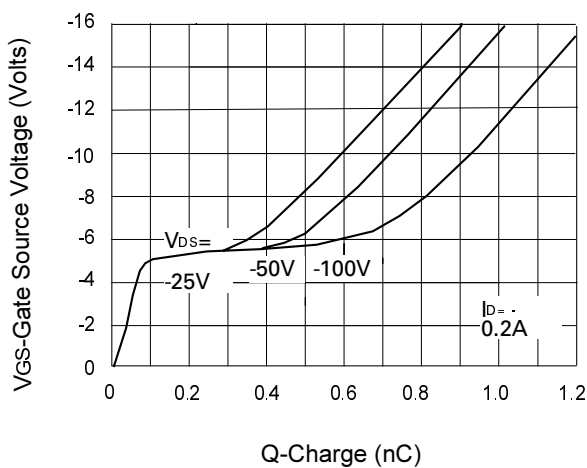
Voltage Saturation Characteristics



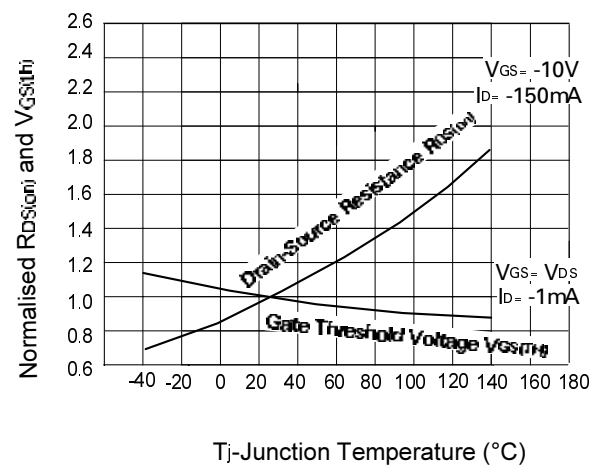
Transconductance v drain current



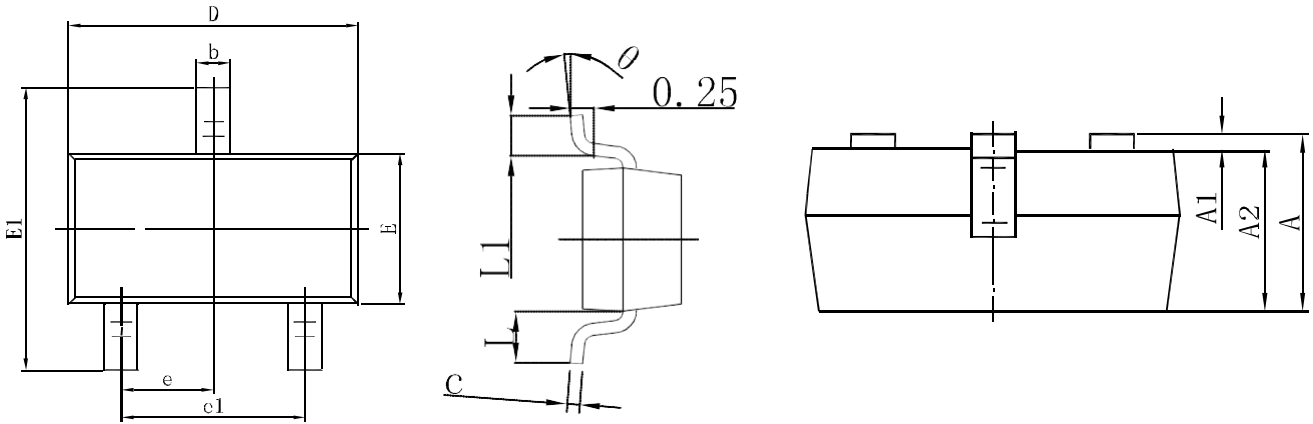
Capacitance v drain-source voltage



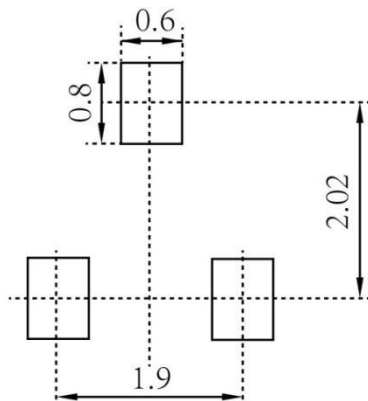
Gate charge v gate-source voltage



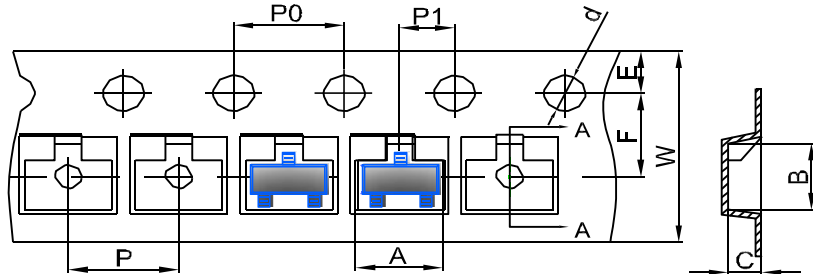
Normalised $R_{DS(on)}$ and $V_{GS(th)}$ v Temperature

HIGH VOLTAGE MOSFET (P-CHANNEL)
SOT-23 Package Outline Dimensions


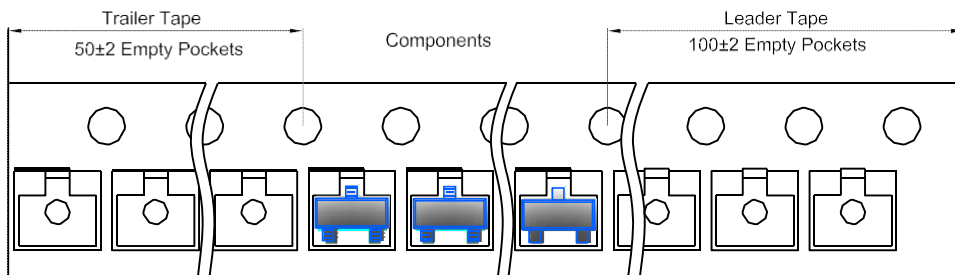
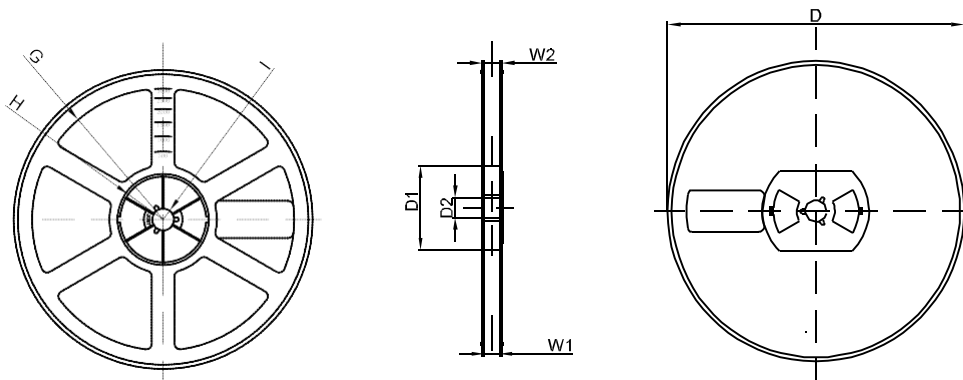
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP	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

HIGH VOLTAGE MOSFET (P-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