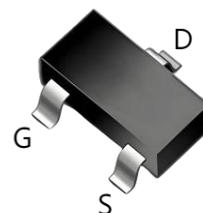
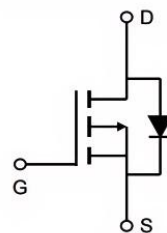


P-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	-50	V
$R_{DS(on)}$	3.6	Ω
I_D	-0.13	A



SOT-23

Features

- Advanced trench cell design
- High speed switch
- Low Gate Charge

Applications

- Portable appliances
- Video monitor

Absolute 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}	± 20	V
Continuous Drain Current	$T_C=25^{\circ}\text{C}$	I_D	-0.13	A
Pulsed Drain Current	$T_C=25^{\circ}\text{C}$	I_{DM}	-0.52	A
Total Power Dissipation	$T_C=25^{\circ}\text{C}$	P_D	0.225	W
Thermal Resistance Junction to Ambient		$R_{\theta JA}$	556	$^{\circ}\text{C/W}$
Maximum Junction Temperature		T_J	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-50 to 150	$^{\circ}\text{C}$

Electrical Characteristics($T_a=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Electrical Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-50	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.4	-2.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-0.13A$	-	3.6	5.0	Ω
		$V_{GS}=-4.5V, I_D=-0.1A$	-	4.0	6.0	Ω
Dynamic Electrical Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-30V, V_{GS}=0V, f=1MHz$	-	43	-	pF
Output Capacitance	C_{oss}		-	2.9	-	pF
Reverse Transfer Capacitance	C_{rss}		-	1.8	-	pF
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DD}=-30V, I_D=-0.15A, V_{GS}=-4.5V$	-	1.77	-	nC
Gate Source Charge	Q_{gs}		-	0.57	-	nC
Gate Drain Charge	Q_{gd}		-	0.18	-	nC
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-30V, I_D=-0.15A, V_{GS}=-4.5V, R_G=2.5\Omega$	-	8.6	-	nS
Turn-on Rise Time	t_r		-	20	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	15	-	nS
Turn-Off Fall Time	t_f		-	77	-	nS
Source-Drain Diode Characteristics						
Diode Continuous Forward Current	I_S		-	-	-0.13	A
Forward on voltage	V_{SD}	$T_J=25^{\circ}C, I_S=-0.13A$	-	-	-1.2	V

Typical Characteristics

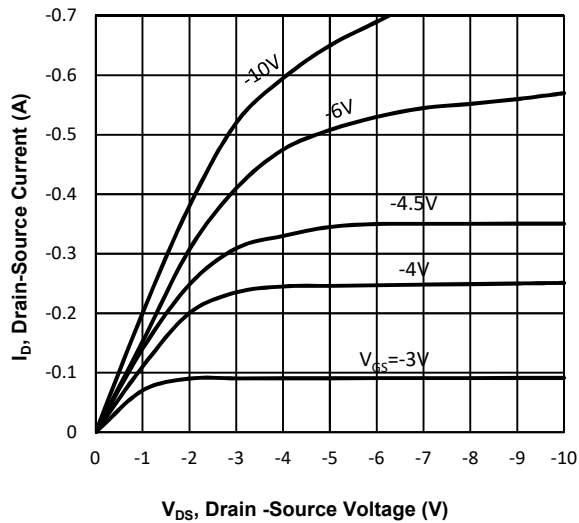


Fig1. Typical Output Characteristics

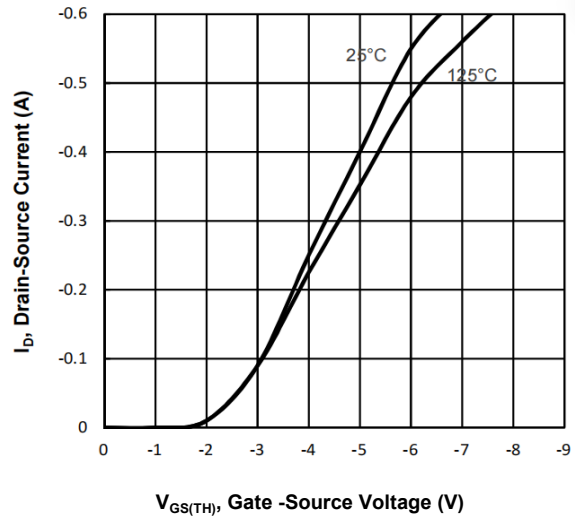


Fig2. Typical Transfer Characteristics

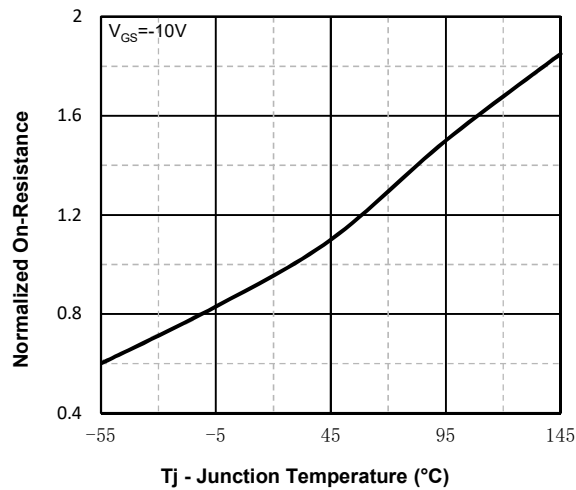


Fig3. Normalized On-Resistance Vs. Temperature

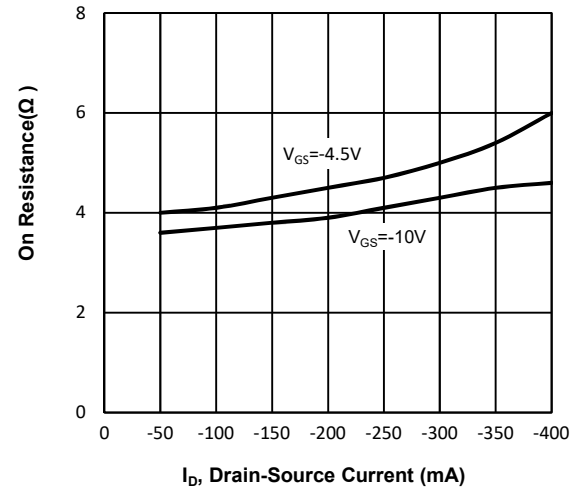


Fig4. On Resistance Vs. Drain-Source Current

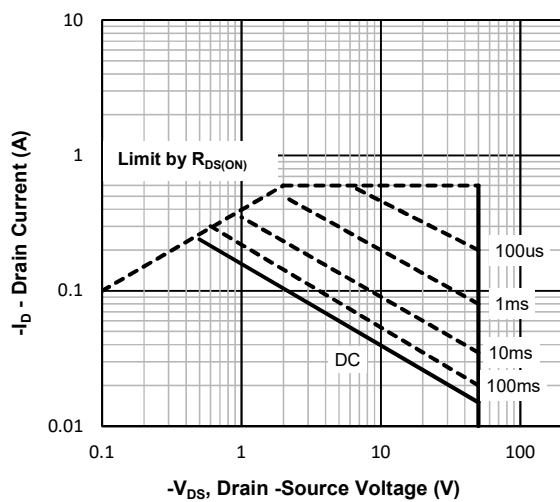


Fig5. Maximum Safe Operating Area

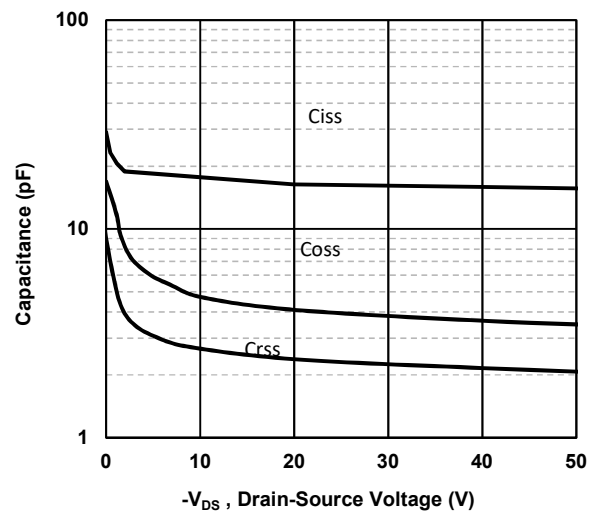
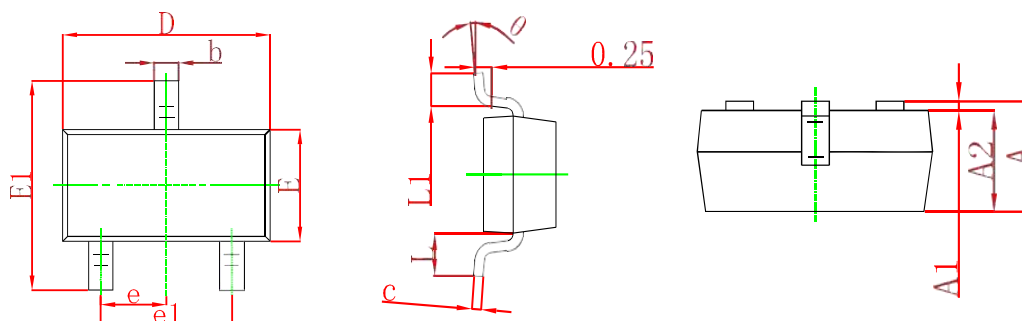


Fig6 Typical Capacitance Vs. Drain-Source Voltage

Package Outline Dimensions (Units: mm)

SOT-23



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°

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