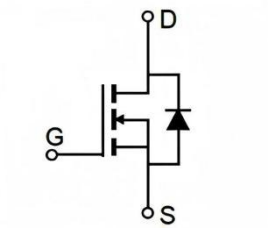
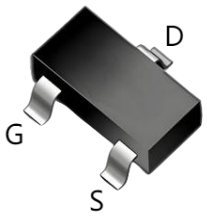
N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	50	V
$R_{DS(on)}$	0.7	Ω
I_D	0.22	A





SOT-23

Features

- High density cell design for extremely low $R_{DS(on)}$
- Fast switching speed
- Easily designed drive circuits
- Easy to parallel Portable equipment

Applications

- Battery protection
- Load switch
- Power management

Absolute Maximum Ratings (T_A=25℃,unless otherwise noted)

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	50	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25℃	I_D	0.22	A
Pulsed Drain Current	T_C=25℃	I_{DM}	1.0	A
Total Power Dissipation	T_C=25℃	P_D	0.35	W
Storage Temperature Range		T_{STG}	-50 to 155	℃
Maximum Junction Temperature		T_J	150	℃

Thermal Characteristics

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction-ambient	$R_{\theta JA}$	---	357	℃/W

Electrical Characteristics(T_J=25℃ ,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=250μA	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}=±20V, V_{DS}=0V	--	--	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.8	1.2	1.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=0.22A	--	0.7	3.5	Ω
		V_{GS}=4.5V, I_D=0.22A	--	0.8	6.0	Ω
Dynamic Electrical Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz	--	28.5	--	pF
Output Capacitance	C_{oss}		--	2.7	--	pF
Reverse Transfer Capacitance	C_{rss}		--	1.78	--	pF
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}=25V, I_D=0.3A V_{GS}=10V	--	1.7	--	nC
Gate Source Charge	Q_{gs}		--	0.4	--	nC
Gate Drain Charge	Q_{gd}		--	0.24	--	nC
Reverse Recovery Charge	Q_{rr}	I_F=0.3A, di/dt =100A/us	--	2.65	--	nC
Reverse Recovery Time	t_{rr}		--	12.2	--	nS
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=25V, I_D=0.3A, V_{GS}=10V, R_G=6Ω	--	2.6	--	nS
Turn-on Rise Time	t_r		--	18.8	--	nS
Turn-Off Delay Time	$t_{d(off)}$		--	9.7	--	nS
Turn-Off Fall Time	t_f		--	47	--	nS
Source-Drain Diode Characteristics						
Maximum Continuous Drain to Source Diode Forward Current	I_S		--	--	0.22	A
Forward on voltage	V_{SD}	T_j=25℃, I_S=0.22A	--	--	1.2	V

Typical Characteristics

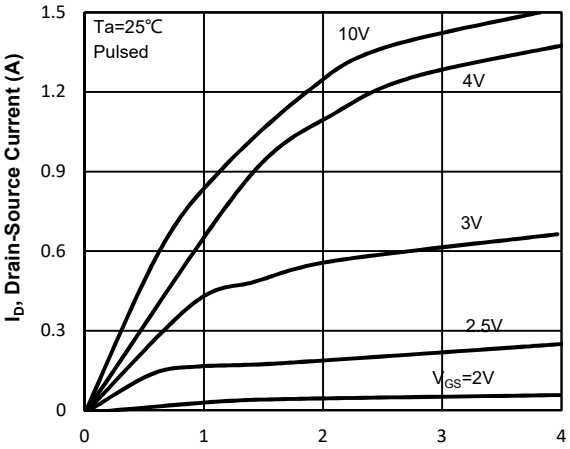


Fig1. Typical Output Characteristics

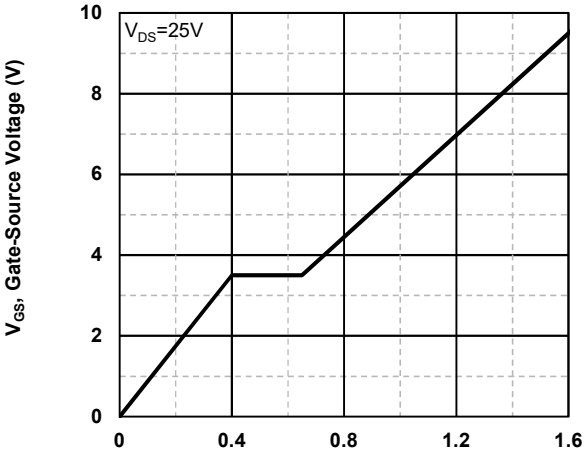


Fig2. Typical Gate Charge Vs.Gate-Source Voltage

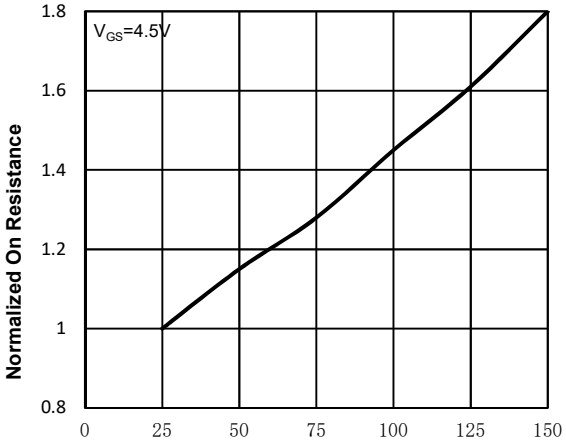


Fig3. Normalized On-Resistance Vs. Temperature

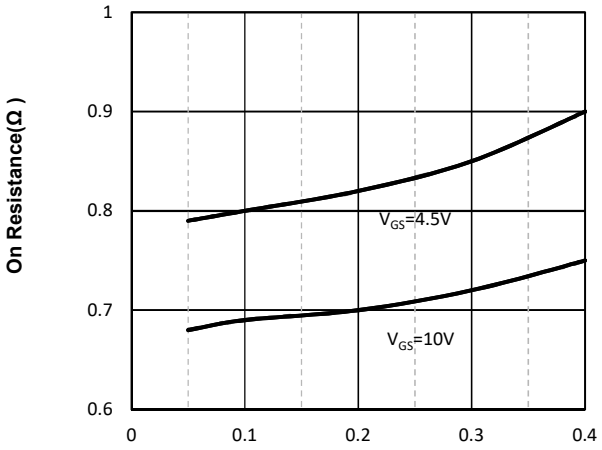


Fig4. On-Resistance Vs. Drain-Source Current

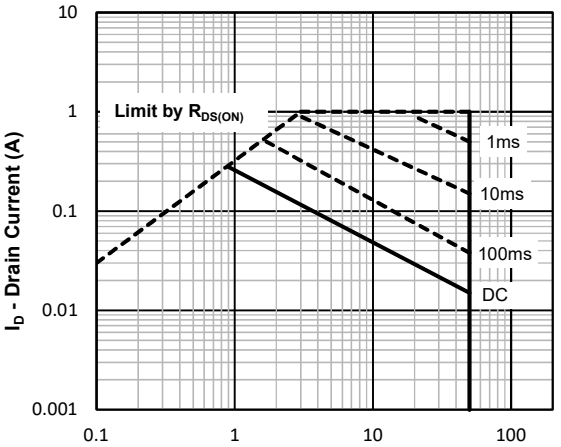


Fig5. Maximum Safe Operating Area

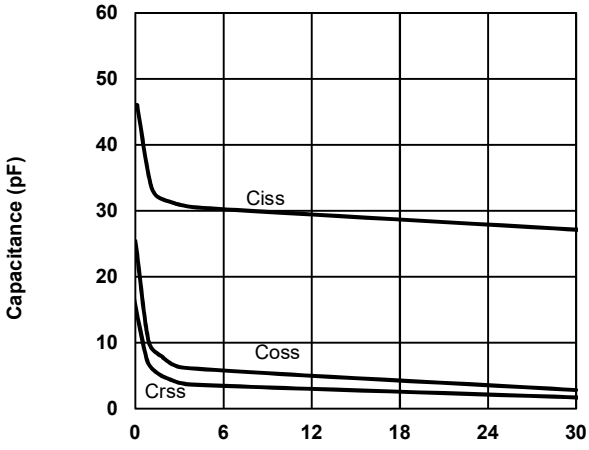
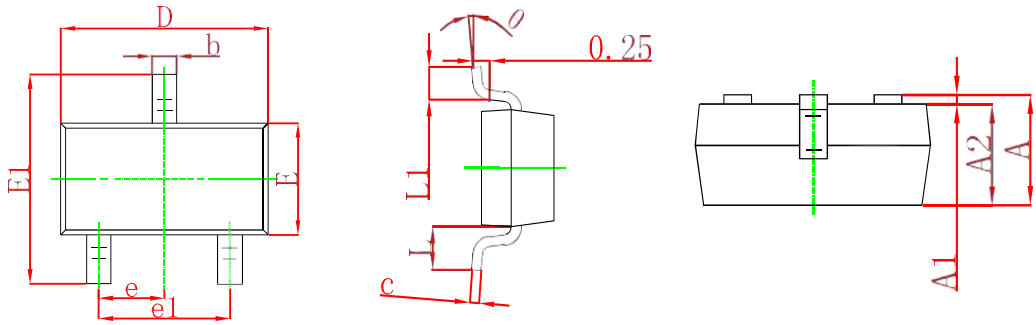


Fig6 Typical Capacitance Vs.Drain-Source Voltage

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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