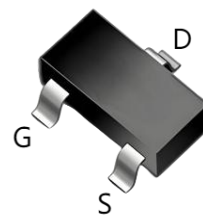
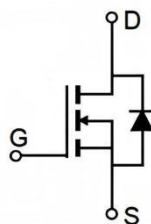


N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	60	V
$R_{DS(on)}$	0.85	Ω
I_D	0.34	A



SOT-23

Features

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

Applications

- DC/DC Converter
- Load Switch for Portable Devices

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$, unless otherwise noted)

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C=25^\circ\text{C}$	I_D	0.34	A
Pulsed Drain Current	$T_C=25^\circ\text{C}$	I_{DM}	1.2	A
Total Power Dissipation	$T_C=25^\circ\text{C}$	P_D	0.225	W
Storage Temperature Range		T_{STG}	-55 to 155	$^\circ\text{C}$
Maximum Junction Temperature		T_J	150	$^\circ\text{C}$

Thermal Characteristics

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

Electrical Characteristics(Ta=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Electrical Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	60	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V	-	-	1.0	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	1.0	1.6	2.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V ,I _D =0.5A	-	0.85	2.5	Ω
		V _{GS} =5V ,I _D =0.05A	-	1.0	3.0	Ω
Dynamic Electrical Characteristics						
Input Capacitance	C _{iss}	V _{DS} =30V,V _{GS} =0V f=1MHz	-	27	-	pF
Output Capacitance	C _{oss}		-	2.75	-	pF
Reverse Transfer Capacitance	C _{rss}		-	2	-	pF
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} =30V,I _D =0.34A V _{GS} =10V	-	1.7	-	nC
Gate-Source Charge	Q _{gs}		-	0.57	-	nC
Gate-Drain Charge	Q _{gd}		-	0.3	-	nC
Turn-on Delay Time	t _{d(on)}	V _{DD} =30V,I _D =0.34A V _{GS} =10V ,R _G =3Ω	-	4	-	nS
Turn-on Rise Time	t _r		-	19	-	nS
Turn-Off Delay Time	t _{d(off)}		-	12	-	nS
Turn-off fall Time	t _f		-	24	-	nS
Source- Drain Diode Characteristics						
Maximum Continuous Drain to Source Diode Forward Current	I _S		-	-	0.34	A
Forward on voltage	V _{SD}	T _j =25℃, I _S =0.34A	-	-	1.2	V

Typical Characteristics

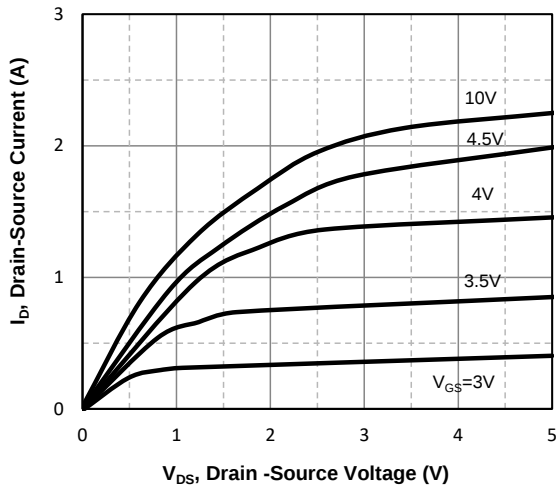


Fig1. Typical Output Characteristics

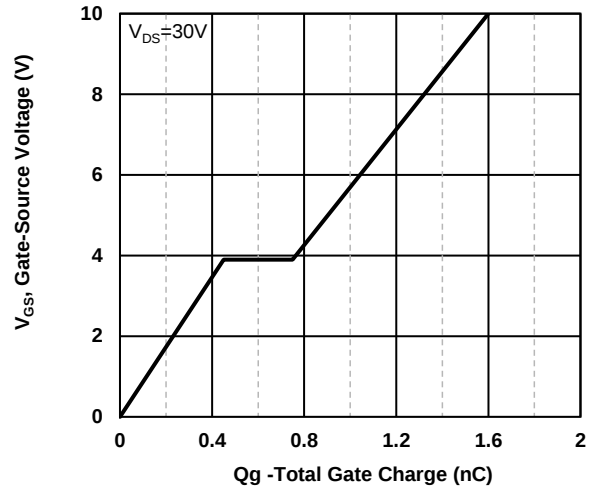


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

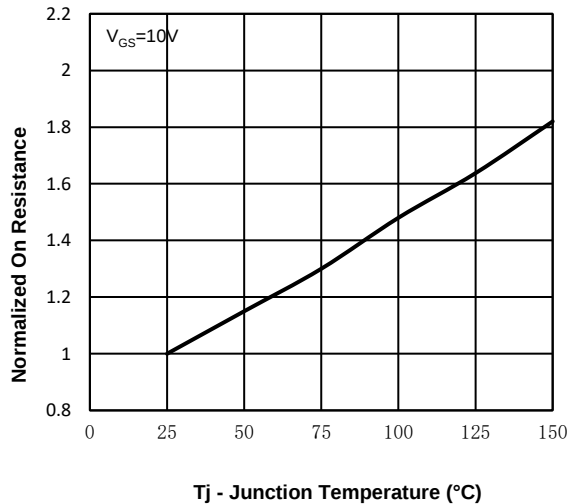


Fig3. Normalized On-Resistance Vs. Temperature

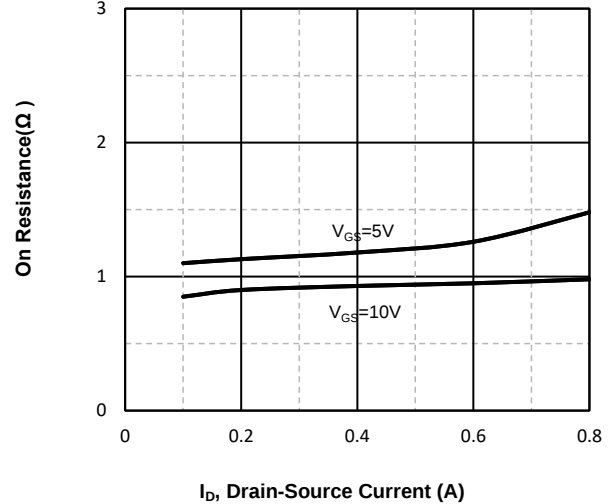


Fig4. On-Resistance Vs. Drain-Source Current

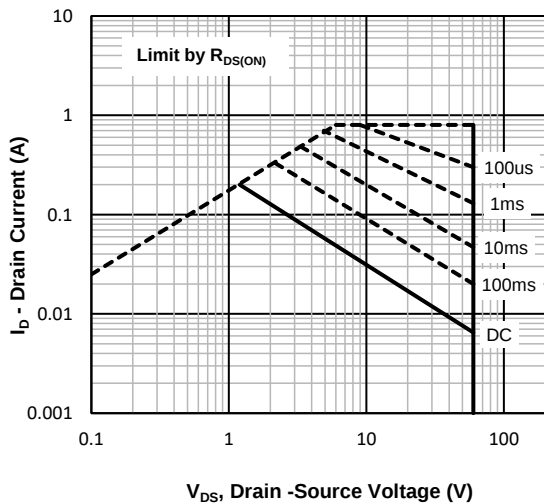


Fig5. Maximum Safe Operating Area

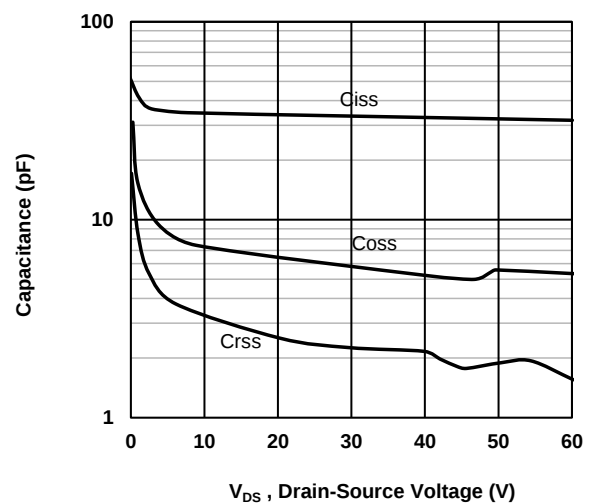
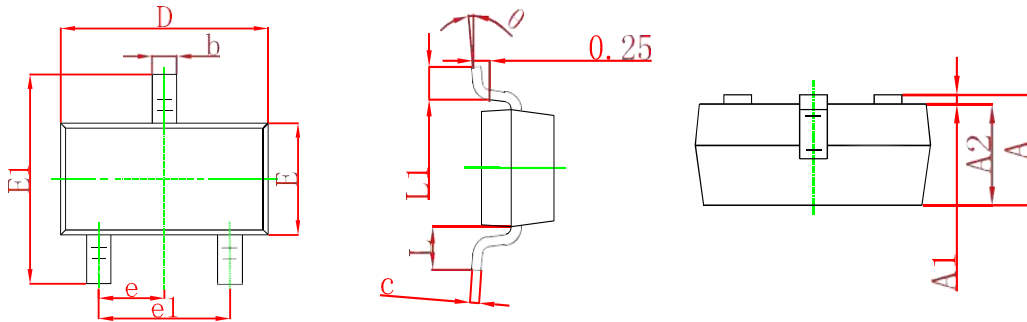


Fig6 Typical Capacitance Vs. Drain-Source Voltage

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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