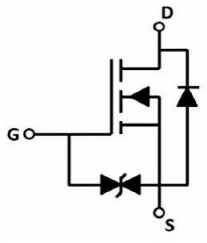
N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	50	V
$R_{DS(on)}$	1.6	Ω
I_D	0.2	A





SOT-323

Features

- Low on-resistance
- Fast switching speed
- Easily designed drive circuits
- ESD Protected up to 2KV (HBM)

Applications

- Interfacing
- 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	0.2	A
Pulsed Drain Current	T_C=25℃	I_{DM}	0.6	A
Total Power Dissipation	T_C=25℃	P_D	0.35	W
Operating Junction Temperature		T_J	-55 to 150	℃
Storage Temperature Range		T_{STG}	-55 to 150	℃

Electrical Characteristics(T_J=25℃,unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
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	--	--	1.0	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	--	--	±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.6	1.1	1.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=0.2A	--	1.6	5.0	Ω
		V_{GS}=4.5V, I_D=0.15A	--	2.0	6.0	Ω
Input Capacitance	C_{iss}	V_{DS}=15V, V_{GS}=0V f=1MHz	--	11	--	pF
Output Capacitance	C_{oss}		--	5	--	pF
Reverse Transfer Capacitance	C_{rss}		--	2.5	--	pF
Total Gate Charge	Q_g	V_{DS}=25V, I_D=1A V_{GS}=10V	--	1.22	--	nC
Gate Source Charge	Q_{gs}		--	0.48	--	nC
Gate Drain Charge	Q_{gd}		--	0.2	--	nC
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=25V, I_D=1A V_{GS}=10V, R_G=2.3Ω	--	3	--	nS
Turn-on Rise Time	t_r		--	19	--	nS
Turn-Off Delay Time	$t_{d(off)}$		--	7	--	nS
Turn-Off Fall Time	t_f		--	20	--	nS

Diode Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Diode continuous forward current	I_S	V_G=V_D=0V, Force Current	--	--	-0.2	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=0.2A,T_J=25℃	--	--	-1.2	V

Typical Characteristics

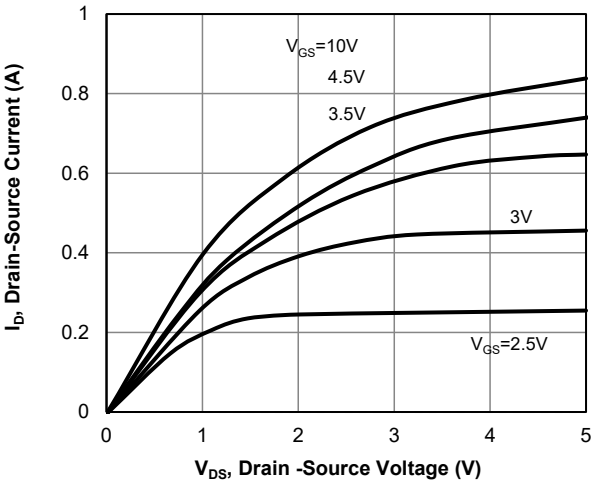


Fig1. Typical Output Characteristics

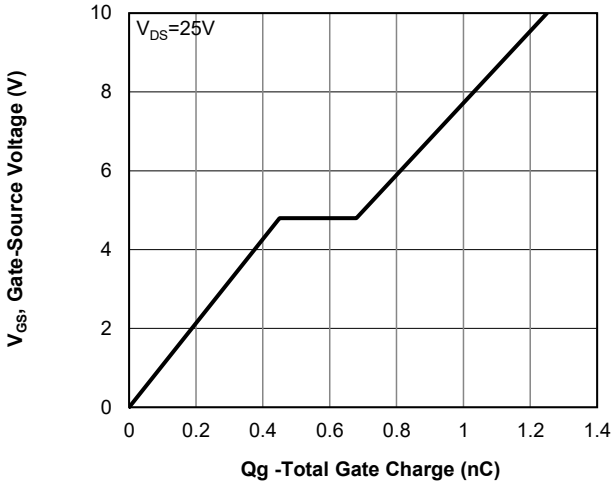


Fig2. Typical Gate Charge Vs.Gate-Source Voltage

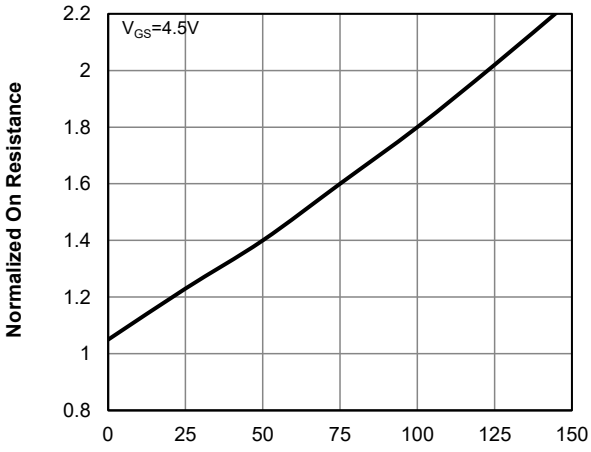


Fig3. Normalized On-Resistance Vs. Temperature

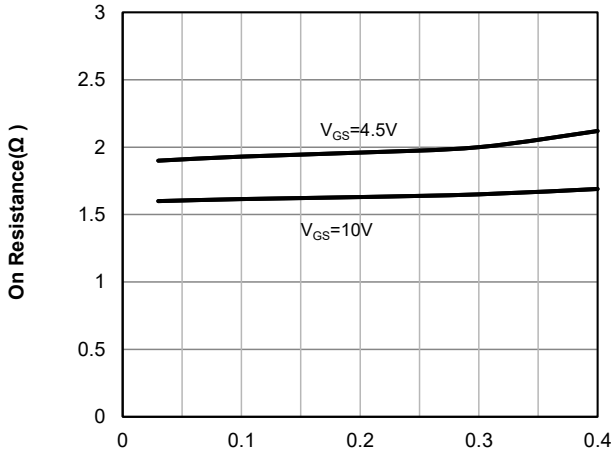


Fig4. On-Resistance Vs. Drain-Source Current

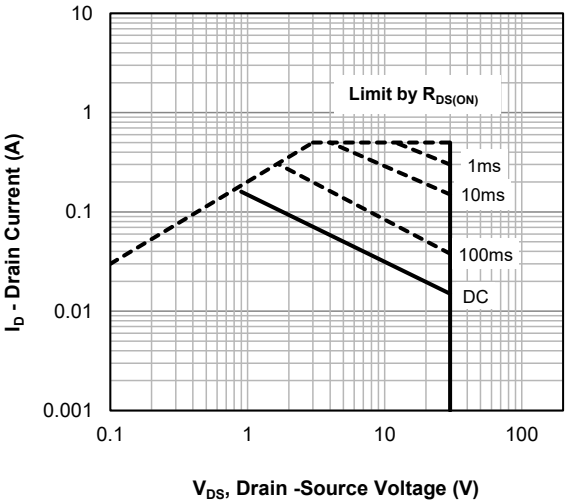


Fig5. Maximum Safe Operating Area

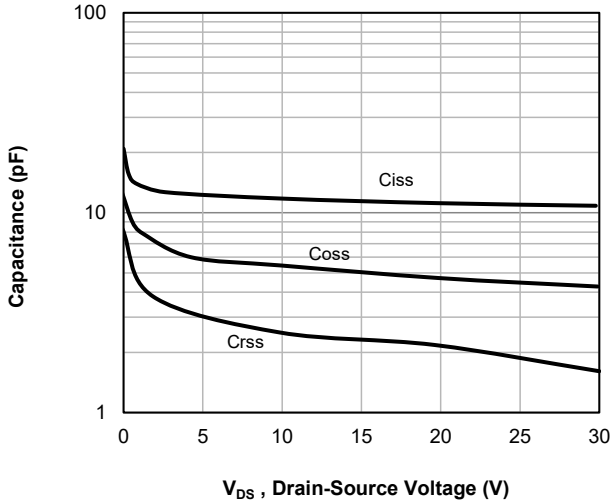
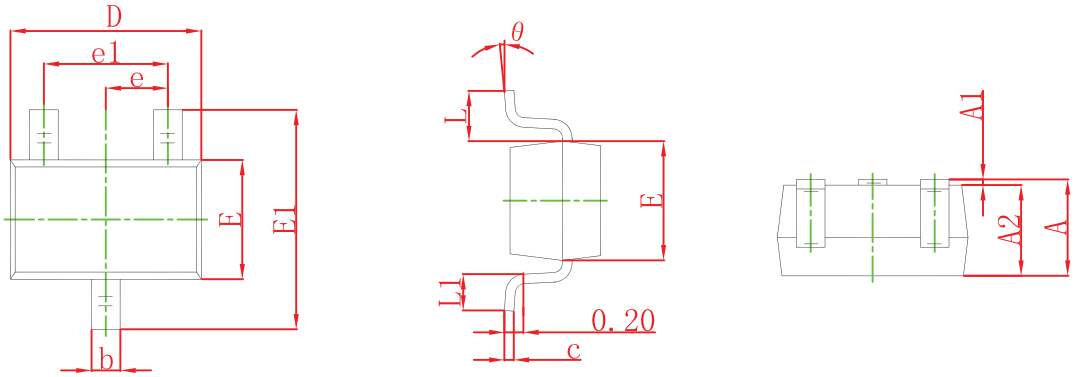


Fig6. Typical Capacitance Vs.Drain-Source

Package Outline Dimensions (Units: mm)

SOT-323



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	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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