

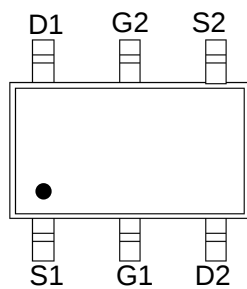
50V/0.2A Dual N-Channel MOSFET

Features

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

Application

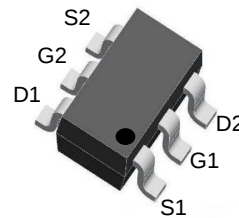
- Load Switch for Portable Devices
- DC/DC Converter



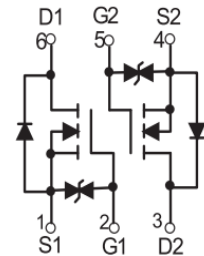
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(on)}$ MAX	I_D MAX
50V	5Ω@10V	0.2A
	6Ω@4.5V	



SOT-363 top view



Schematic diagram



Pb-Free



RoHS



Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

V_{DS}	Drain-Source Breakdown Voltage	50	V
V_{GS}	Gate-Source Voltage	±20	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-55 to 155	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ 0.2	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 0.95	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$ 0.2	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 0.15	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient	833	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
BV(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	50	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=40V, VGS=0V	--	--	1	μA
IGSS	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±10	μA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	0.6	1.0	1.5	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=0.3A	--	1.4	5.0	Ω
		VGS=4.5V, ID=0.2A	--	1.7	6.0	Ω
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
CISS	Input Capacitance	VDS=50V, VGS=0V, f=1MHz	--	18	--	pF
COSS	Output Capacitance		--	12	--	pF
CRSS	Reverse Transfer Capacitance		--	7	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=50V, ID=0.2A, VGS=10V	--	1.7	--	nC
td(on)	Turn-on Delay Time	VDD=30V, ID=0.2A, VGS=4.5V, RG=10Ω	--	4.8	--	nS
td(off)	Turn-Off Delay Time		--	18	--	nS
trr	Reverse recovery Time	VGS=0V, IS=200mA, VR=25V, dIS/dt=-100A/μs	--	31	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	TJ=25°C, IS=0.1A,	--	--	1.2	V

Typical Operating Characteristics

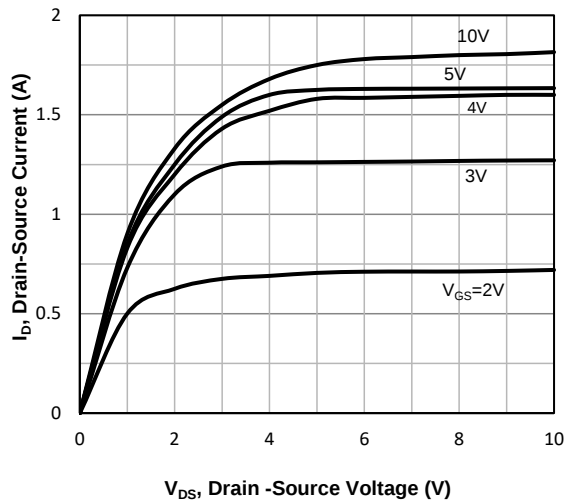


Fig1. Typical Output Characteristics

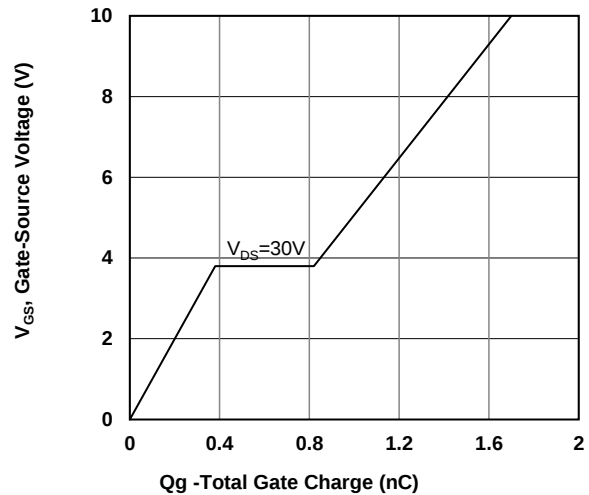


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

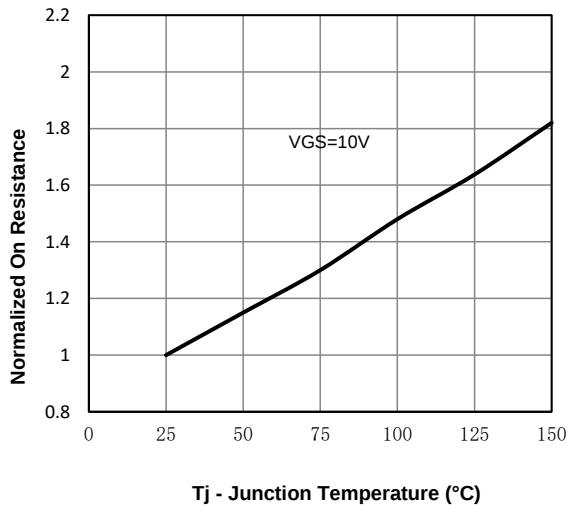


Fig3. Normalized On-Resistance Vs. Temperature

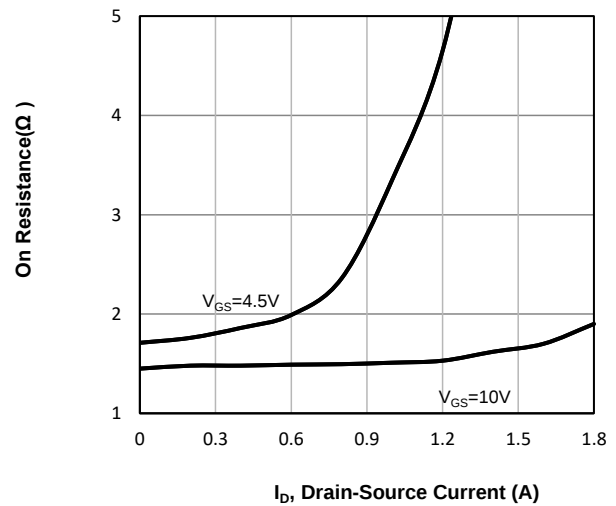


Fig4. On-Resistance Vs. Drain-Source Current

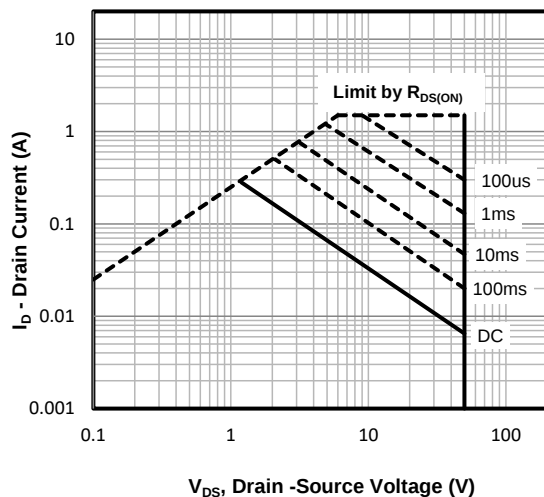


Fig5. Maximum Safe Operating Area

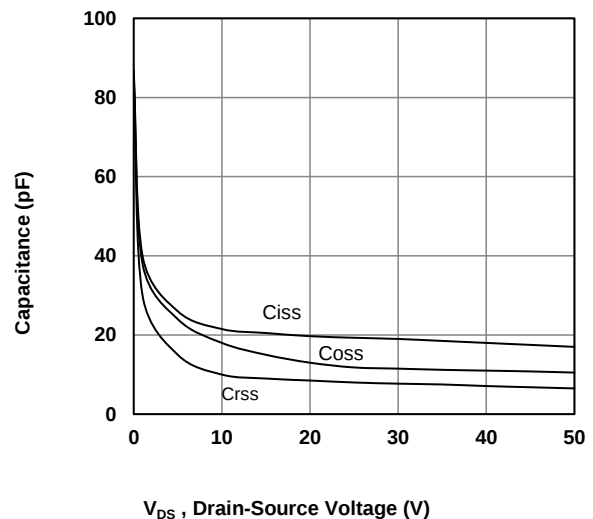
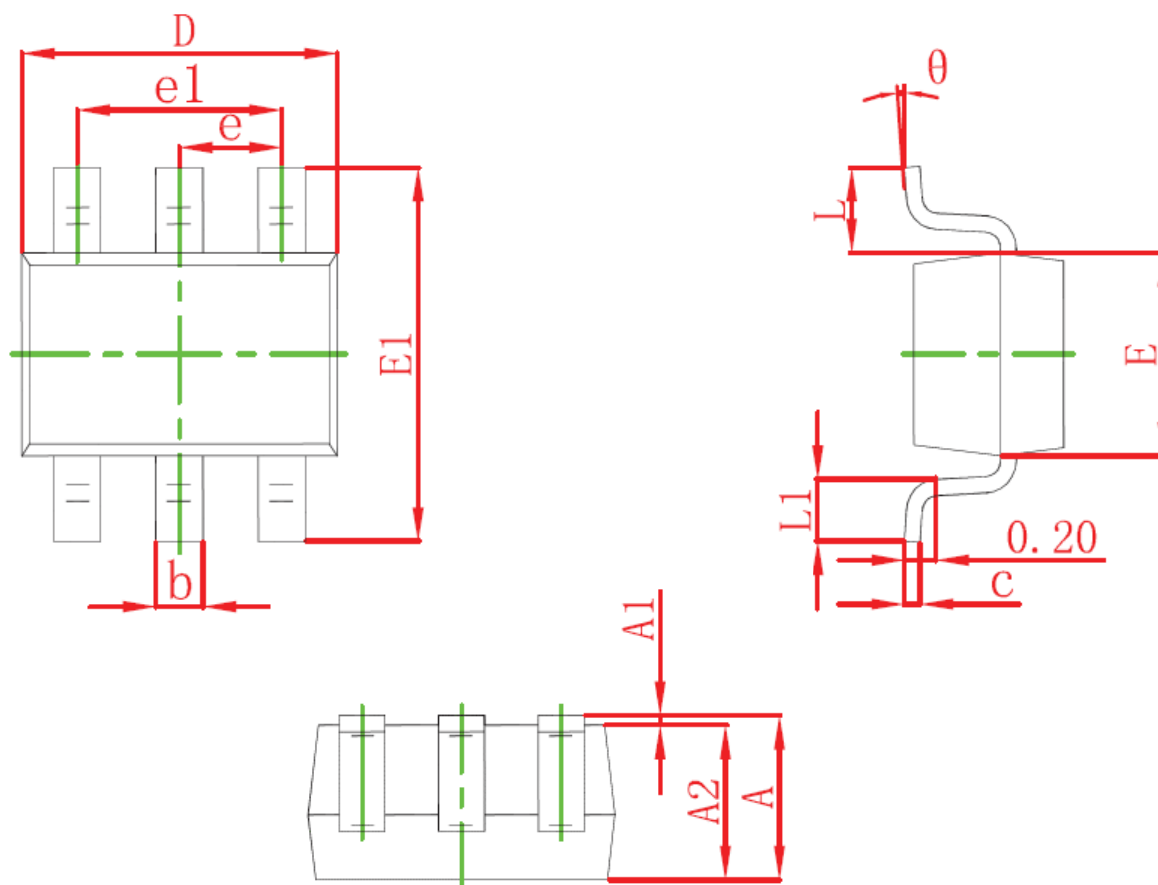


Fig6 Typical Capacitance Vs. Drain-Source Voltage

SOT-363 Package information



Symbol	Dimensions in Millimeters(mm)		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	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650TYP		0.026TYP	
e1	1.200	1.400	0.047	0.055
L	0.525REF		0.021REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°