

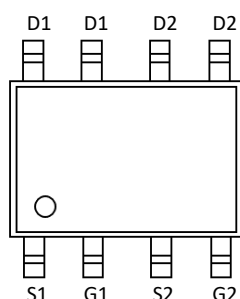
40V/8A Dual N-Channel MOSFET

Features

- Trench Power LV MOSFET technology
- High Density Cell Design for Low $R_{DS(ON)}$
- High Speed switching

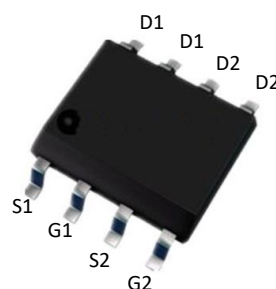
Application

- Battery protection
- Load switch
- Power management

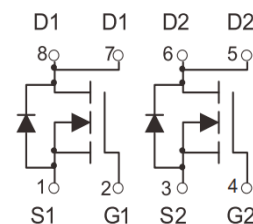


Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
40V	20mΩ@10V	8A
	35mΩ@4.5V	



SOP-8 top view

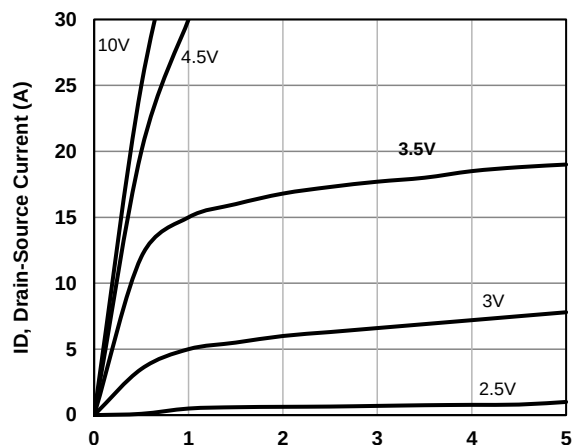


Schematic diagram

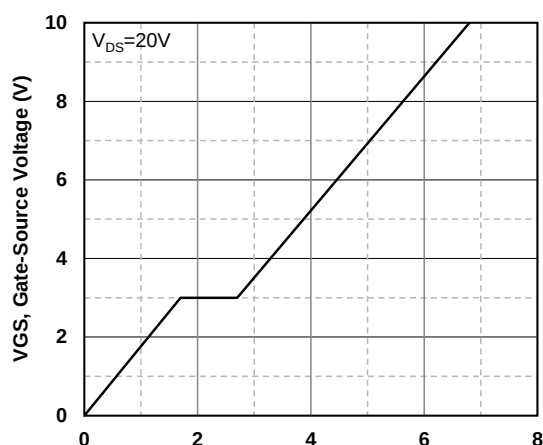
Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		40	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	8	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	38	A
I _D	Continuous Drain Current@GS=10V	Tc=25°C	8	A
P _D	Maximum Power Dissipation	Tc=25°C	2	W
R _{θJA}	Thermal Resistance Junction-Ambient(*1 in2 Pad of 2-oz Copper), Max.)		60	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	40	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=40V, VGS=0V	--	--	1	uA
IGSS	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	1	1.5	2.5	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=8A	--	15	20	mΩ
		VGS=4.5V, ID=4A	--	24	35	mΩ
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
CISS	Input Capacitance	VDS=20V, VGS=0V, f=1MHz	--	421	--	pF
COSS	Output Capacitance		--	115	--	pF
CRSS	Reverse Transfer Capacitance		--	13	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=20V, ID=8A, VGS=10V	--	6.8	--	nC
Qgs	Gate Source Charge		--	1.1	--	nC
Qgd	Gate Drain Charge		--	1.3	--	nC
t _{d(on)}	Turn-on Delay Time	VDS=20V, RL=2.5Ω, VGS=10V, RG=3Ω	--	3.8	--	nS
t _r	Turn-on Rise Time		--	2.5	--	nS
t _{d(off)}	Turn-Off Delay Time		--	14.4	--	nS
t _f	Turn-Off Fall Time		--	2	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	Tj=25℃, Is=3A,	--	--	1.2	V

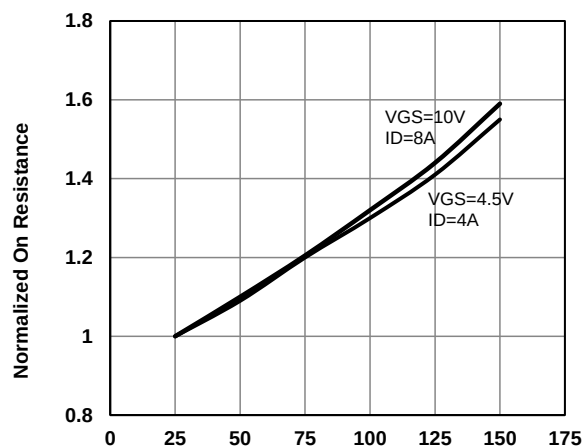
Typical Operating Characteristics



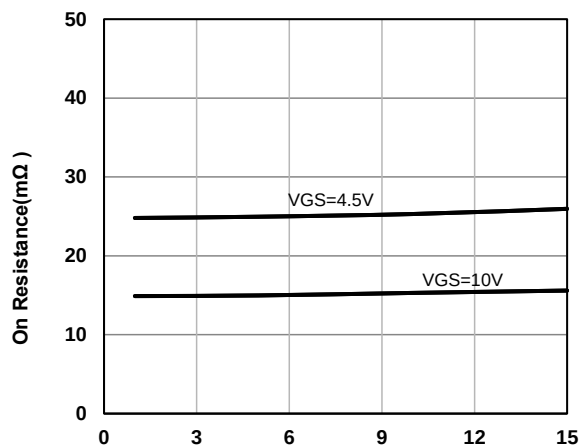
V_{DS}, Drain -Source Voltage (V)
Fig1. Typical Output Characteristics



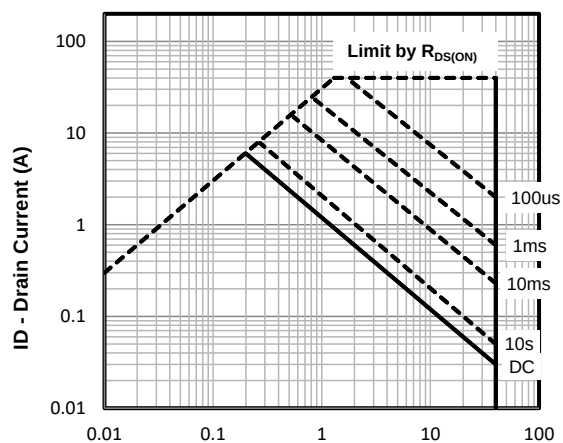
Q_g -Total Gate Charge (nC)
Fig2. Typical Gate Charge Vs. Gate-Source Voltage



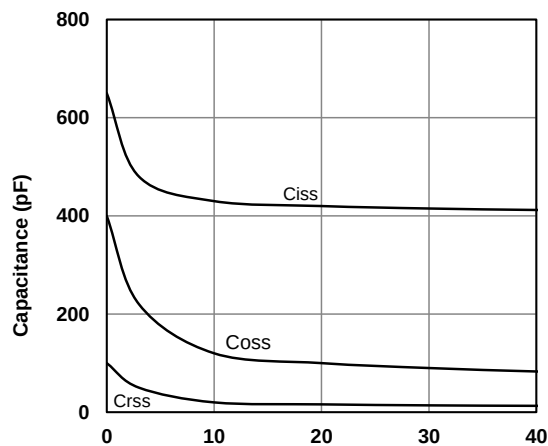
T_j - Junction Temperature (°C)
Fig3. Normalized On-Resistance Vs. Temperature



I_D, Drain-Source Current (A)
Fig4. On-Resistance Vs. Drain-Source Current

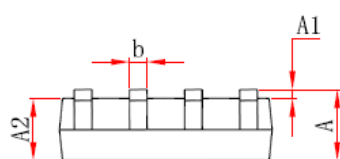
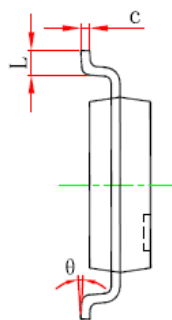
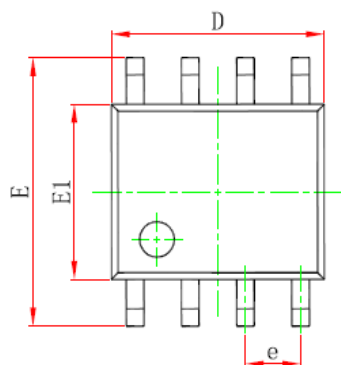


V_{DS}, Drain -Source Voltage (V)
Fig5. Maximum Safe Operating Area



V_{DS}, Drain-Source Voltage (V)
Fig6 Typical Capacitance Vs. Drain-Source Voltage

SOP-8 Package information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.450	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°