

Features

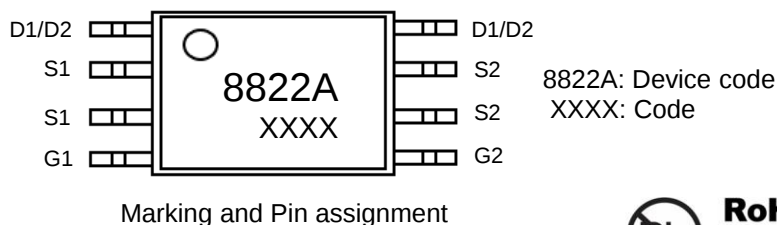
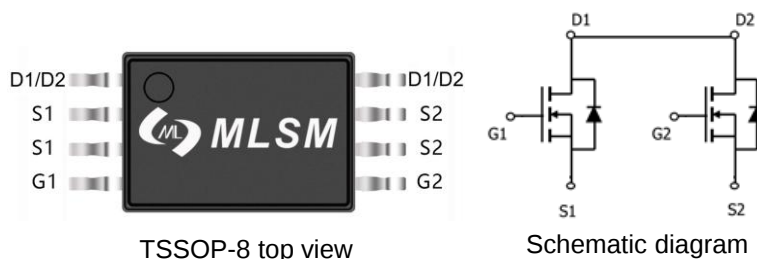
- High power and current handling capability
- Lead free product is acquired
- Surface mount package

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
20V	15mΩ@10V	7A
	17mΩ@4.5V	

Application

- Battery protection
- Load switch
- Power management



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		20	V
V _{GS}	Gate-Source Voltage		±12	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	7	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	26	A
I _D	Continuous Drain Current	Tc=25°C	7	A
P _D	Maximum Power Dissipation	Tc=25°C	1.5	W
R _{θJA}	Thermal Resistance Junction-Ambient		357	°C/W

Ordering Information (Example)						
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MS8822A	TSSOP-8	8822A	3,000	6,000	42,000	13"reel

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	20	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=20V, VGS=0V	--	--	1	μA
IGSS	Gate-Body Leakage Current	VGS=±12V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	0.4	0.7	1.2	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=6.5A	--	15	18	mΩ
		VGS=4.5V, ID=6.0A	--	17	22	mΩ
		VGS=2.5V, ID=4A	--	21	27	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
CISS	Input Capacitance	VDS=10V, VGS=0V, f=1MHz	--	378	--	pF
COSS	Output Capacitance		--	74	--	pF
CRSS	Reverse Transfer Capacitance		--	58	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=10V, ID=6.5A, VGS=4.5V	--	6.05	--	nC
Qgs	Gate Source Charge		--	1.07	--	nC
Qgd	Gate Drain Charge		--	1.95	--	nC
td(on)	Turn-on Delay Time	VDD=10V, RL=1Ω, VGS=4.5V, RG=3Ω	--	4.2	--	nS
tr	Turn-on Rise Time		--	19.8	--	nS
td(off)	Turn-Off Delay Time		--	22.6	--	nS
tf	Turn-Off Fall Time		--	23.2	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	TJ=25°C, IS=7A	--	--	1.2	V

Typical Operating Characteristics

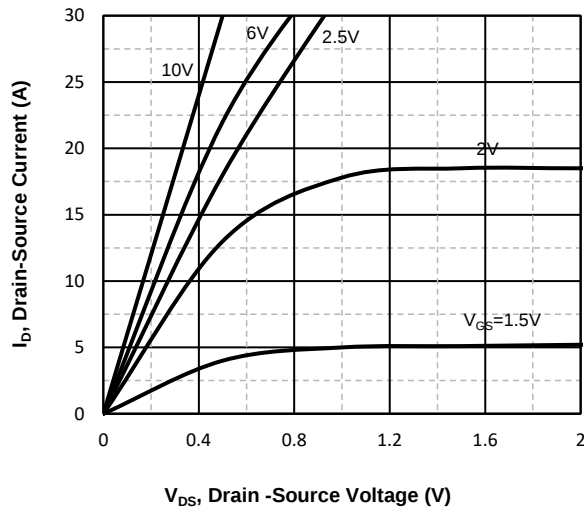


Fig1. Typical Output Characteristics

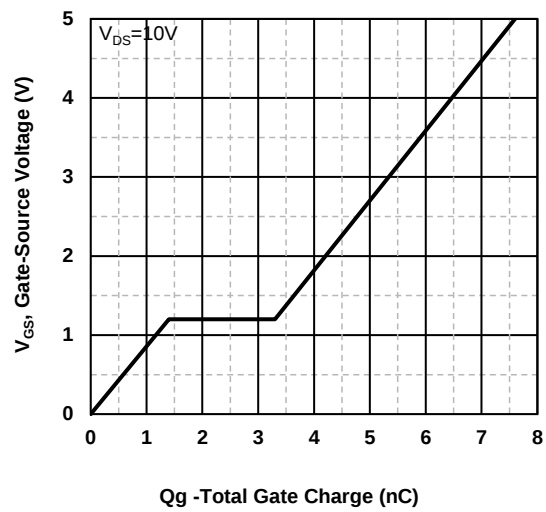


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

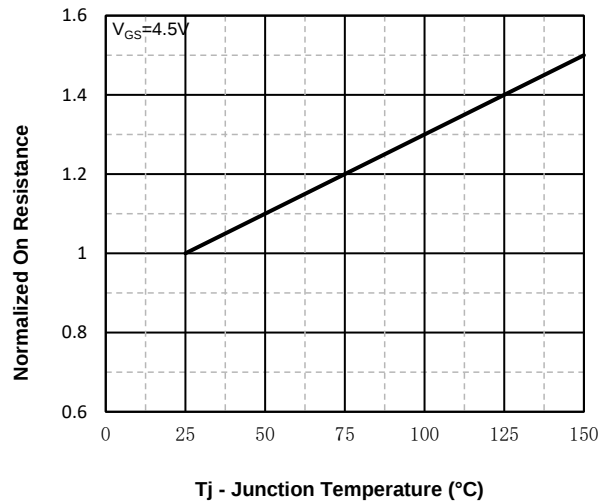


Fig3. Normalized On-Resistance Vs. Temperature

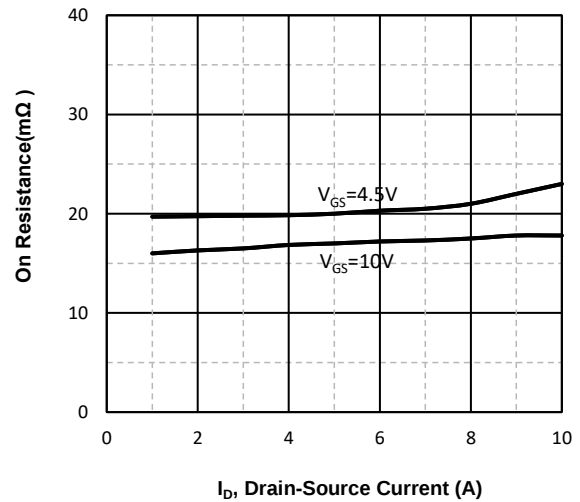


Fig4. On-Resistance Vs. Drain-Source Current

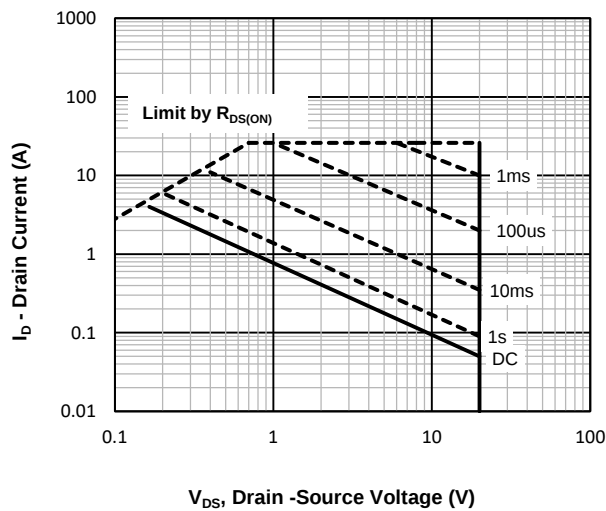


Fig5. Maximum Safe Operating Area

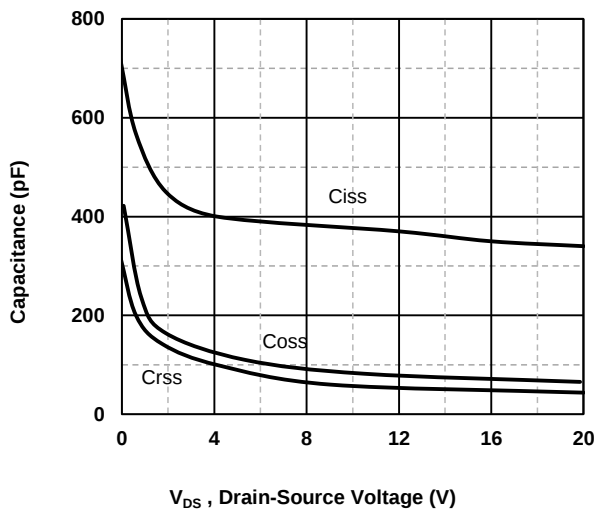
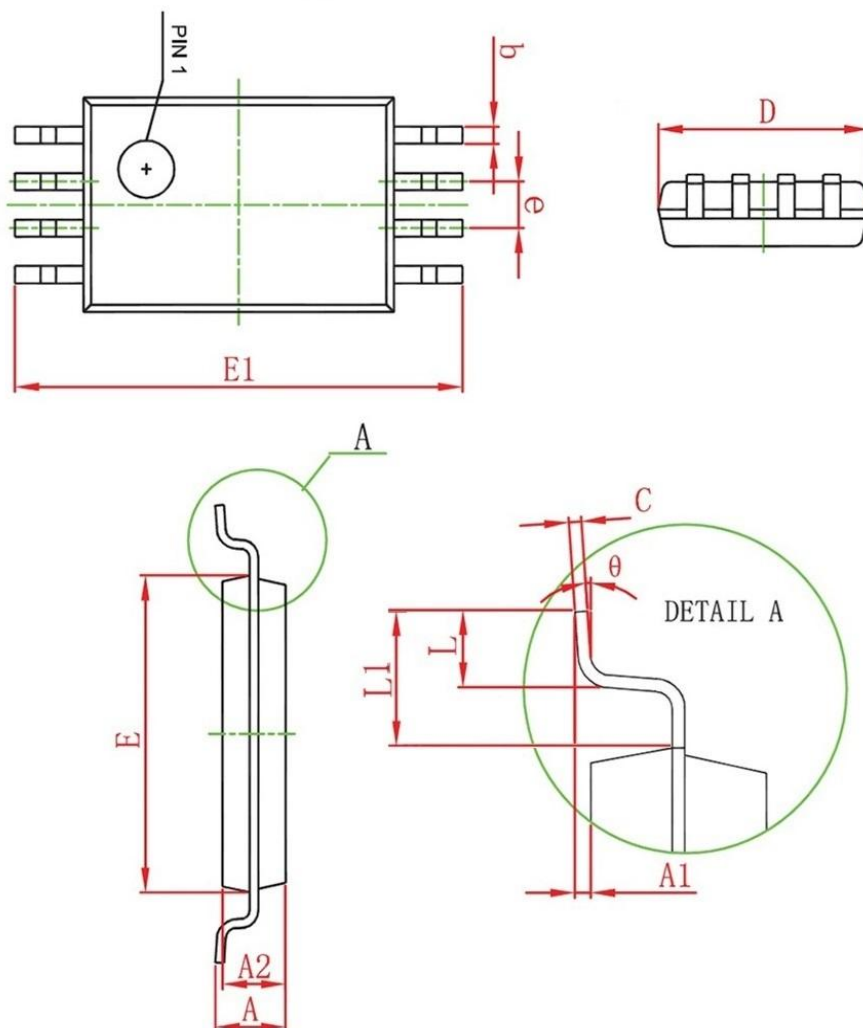


Fig6 Typical Capacitance Vs. Drain-Source Voltage

TSSOP-8 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in Inches	
	Min	Max	Min	Max
A	1.000	1.200	0.039	0.047
A1	0.020	0.180	0.000	0.007
A2	0.900	1.100	0.035	0.043
b	0.170	0.270	0.006	0.010
c	0.122	0.132	0.004	0.005
D	2.870	3.070	0.112	0.120
e	0.65BSC		0.025BSC	
E	4.300	4.500	0.169	0.177
E1	6.200	6.600	0.244	0.259
L	0.400	0.800	0.015	0.031
L1	1.00BSC		0.039BSC	
Ø1	0.500	0.700	0.001	0.027
θ	0°	10°	0°	10°