

Features

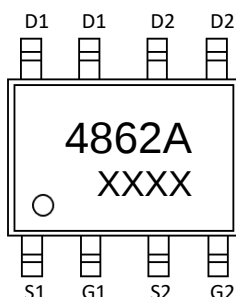
- Trench Power LV MOSFET technology
- High density cell design for low $R_{DS(ON)}$
- High Speed switching

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
30V	39mΩ@10V	4.5A
	50mΩ@4.5V	

Application

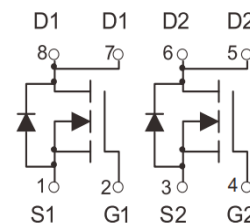
- Battery protection
- Load switch
- Power management



4862A: Device code
XXXX: Code



SOP-8 top view



Schematic diagram



Halogen-Free

Marking and pin assignment

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		30	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 155	°C
I _S	Diode Continuous Forward Current	Tc=25°C	4.5	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	18	A
I _D	Continuous Drain Current	Tc=25°C	4.5	A
P _D	Maximum Power Dissipation	Tc=25°C	1.7	W
R _{θJA}	Thermal Resistance Junction-Ambient		100	°C/W

Ordering Information (Example)						
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MQ4862A	SOP-8	4862A	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 @ T_J = 25°C (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.0	1.5	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =4.5A	--	39	50	mΩ
		V _{GS} =4.5V, I _D =3.0A	--	50	68	mΩ

Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)

C _{ISS}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	--	234	--	pF
C _{OSS}	Output Capacitance		--	42	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	36	--	pF
Q _g	Total Gate Charge	V _{DS} =15V, I _D =4.5A, V _{GS} =10V	--	3	--	nC
Q _{gs}	Gate Source Charge		--	0.5	--	nC
Q _{gd}	Gate Drain Charge		--	0.7	--	nC

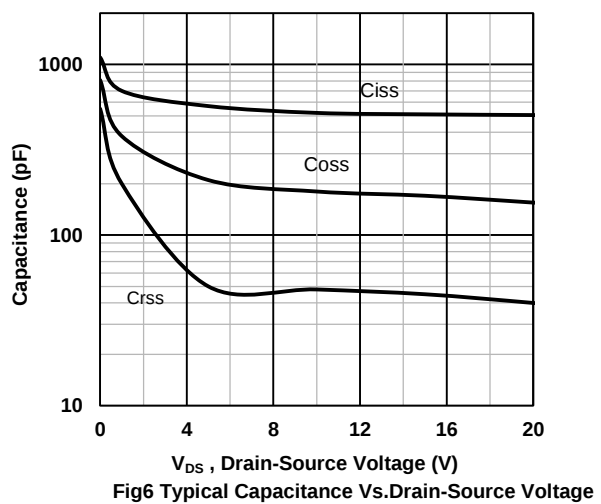
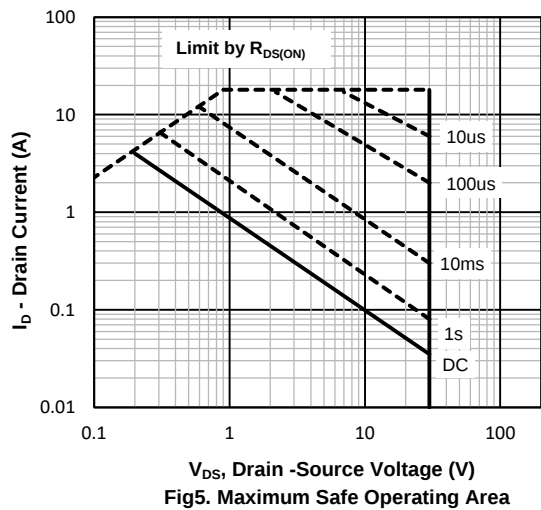
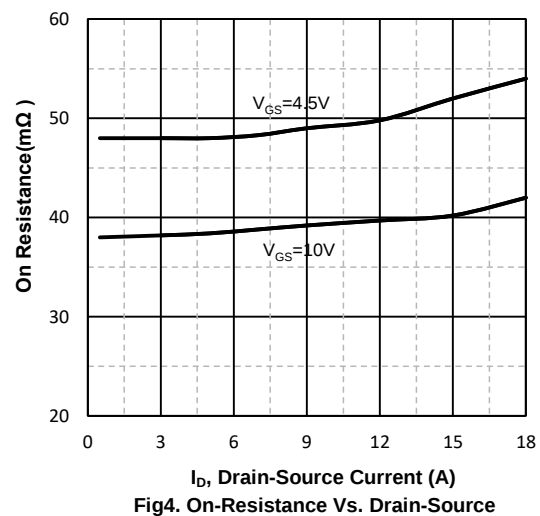
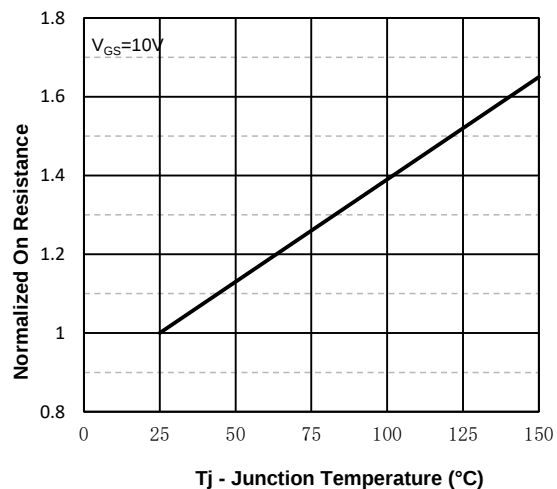
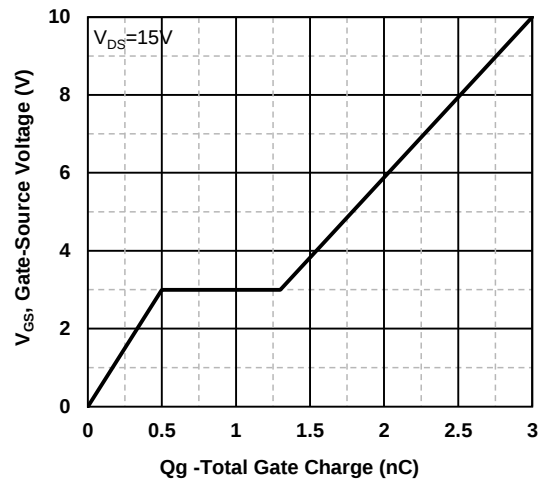
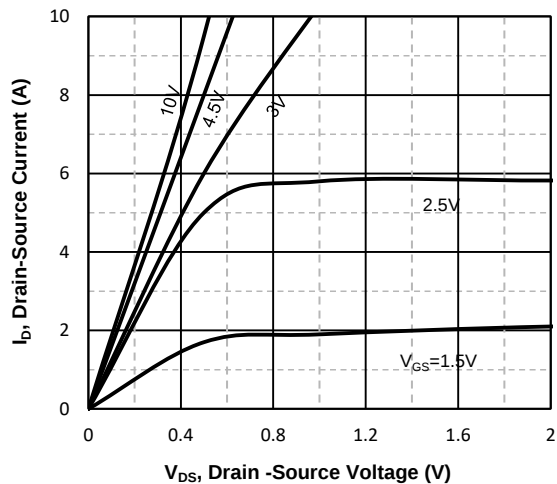
Switching Characteristics

t _{d(on)}	Turn-on Delay Time	V _{DS} =15V, I _D =4.5A, V _{GS} =10V, R _G =3Ω	--	3.9	--	nS
t _r	Turn-on Rise Time		--	2.2	--	nS
t _{d(off)}	Turn-Off Delay Time		--	15.3	--	nS
t _f	Turn-Off Fall Time		--	3.3	--	nS

Source- Drain Diode Characteristics

V _{SD}	Forward on voltage	T _J =25°C, I _S =4.5A	--	--	1.2	V
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Typical Operating Characteristics



SOP-8 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.450	1.750	0.057	0.068
A1	0.100	0.250	0.003	0.009
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.012	0.020
c	0.170	0.250	0.006	0.009
D	4.700	5.100	0.185	0.200
e	1.270(BSC)		0.050(BSC)	
E	3.800	4.000	0.149	0.157
E1	5.800	6.200	0.228	0.244
L	0.400	1.270	0.015	0.050
θ	0°	8°	0°	8°