

1.Description

The AO4882 uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. The complementary MOSFETs may be used to form a level shifted high side switch, and for a host of other applications.

3.Applications

- High power and current handing capability
- Lead free product is acquired

2.Features

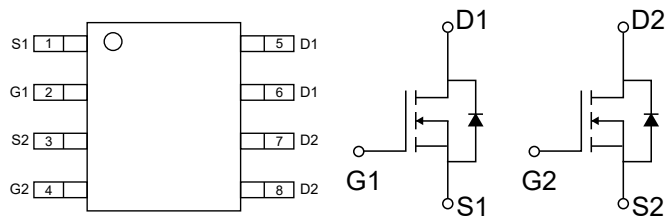
- $V_{DS(V)}=40V$
- $I_D=9A$
- $R_{DS(ON)}$ Typ 15m Ω ($V_{GS}=10V$)
- $R_{DS(ON)}$ Typ 20m Ω ($V_{GS}=4.5V$)

- Surface mount package

4.Pinning Information

Pin	Symbol	Description
2,4	G	GATE
1,3	S	SOURCE
5,6,7,8	D	DRAIN

SOP-8



5.Absolute Maximum Ratings $T_c=25^{\circ}C$

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	9	A
Drain Current-Continuous($T_c=100^{\circ}C$)	$I_D(100^{\circ}C)$	6.4	A
Pulsed Drain Current	I_{DM}	32	A
Maximum Power Dissipation	P_D	2	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$



6.Thermal Characteristic

Parameter	Symbol	Limit	Units
Thermal Resistance,Junction-to-Ambient (Note 2)	$R_{\theta JA}$	62.5	°C/W



7.N-CH Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V, V_{GS}=0V$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=8A$		15	21	m Ω
		$V_{GS}=4.5V, I_D=4A$		20	27	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=8A$	33			S
Dynamic Characteristics (Note 4)						
Input Capacitance	C_{iss}			964		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, V_{GS}=0V, F=1MHz$		109		pF
Reverse Transfer Capacitance	C_{rss}			96		pF
Switching Characteristics (Note 4)						
Turn-on Delay Time	$t_{D(on)}$			5.5		nS
Turn-on Rise Time	t_r	$V_{DD}=20V, R_L=2.5\Omega$		14		nS
Turn-Off Delay Time	$t_{D(off)}$	$V_{GS}=10V, R_{GEN}=3\Omega$		24		nS
Turn-Off Fall Time	t_f			12		nS
Total Gate Charge	Q_g			22.9		nC
Gate-Source Charge	Q_{gs}	$V_{DS}=20V, I_D=8A, V_{GS}=10V$		3.5		nC
Gate-Drain Charge	Q_{gd}			5.3		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V_{SD}	$V_{GS}=0V, I_S=9A$		0.8	1.2	V



8.1 Typical Characteristic

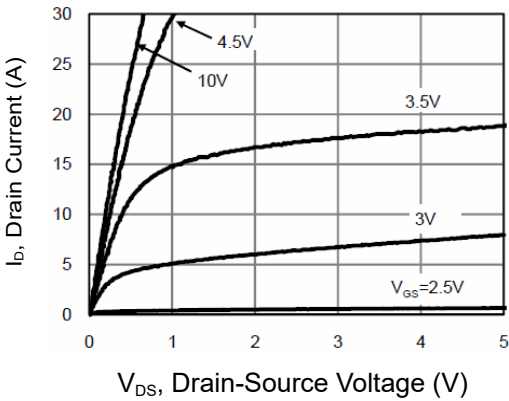


Figure 1: Output Characteristics

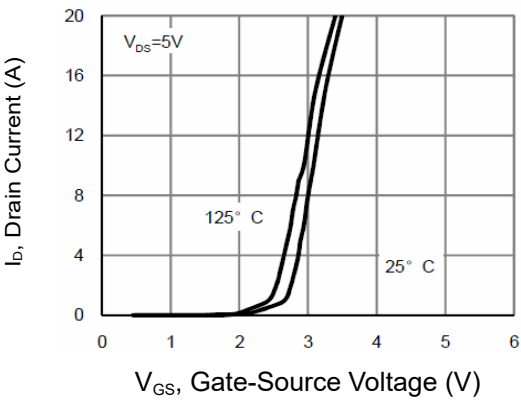


Figure 2: Transfer Characteristics

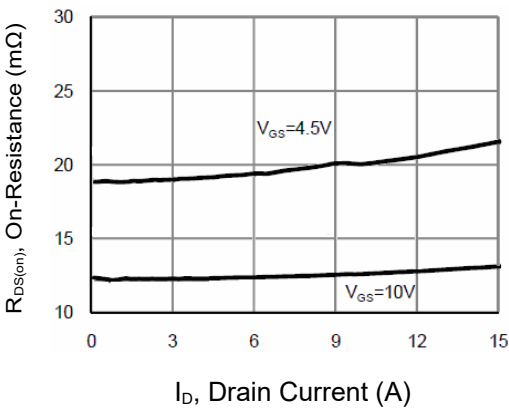


Figure 3: Drain-Source On-Resistance

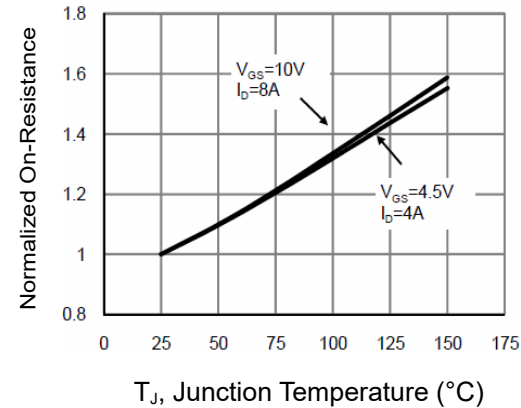


Figure 4: Drain-Source On-Resistance

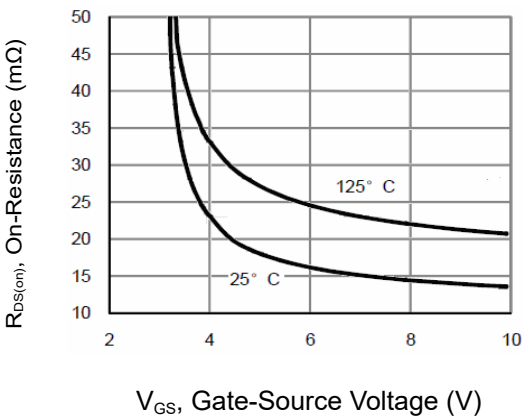


Figure 5: RDS(on) vs VGS

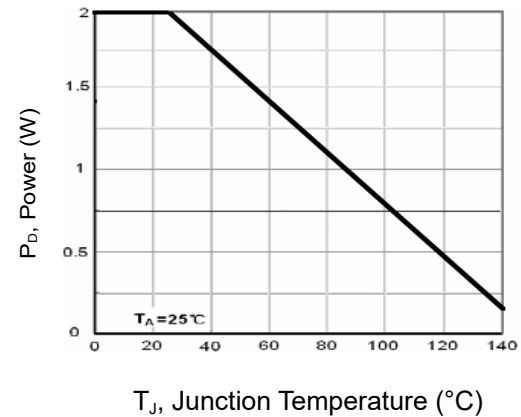


Figure 6: Power Dissipation



8.2 Typical Characteristic

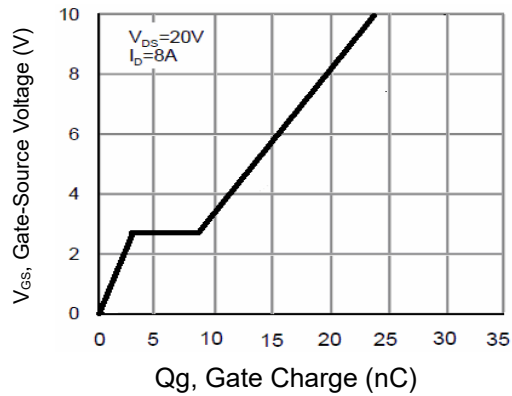


Figure 7: Gate Charge

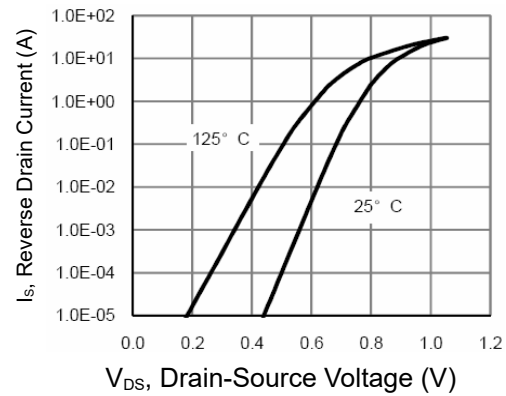


Figure 8: Source- Drain Diode Forward

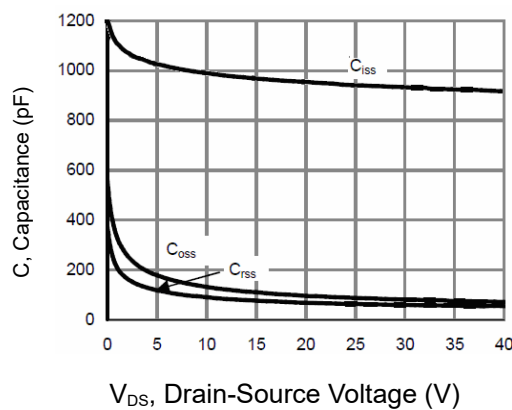


Figure 9: Capacitance vs VDS

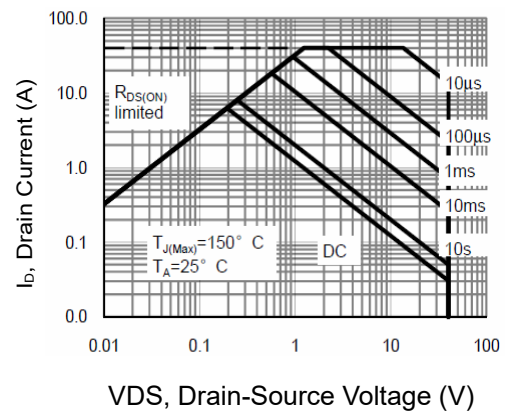


Figure 10: Safe Operation Area

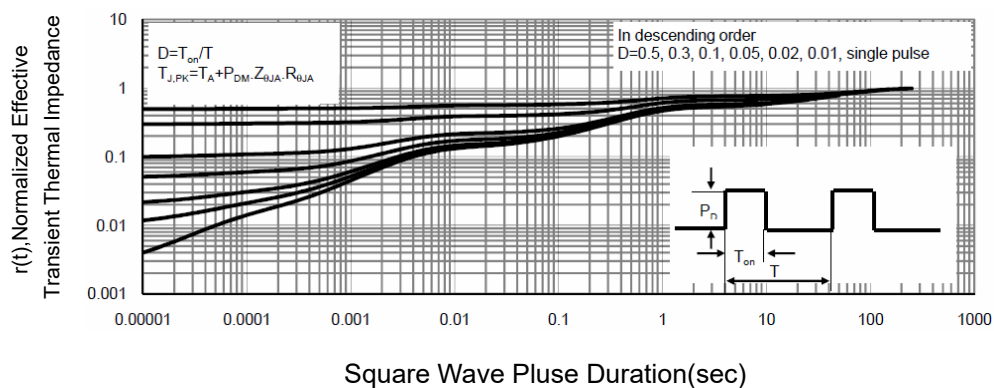


Figure 11: Normalized Maximum Transient Thermal Impedance

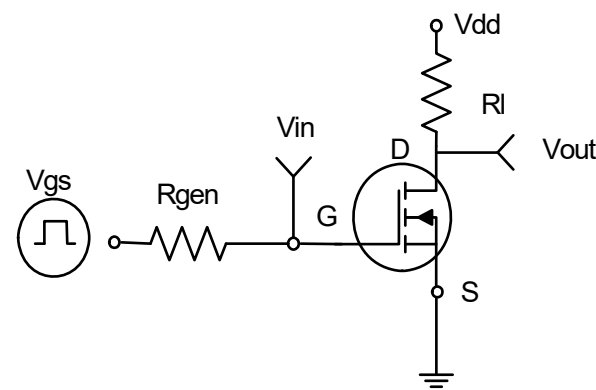


Figure 12: Switching Test Circuit

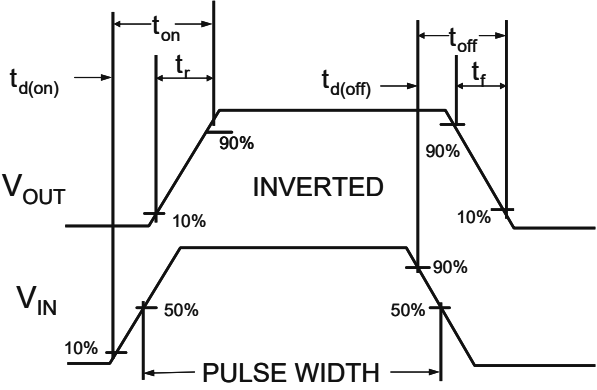
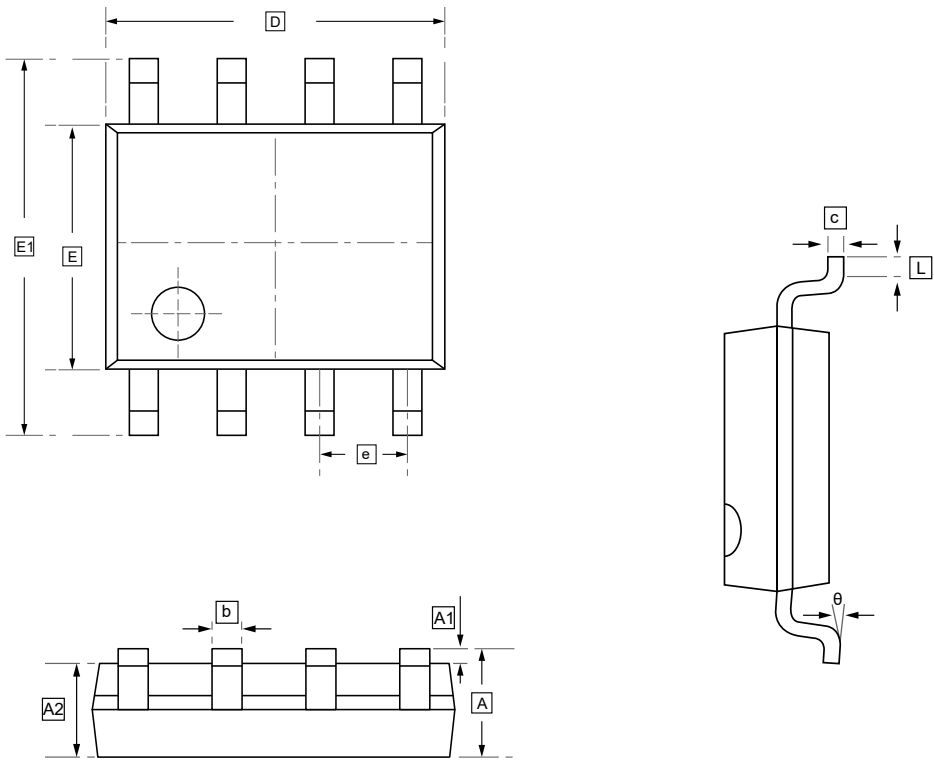


Figure 13: Switching Waveforms



9.SOP-8 Package Outline Dimensions

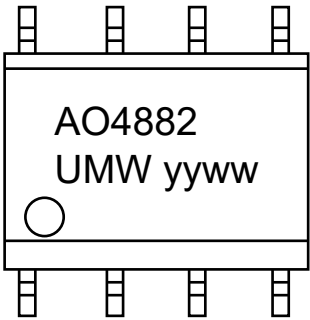


DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	L	θ
Min	1.350	0.000	1.350	0.330	0.170	4.700	3.800	5.800	1.270	0.400	0°
Max	1.750	0.100	1.550	0.510	0.250	5.100	4.000	6.200	BSC	1.270	8°



10.Ordering Information



yy: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW AO4882	SOP-8	3000	Tape and reel



11.Disclaimer

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