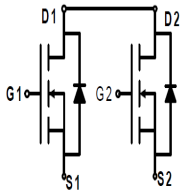
•General Description

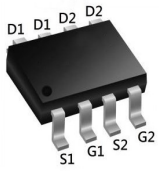
The LH4882A uses trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.This device is suitable for high current load applications.



VDS =40V

$R_{DS(ON)}$ =15mΩ

ID =8A



SOP-8

● RoHS COMPLIANT

•Features

■Advance high cell density trench technology
■Low RDS(ON) to minimize conductive loss
■Low Gate Charge for fast switching

•Application

■Lighting
■Power Supplies
■PD Fast Charging

•Ordering Information:

Part Number	LH4882A
Package	SOP-8
Basic Ordering Unit (pcs)	4000
Normal Package Material Ordering Code	LH4882AS-SOP8-TAP
Halogen Free Ordering Code	LH4882AS-SOP8-TAP-HF

•Absolute Maximum Ratings（TC =25℃）

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Breakdown Voltage	BV_{DSS}	40	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current ,T_C = 25°C[1]	I_D	8	A
Continuous Drain Current ,T_C = 100°C[1]	I_D	6	A
Pulsed drain current (TC = 25°C, tp limited by Tjmax)[2]	I_{DM}	36	A
Single Pulse Avalanche Energy[3]	E_{AS}	11	mJ
Power Dissipation[4]	P_D(T_C=25℃)	1.9	W
Operating Temperature	T_J	-55~+150	℃
Storage Temperature	T_{STG}	-55~+150	℃

●N-Channel Electronic Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V, I_D=250uA	40	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS},I_D=250uA	1.0	1.5	2.5	V
Drain-source On Resistance[2]	$R_{DS(ON)}$	V_{GS} =10V, I_D=7A	--	15	18	mΩ
		V_{GS} =4.5V, I_D=4A	--	16.5	20	
Drain-Source Leakage Current	I_{DSS}	V_{DS}=32V,V_{GS}=0V,T_J=25℃	--	--	1	uA
		V_{DS}=32V,V_{GS}=0V,T_J=55℃	--	--	5	
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20,V_{DS}=0V	--	--	±100	nA
Forward Transconductance	G_{FS}	V_{DS} =5V, I_D=7A	--	33	--	S
Gate Resistance	Rg	V_{DS}=0V,V_{GS}=0V,f=1MHz	--	2.2	--	Ω
Continuous Diode Forward Current[1,5]	I_S	Force Current	--	--	2.5	A
Diode Forward Voltage[2]	V_{SD}	Tj=25°C, Is=1A, V_{GS} =0V	--	0.7	--	V
DYNAMIC PARAMETERS						
Input Capacitance	Ciss	V_{GS}=0V, V_{DS}=15V, f=1.0MHz	--	572	--	pF
Output Capacitance	Coss		--	80	--	
Reverse transfer Capacitance	Crss		--	65	--	
SWITCHING PARAMETERS						
Total Gate Charge	Qg	I_D=7A, V_{DS}=15V, V_{GS}=4.5V	--	6.0	---	nC
Gate-to-Source Charge	Qgs		--	2.5	--	
Gate-to-Drain Charge	Qgd		--	2.1	---	
Reverse Recovery Time	Trr	If=7A,di/dt=100A/us	--	10	--	nS
Reverse Recovery Charge	Qrr		--	3.3	--	nC

●Thermal Characteristics

PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance Junction-Ambient [1](t≤10S)	Rth_{JA}	62.5	℃/W
Soldering temperature,wavesoldering for 10s	Tsold	265	℃/W

Notes:

1.The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper;

2.The data tested by Pulsed,Pulse width ≤ 300μs, Duty cycle ≤ 2%;

3.The EAS data shows Max. rating.The Test condition is I_{AS}=4A,V_{DD}=15V,V_{GS}=10V;

4.The Power Dissipation is limited by 150℃ junction temperature;

5.The data is theoretically the same as ID and IDM , in real applications , should be limited by total power dissipation.

● Typical Characteristics

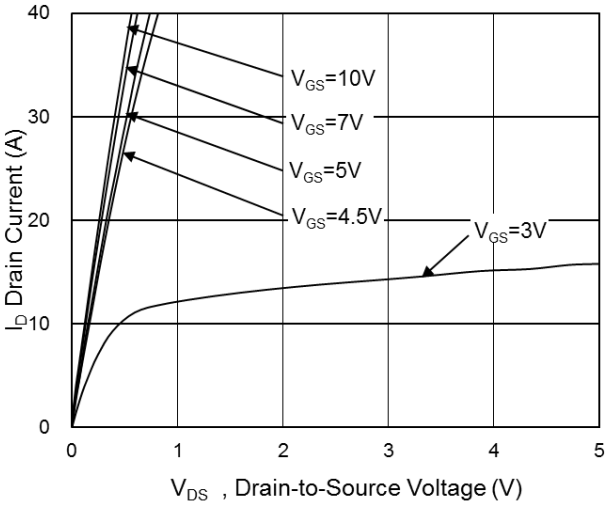


Fig.1 Typical Output Characteristics

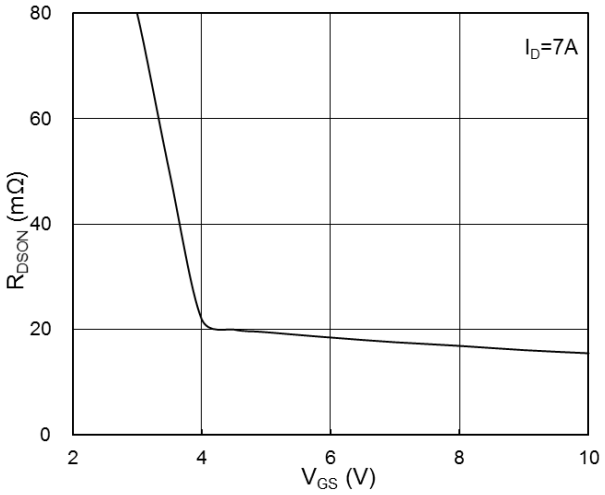


Fig.2 On-Resistance vs. G-S Voltage

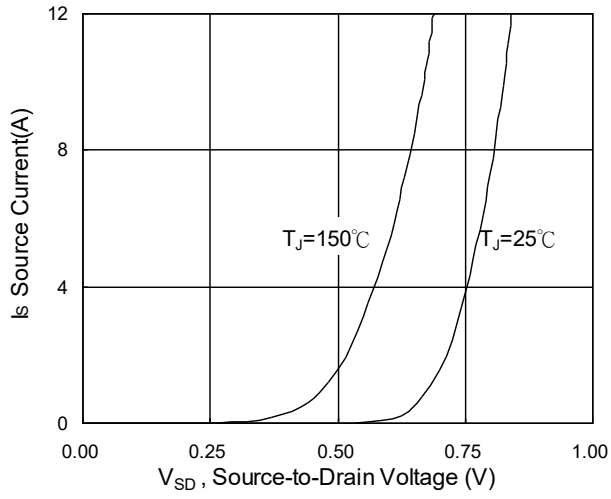


Fig.3 Forward Characteristics of Reverse

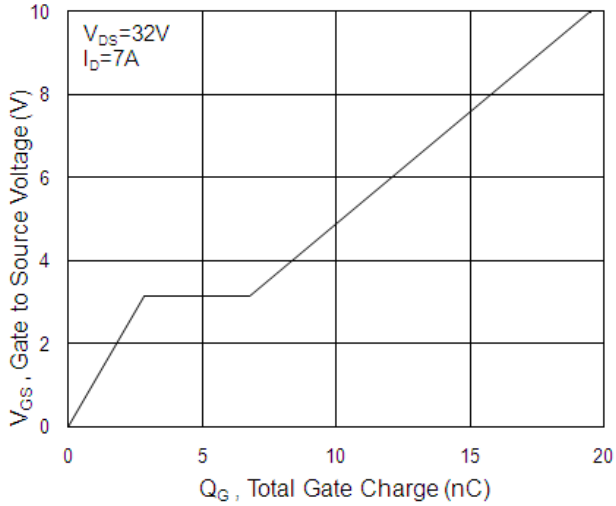


Fig.4 Gate-Charge Characteristics

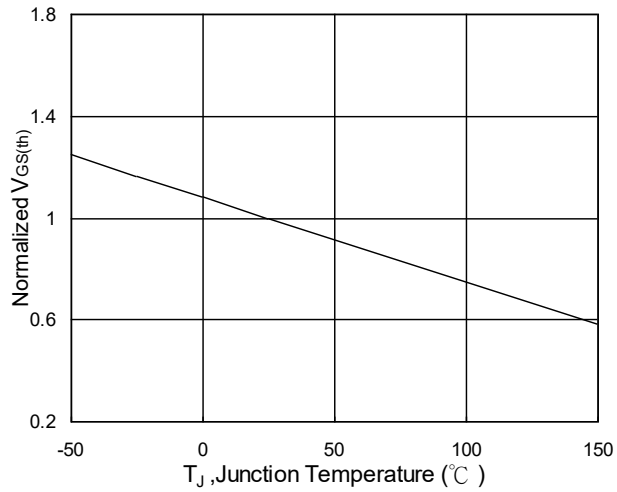


Fig.5 Normalized $V_{GS(th)}$ vs. T_J

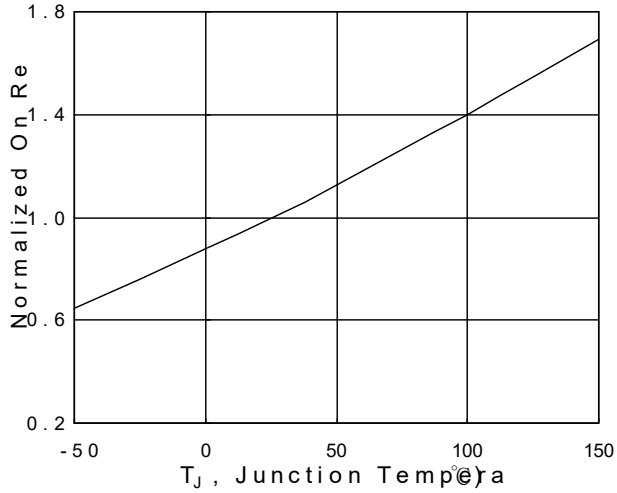


Fig.6 Normalized R_{DSON} vs. T_J

● Typical Characteristics(CONT.)

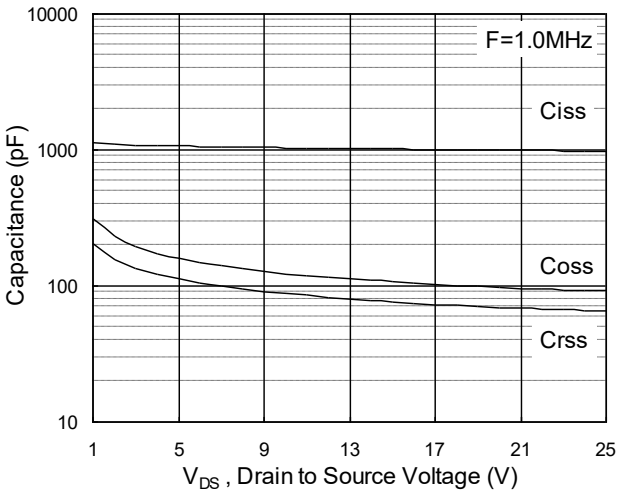


Fig.7 Capacitance

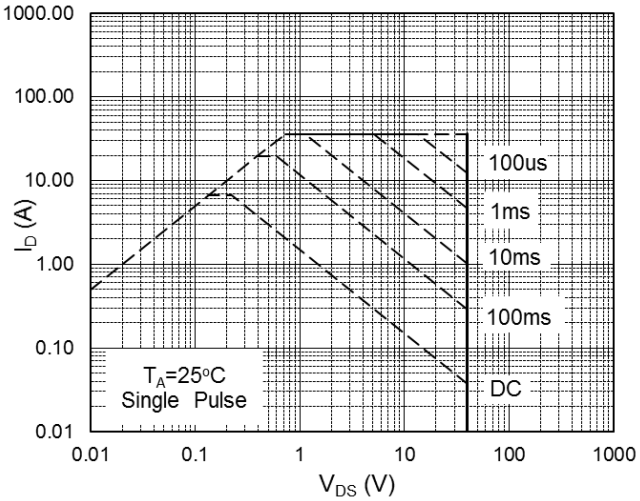


Fig.8 Safe Operating Area

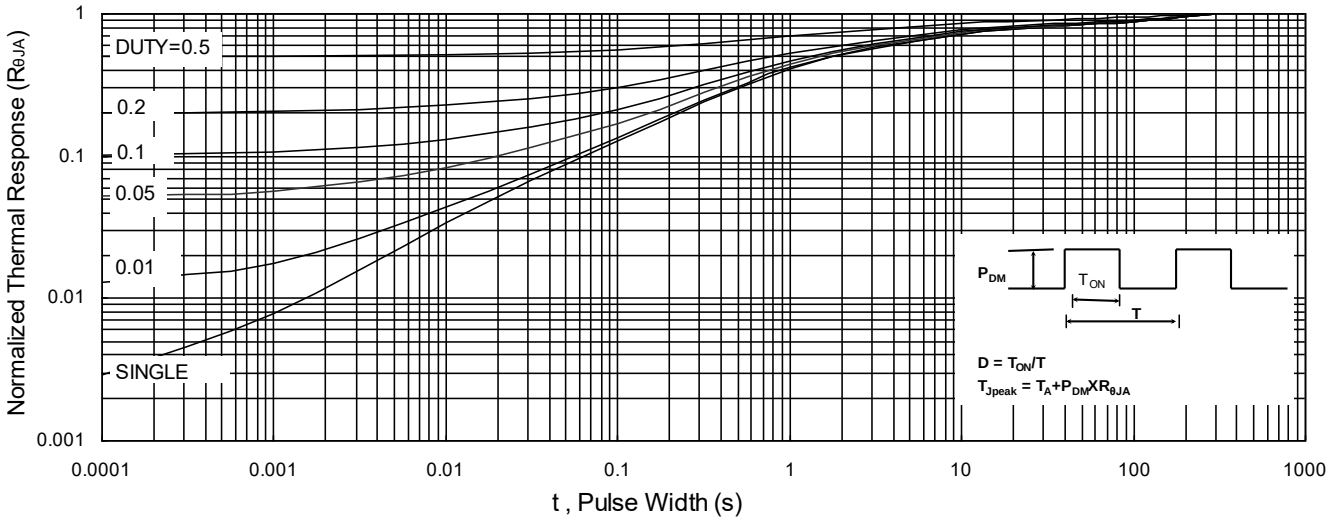


Fig.9 Normalized Maximum Transient Thermal Impedance

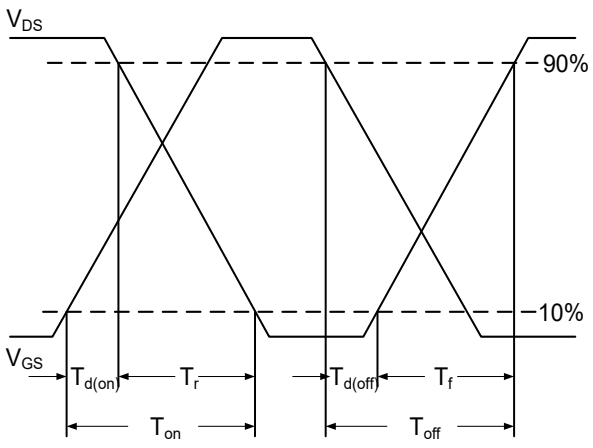


Fig.10 Switching Time Waveform

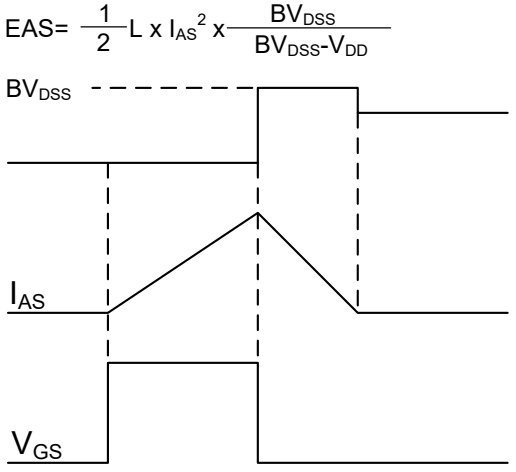


Fig.11 Unclamped Inductive Switching Waveform

•Dimensions（SOP-8）

单位:毫米/UNIT：mm

SYMBOL	min	nom	max	SYMBOL	min	nom	max
A	4.80		5.00	C	1.30		1.50
A1	0.37		0.47	C1	0.55		0.75
A2		1.27		C2	0.55		0.65
A3		0.41		C3	0.05		0.20
B	5.80		6.20	C4	0.19	0.20	0.23
B1	3.80		4.00	D		1.05	
B2		5.00		D1	0.40		0.62