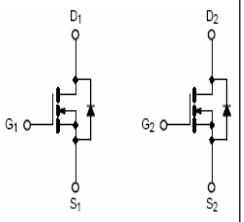
•General Description

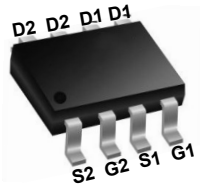
The LH9926 uses trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.This device is suitable for high current load applications.



VDS =20V

$R_{DS(ON)}$ =20mΩ

ID =6A



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	LH9926
Package	SOP-8
Basic Ordering Unit (pcs)	4000
Normal Package Material Ordering Code	LH9926S-SOP8-TAP
Halogen Free Ordering Code	LH9926S-SOP8-TAP-HF

•Absolute Maximum Ratings（TC =25℃）

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Breakdown Voltage	BV_{DSS}	20	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current ,T_C = 25°C	I_D	6	A
Continuous Drain Current ,T_C = 100°C	I_D	3.8	A
Pulsed drain current (T_C = 25°C, tp limited by Tjmax)	I_{DM}	25	A
Power Dissipation	P_D	1.25	W
Operating Temperature	T_J	-55~+150	℃
Storage Temperature	T_{STG}	-55~+150	℃

●Electronic Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V, I_D=250uA	20	22	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS},I_D=250uA	0.5	0.7	1.2	V
Drain-source On Resistance[2]	$R_{DS(ON)}$	V_{GS} =10V, I_D=15A	--	20	28	mΩ
		V_{GS} =4.5V, I_D=10A	--	28	37	
Drain-Source Leakage Current	I_{DSS}	V_{DS}=10V,V_{GS}=0V,T_J=25℃	--	--	1	uA
		V_{DS}=10V,V_{GS}=0V,T_J=55℃	--	--	5	
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±10,V_{DS}=0V	--	--	±100	nA
Forward Transconductance	G_{FS}	V_{DS} =5V, I_D=6A	--	20	--	S
Input Capacitance	Ciss	V_{GS}=0V, V_{DS}=10V, f=1.0MHz	--	640	--	pF
Output Capacitance	Coss		--	140	--	
Reverse transfer Capacitance	Crss		--	80	--	
Turn-On Delay Time[4]	$Td_{(on)}$	V_{DD}=10V, V_{GEN}=4.5V, R_G=6Ω, I_D=1A	--	8.0	--	nS
Turn-Off Delay Time[4]	$Td_{(off)}$		--	15	--	
Turn-On Rise Time[4]	T_r		--	9	--	
Turn-Off Fall Time[4]	T_f		--	4	--	
Total Gate Charge[4]	Qg	I_D=3A, V_{DS}=10V, V_{GS}=4.5V	--	10	--	nC
Gate-to-Source Charge[4]	Qgs		--	1.5	--	
Gate-to-Drain Charge[4]	Qgd		--	1.6	--	
Diode Forward Current[2]	Is	--	--	--	6	A
Diode Forward Voltage[3]	V_{SD}	Tj=25°C, Is=1.7A V_{GS} =0V	--	--	1.2	V

●Thermal Characteristics

PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance Junction-ambient[2]	Rth_{JA}	100	℃/W

Notes:

1.Repetitive Rating Pulse width limited by maximum junction temperature.

2.Surface mounted on FR-4 Board,T_S≤10 sec.

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

4.Guaranteed by design,not subject to production.

●Typical Characteristics

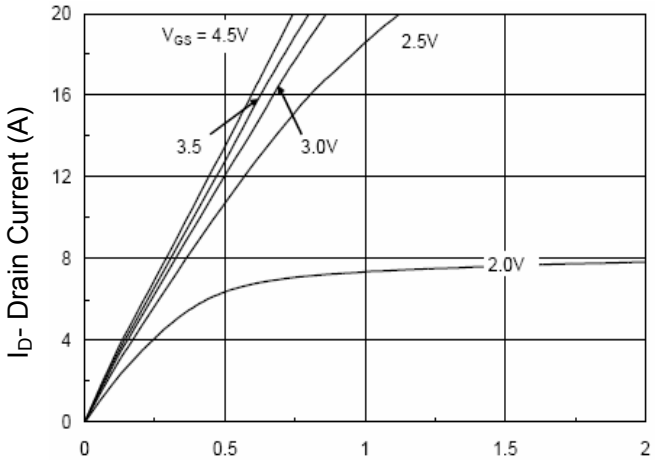


Figure 1 Output Characteristics

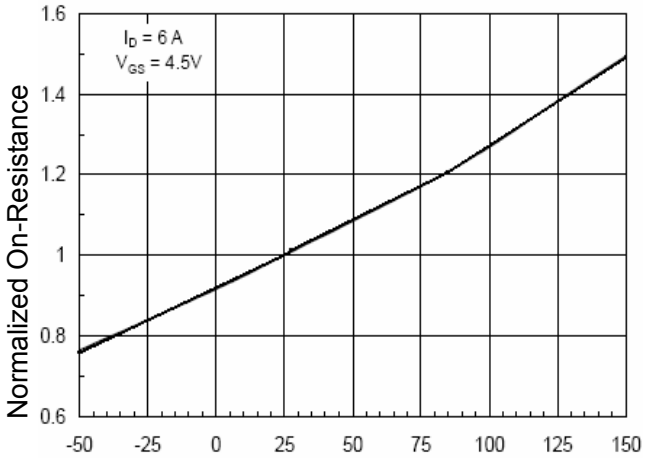


Figure 2 Rdson-JunctionTemperature

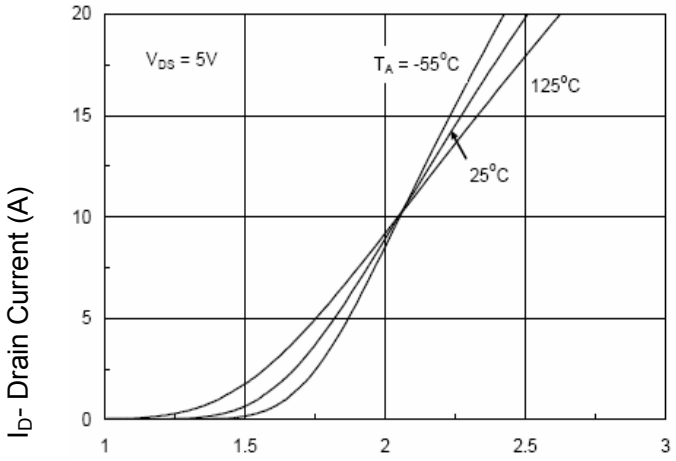


Figure 3 Transfer Characteristics

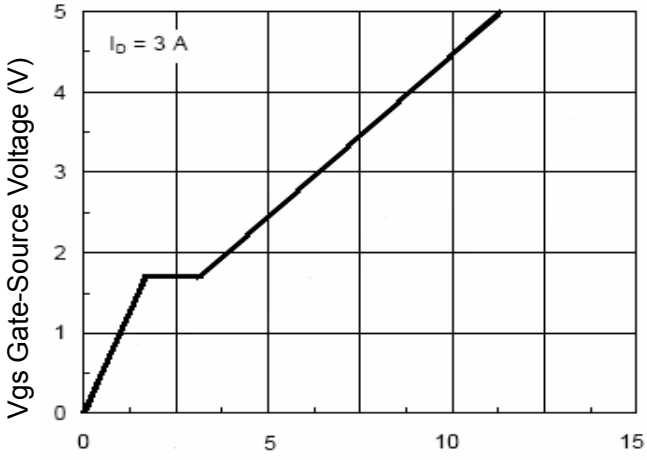


Figure 4 Gate Charge

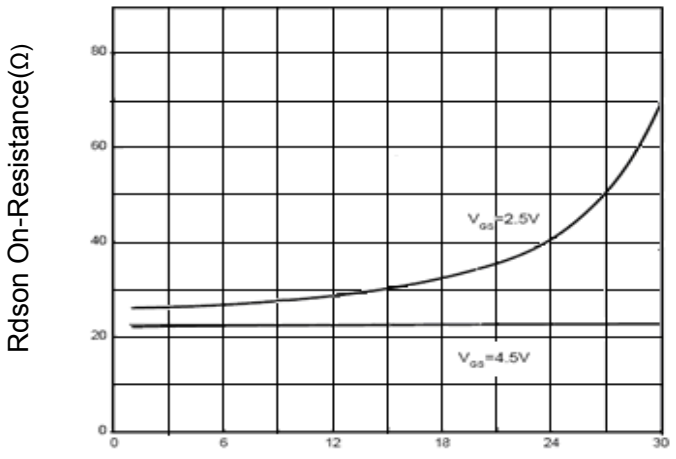


Figure 5 Rdson- Drain Current

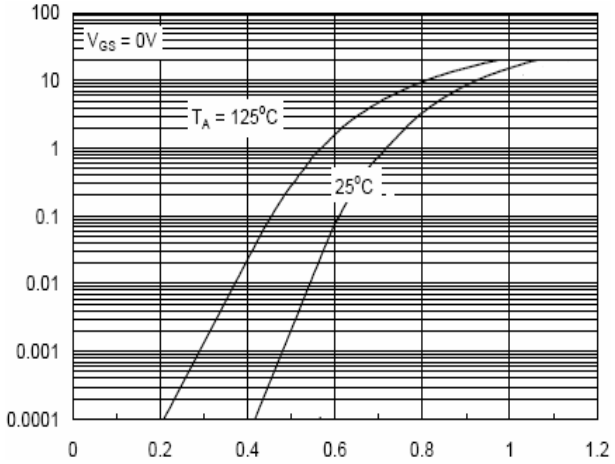


Figure 6 Source- Drain Diode Forward

●Typical Characteristics(Cont.)

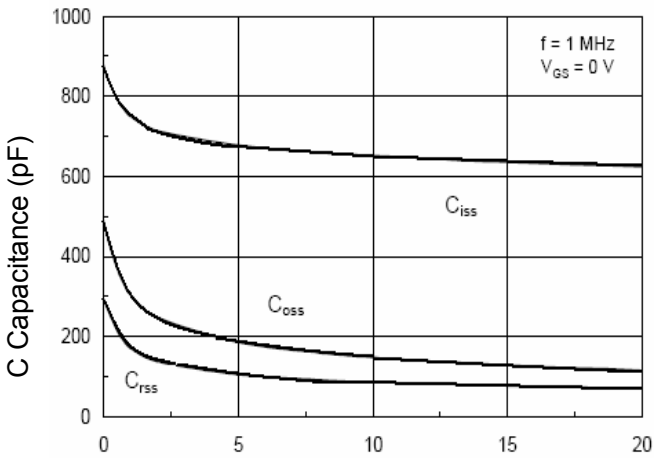


Figure 7 Capacitance vs Vds

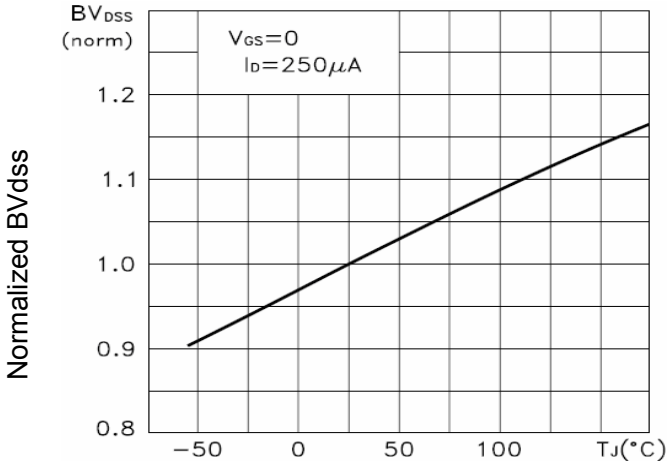


Figure 8 BV_{DSS} vs Junction Temperature

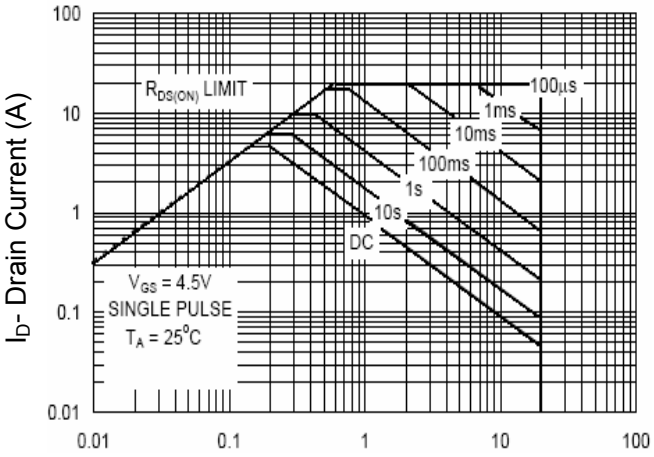


Figure 9 Safe Operation Area

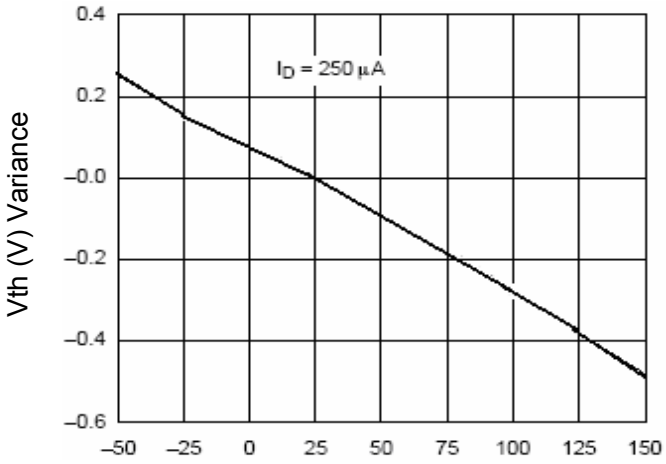


Figure 10 $V_{GS(th)}$ vs Junction Temperature

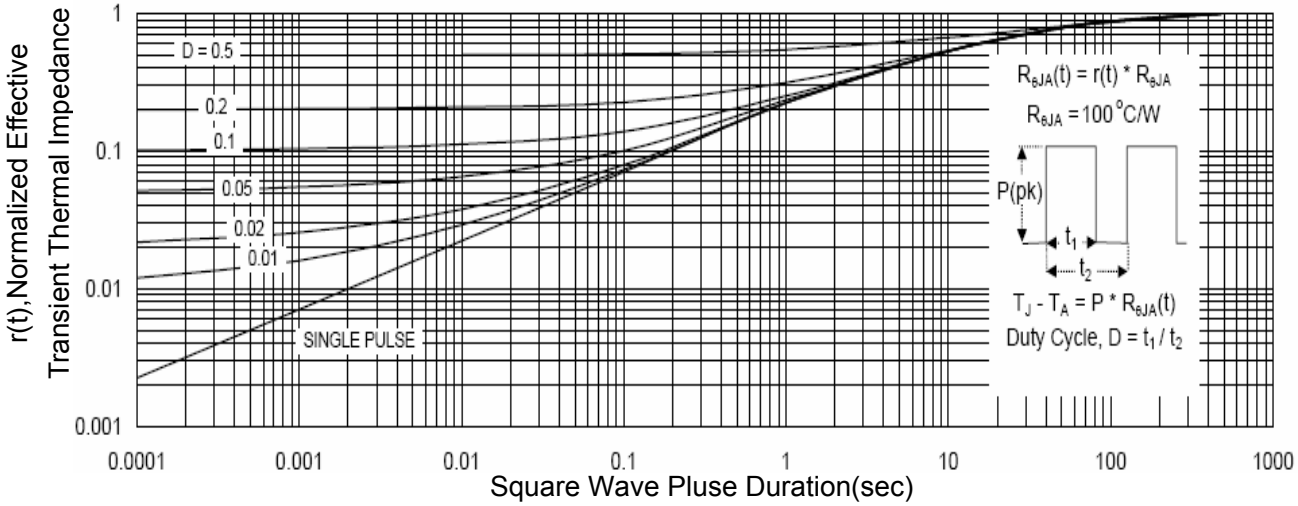


Figure 11 Normalized Maximum Transient Thermal Impedance

●Test Circuits

Fig1. E_{AS} Test Circuits

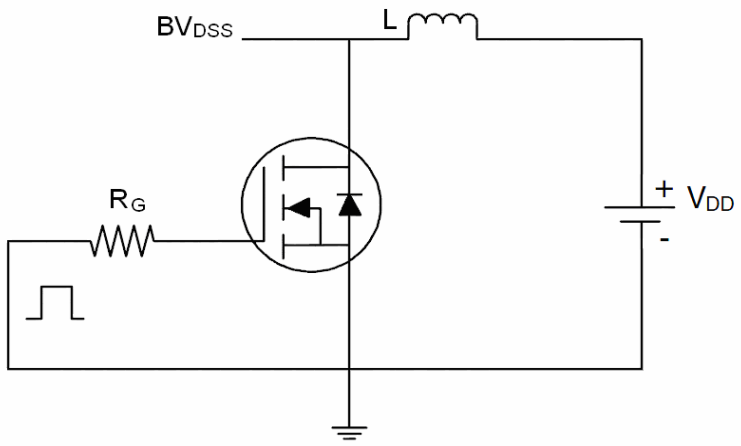


Fig2. Gate Charge Test Circuit:

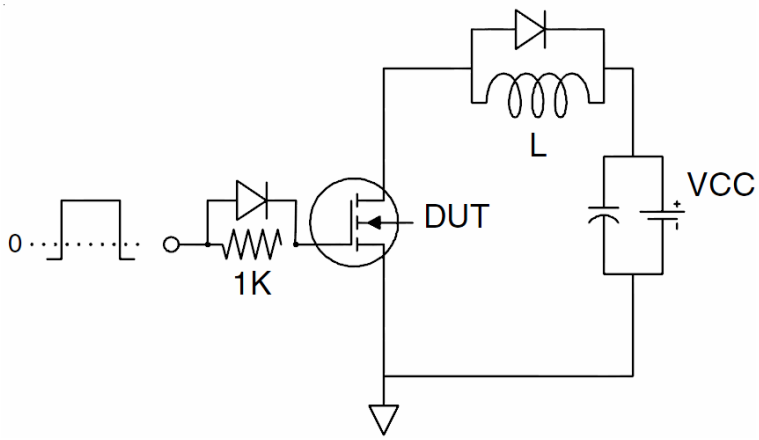
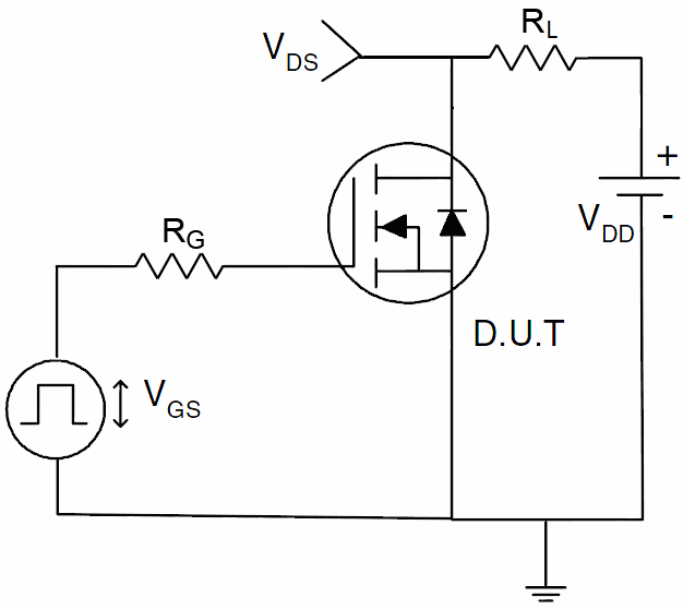


Fig3. Switch Time Test Circuit:



●Dimensions（SOP-8)

UNIT:mm

SYMBOL	min	max	SYMBOL	min	max
A	1.30	1.60	e	1.27BSC	
A1	1.35	1.85	L	0.40	1.30
b	0.30	0.60			
C	0.15	0.35			
D	4.60	5.20			
E	3.70	4.10			
E1	5.70	6.30