



20V Dual N-Channel MOSFET

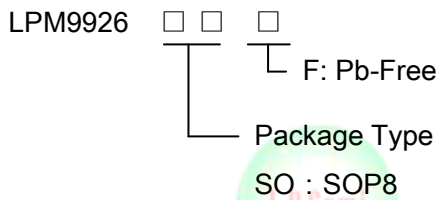
General Description

The LPM9926 uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 1.8V while retaining a 12V $V_{GS(MAX)}$ rating. This device is suitable for use as a uni-directional or bi-directional load switch.

Features

- ◆ 100% EAS Guaranteed
- ◆ Green Device Available
- ◆ Super Low Gate Charge
- ◆ Excellent CdV/dt effect decline
- ◆ Advanced high cell density Trench technology

Order Information



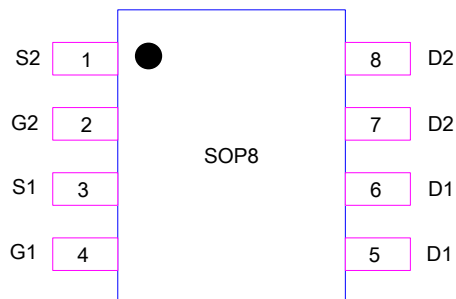
Applications

- ◇ Driver for Relay, Solenoid, Motor, LED etc.
- ◇ DC-DC converter circuit
- ◇ Power Switch
- ◇ Load Switch
- ◇ Charging

Pin Description

Pin Number	Pin Description
1	S2
2	G2
3	S1
4	G1
5	D2
6	
7	D1
8	

Pin Configurations



Marking Information

Part	Marking	Package	Shipping
LPM9926SOF	LPS LPM9926 YWX	SOP8	4K/REEL
Marking indication: Y:Production year W:Production week X:Production batch.			

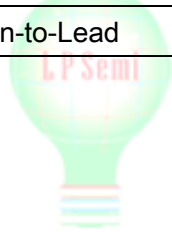


Absolute Maximum Ratings

Parameter		Symbol	Maximum	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current	TA=25°C	I_D	7.6	A
	TA=70°C		6.1	
Pulsed Drain Current		I_{DM}	38	
Power Dissipation	TA=25°C	P_D	2	W
	TA=70°C		1.28	
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

Thermal resistance ratings

Parameter		Symbol	TYP	Unit
Junction-to-Case Thermal Resistance	$t \leq 10s$	$R_{\theta JA}$	48	°C/W
Junction-to-Case Thermal Resistance	Steady State		74	°C/W
Maximum Junction-to-Lead	Steady State	$R_{\theta JL}$	32	°C/W





Electrical Characteristics

Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
STATIC PARAMETERS						
BV_{DSS}	Drain-Source Breakdown Voltage	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$	20			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=20\text{V}$, $V_{GS}=0\text{V}$ $T_J=55^\circ\text{C}$			1 5	μA
I_{GSS}	Gate-Body leakage current	$V_{DS}=0\text{V}$, $V_{GS}=12\text{V}$			± 100	nA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$	0.4	0.75	1.1	V
$I_{D(ON)}$	On state drain current	$V_{GS}=10\text{V}$, $V_{DS}=5\text{V}$	38			A
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10\text{V}$, $I_D=7.6\text{A}$ $T_J=125^\circ\text{C}$		16.5 25	23 30	m Ω
		$V_{GS}=4.5\text{V}$, $I_D=7\text{A}$		18.5	28	
		$V_{GS}=2.5\text{V}$, $I_D=6\text{A}$		24	38	
g_{FS}	Forward Transconductance	$V_{DS}=5\text{V}$, $I_D=7.6\text{A}$		25		S
V_{SD}	Diode Forward Voltage	$I_S=1\text{A}$, $V_{GS}=0\text{V}$		0.7	1	V
I_S	Maximum Body-Diode Continuous Current				2.5	A
DYNAMIC PARAMETERS						
C_{iss}	Input Capacitance			525		pF
C_{oss}	Output Capacitance	$V_{GS}=0\text{V}$, $V_{DS}=15\text{V}$, $f=1\text{MHz}$		95		pF
C_{rss}	Reverse Transfer Capacitance			75		pF
R_g	Gate resistance	$V_{GS}=0\text{V}$, $V_{DS}=0\text{V}$, $f=1\text{MHz}$		1.7		Ω
SWITCHING PARAMETERS						
$Q_g(10\text{V})$	Total Gate Charge	$V_{GS}=10\text{V}$, $V_{DS}=15\text{V}$, $I_D=7.6\text{A}$		12.5		nC
$Q_g(4.5\text{V})$	Total Gate Charge			6		nC
Q_{gs}	Gate Source Charge			1		nC
Q_{gd}	Gate Drain Charge			2		nC
$t_{D(on)}$	Turn-On DelayTime	$V_{GS}=10\text{V}$, $V_{DS}=20\text{V}$, $R_L=2\Omega$, $R_{GEN}=3\Omega$		3		ns
t_r	Turn-On Rise Time			7.5		ns
$t_{D(off)}$	Turn-Off DelayTime			20		ns
t_f	Turn-Off Fall Time			6		ns
t_{rr}	Body Diode Reverse Recovery Time	$I_F=7.6\text{A}$, $dI/dt=100\text{A}/\mu\text{s}$		14		ns
Q_{rr}	Body Diode Reverse Recovery Charge	$I_F=7.6\text{A}$, $dI/dt=100\text{A}/\mu\text{s}$		6		nC

Typical Characteristics

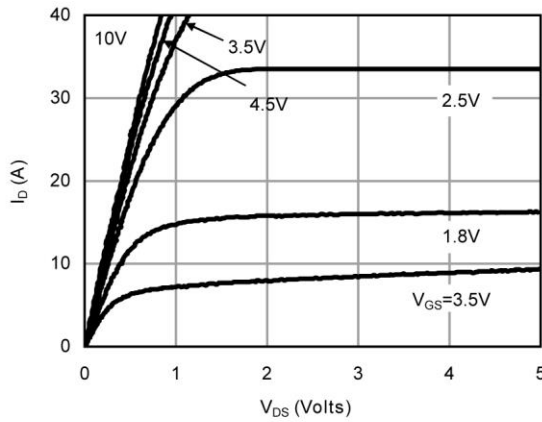


Fig 1: On-Region Characteristics (Note E)

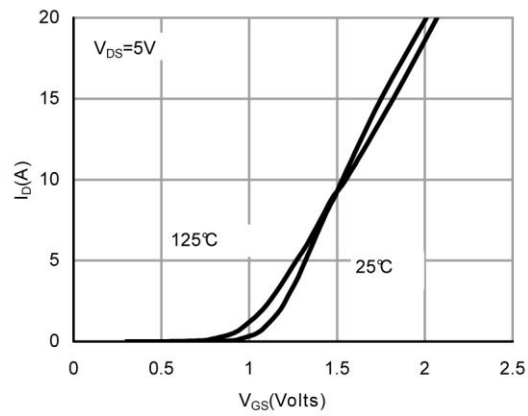


Figure 2: Transfer Characteristics (Note E)

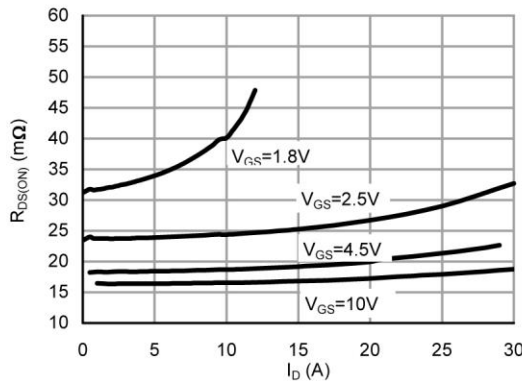


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

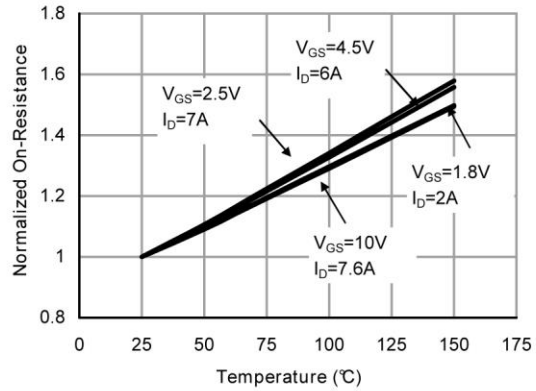


Figure 4: On-Resistance vs. Junction Temperature (Note E)

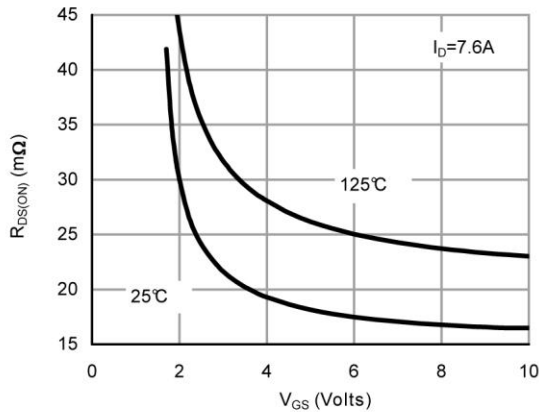


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

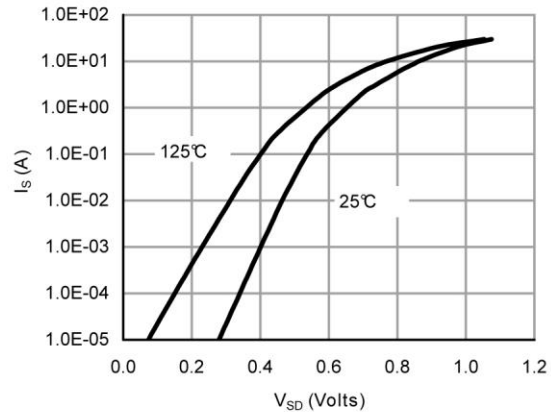


Figure 6: Body-Diode Characteristics (Note E)

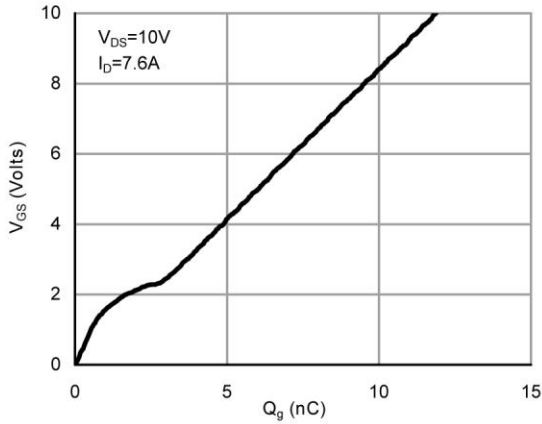


Figure 7: Gate-Charge Characteristics

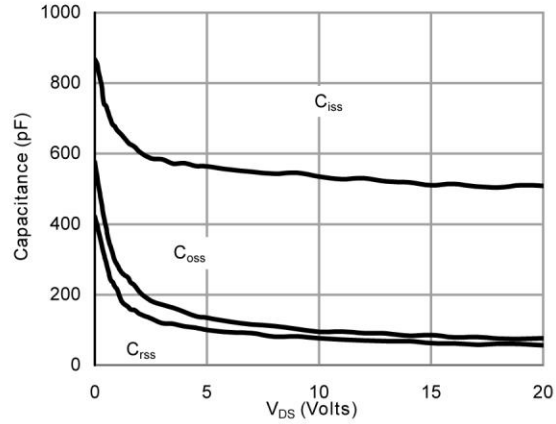


Figure 8: Capacitance Characteristics

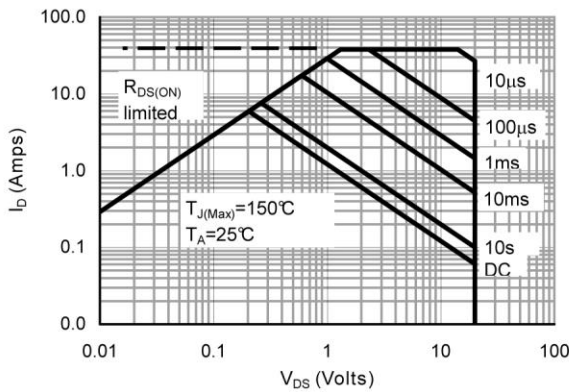


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

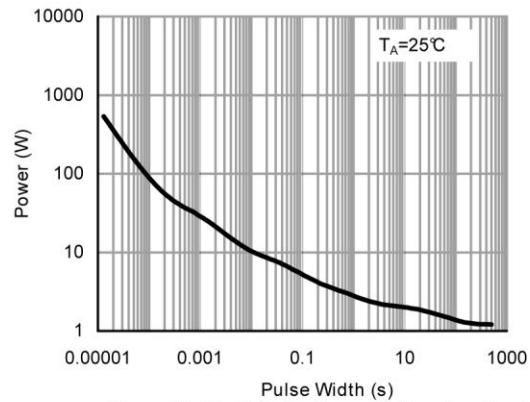


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

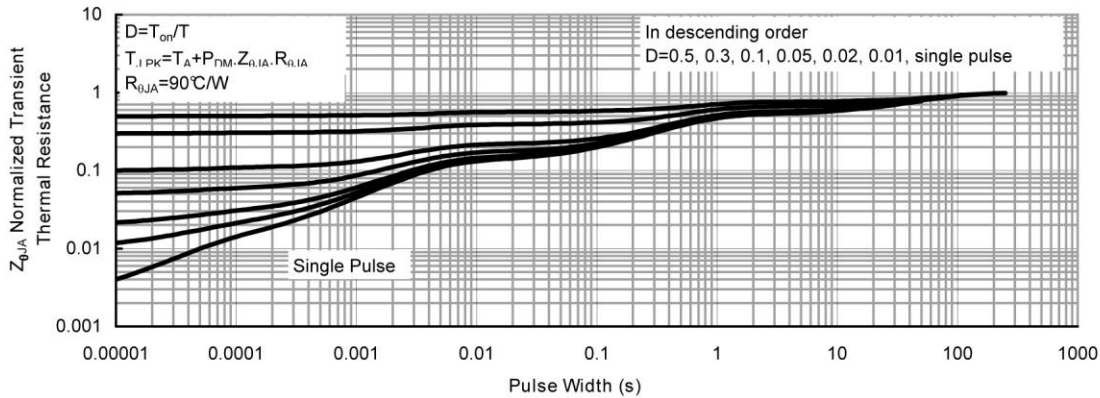
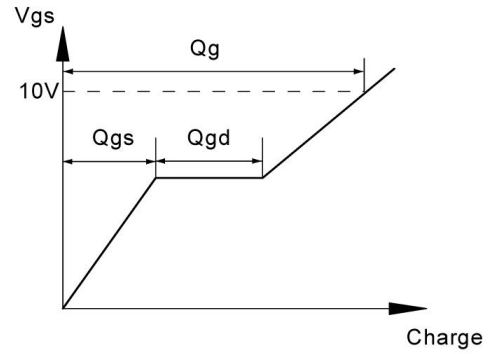
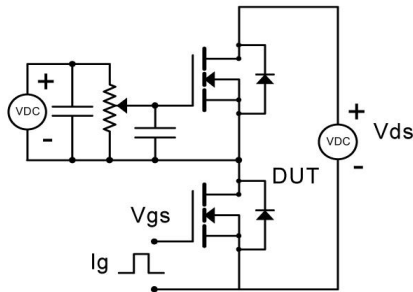


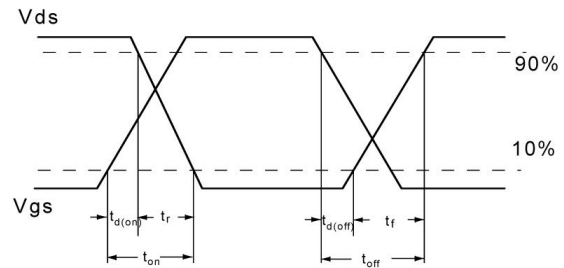
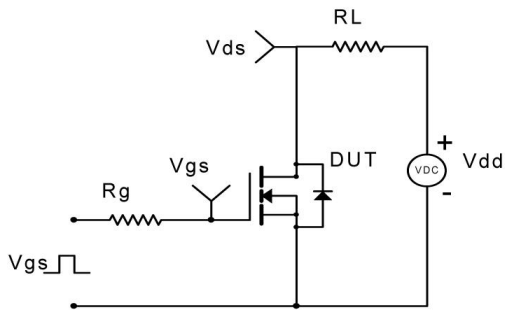
Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)



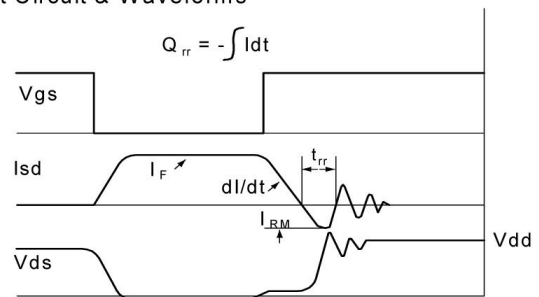
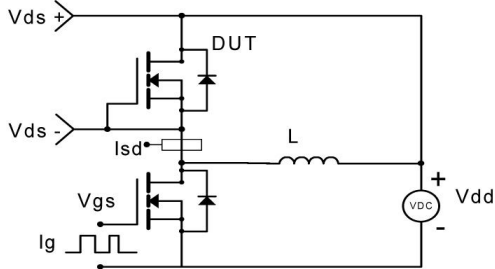
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms



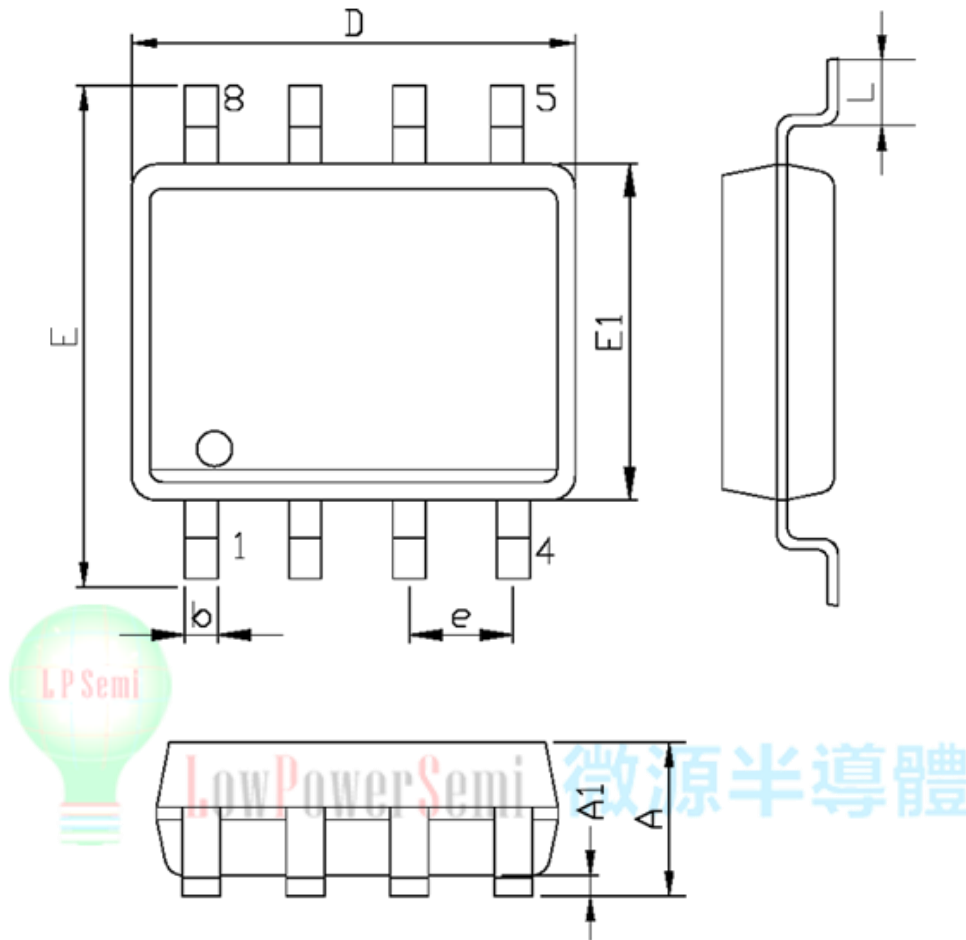
Diode Recovery Test Circuit & Waveforms





Packaging Information

SOP8



SYMBOLS	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	1.35	1.75	0.053	0.069
A1	0.10	0.25	0.004	0.010
D	4.90		0.193	
E	5.80	6.20	0.228	0.244
E1	3.90		0.153	
L	0.40	1.27	0.016	0.050
b	0.31	0.51	0.012	0.020
e	1.27		0.050	

单击下面可查看定价，库存，交付和生命周期等信息

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