

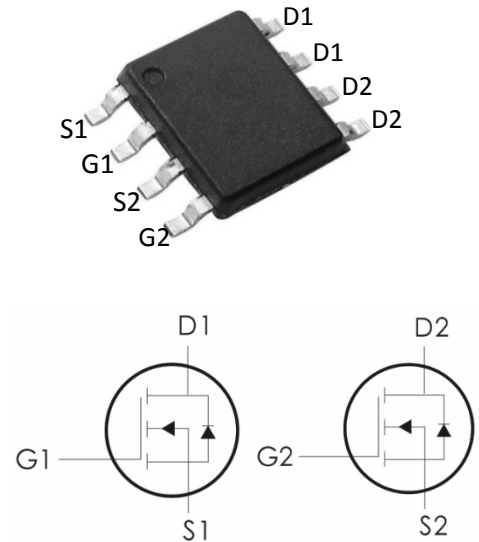
Description:

This Dual N-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.

Features:

- 1) $V_{DS}=20V, I_D=6.5A, R_{DS(on)} < 24m\Omega @ V_{GS}=4.5V$
- 2) Low gate charge.
- 3) Green device available.
- 4) Advanced high cell density trench technology for ultra $R_{DS(on)}$.
- 5) Excellent package for good heat dissipation.



Absolute Maximum Ratings: ($T_C=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Continuous Drain Current ^{1a}	6.5	A
	Continuous Drain Current- $T_C=100^\circ C$	---	
	Pulsed Drain Current	20	
E_{AS}	Single Pulse Avalanche Energy	---	mJ
P_D	Power Dissipation ^{1a}	1.6	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ C$

Thermal Characteristics:

Symbol	Parameter	Max	Units
$R_{\theta Jc}$	Maximum Junction-to-Lead ¹	40	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient ^{1a}	78	

Package Marking and Ordering Information:

Part NO.	Marking	Package
DOS9926	S9926	SOP-8D

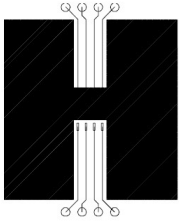
Electrical Characteristics: ($T_c=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250 μ A	20	---	---	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{GS} =0V, V _{DS} =16V	---	---	1	μ A
I _{GSS}	Gate-Source Leakage Current	V _{GS} =± 10V, V _{DS} =0A	---	---	± 100	nA
On Characteristics						
V _{GS(th)}	GATE-Source Threshold Voltage	V _{GS} =V _{DS} , I _D =250 μ A	0.5	1	1.5	V
R _{DS(ON)}	Drain-Source On Resistance	V _{GS} =4.5V, I _D =6.5A	---	19	24	m Ω
G _{FS}	Forward Transconductance	V _{DS} =5V, I _D =3A	---	11	---	S
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	---	700	---	pF
C _{oss}	Output Capacitance		---	175	---	
C _{rss}	Reverse Transfer Capacitance		---	85	---	
Switching Characteristics						
t _{d(on)}	Turn-On Delay Time	V _{DS} =10V, I _D =1A R _{GEN} =6 Ω . V _{GS} =4.5V,	---	8	16	ns
t _r	Rise Time		---	10	18	ns
t _{d(off)}	Turn-Off Delay Time		---	18	29	ns
t _f	Fall Time		---	5	10	ns
Q _g	Total Gate Charge	V _{GS} =4.5V, V _{DS} =10V, I _D =3A	---	7	10	nC
Q _{gs}	Gate-Source Charge		---	1.2	---	nC
Q _{gd}	Gate-Drain “Miller” Charge		---	1.9	---	nC
Drain-Source Diode Characteristics						
V _{SD}	Source-Drain Diode Forward Voltage ²	V _{GS} =0V, I _S =1.3A	---	0.7	1.2	V
I _s	Maximum Body-Diode Continuous Current		---	---	1.3	

Notes:

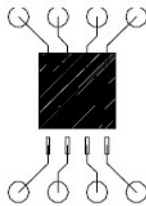
1. $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. $R_{\theta JC}$ is guaranteed by design while $R_{\theta JA}$ is determined by the user's board design.

a) 78°C/W when mounted on a 0.5 in² pad of 2 oz. copper.

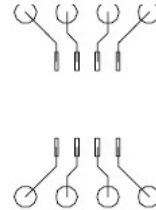


Scale 1 : 1 on letter size paper

b) 125°C/W when mounted on a 0.02 in² pad of 2 oz. copper.



c) 135°C/W when mounted on a minimum pad.



2. Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

Typical Characteristics: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

