



UD9926

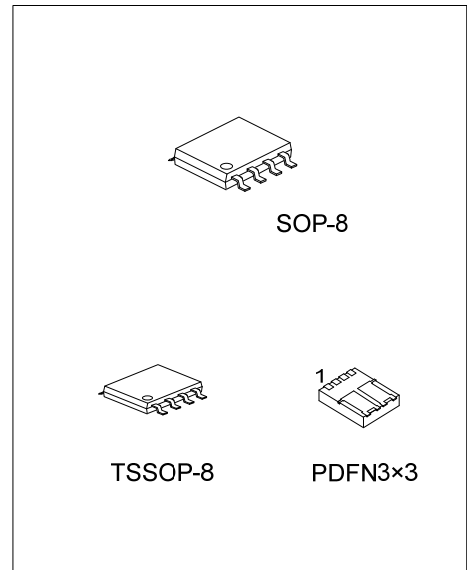
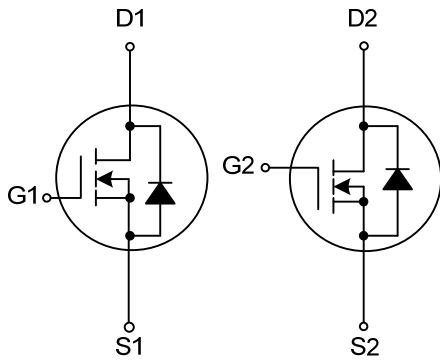
Power MOSFET

DUAL N-CHANNEL ENHANCEMENT MODE

■ FEATURES

- * 20V/6A
- * Low $R_{DS(ON)}$
- * Reliable and Rugged

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UD9926L-S08-R	UD9926G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel
UD9926L-P08-R	UD9926G-P08-R	TSSOP-8	D1	S1	S1	G1	G2	S2	S2	D2	Tape Reel
UD9926L-P3030-R	UD9926G-P3030-R	PDFN3x3	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel

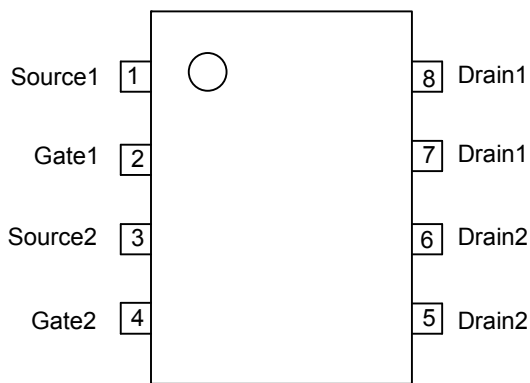
Note: Pin Assignment: G: Gate D: Drain S: Source

<p>UD9926G-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8, P08: TSSOP-8, P3030: PDFN3x3 (3) G: Halogen Free and Lead Free, L: Lead Free
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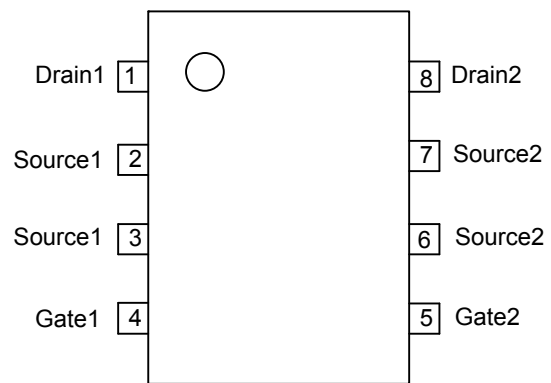
MARKING

PACKAGE	MARKING
SOP-8	
TSSOP-8	
PDFN3x3	

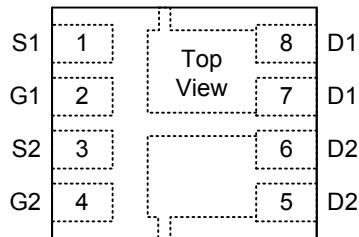
PIN CONFIGURATION



SOP-8



TSSOP-8



PDFN3x3

■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain Source Voltage		V_{DSS}	20	V
Gate Source Voltage		V_{GSS}	± 10	V
Drain Current	Continuous(Note 2)	I_D	6	A
	Pulsed (Note 3)	I_{DM}	20	A
Power Dissipation	SOP-8	P_D	1.6	W
	TSSOP-8		1.0	W
	PDFN3x3		15	W
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

- Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
 2. Repetitive Rating: Pulse width limited by maximum junction temperature.
 3. Surface Mounted on 1in^2 pad area, $t \leq 10\text{sec}$.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOP-8/TSSOP-8	θ_{JA}	80	$^\circ\text{C/W}$
	PDFN3x3		8.33	$^\circ\text{C/W}$

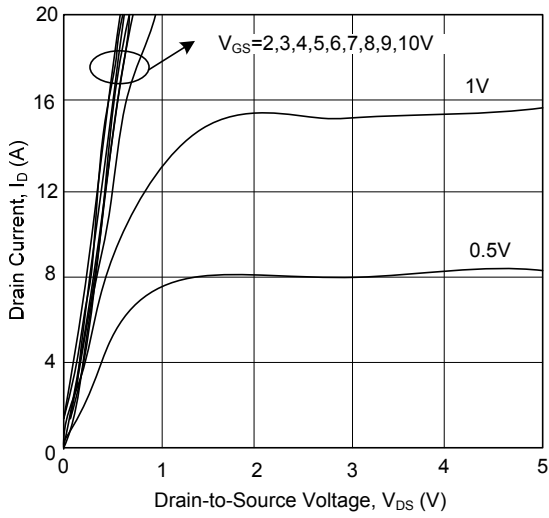
■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu\text{A}$	20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 8V$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.5	0.7	1.5	V
Drain-Source On-State Resistance (Note2)	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=6A$		28	32	m Ω
		$V_{GS}=2.5V, I_D=5.2A$		38	45	m Ω
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=15V, f=1.0\text{MHz}$		360		pF
Output Capacitance	C_{OSS}			95		pF
Reverse Transfer Capacitance	C_{RSS}			90		pF
SWITCHING CHARACTERISTICS						
Total Gate Charge (Note)	Q_G	$V_{DS}=10V, V_{GS}=4.5V, I_D=6A$		8		nC
Gate-Source Charge	Q_{GS}			1.2		nC
Gate-Drain Charge	Q_{GD}			2.6		nC
Turn-ON Delay Time (Note)	$t_{D(ON)}$	$V_{DD}=10V, V_{GS}=4.5V, I_D=6A, R_G=3.3\Omega$		7		ns
Turn-ON Rise Time	t_R			16		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			42		ns
Turn-OFF Fall Time	t_F			28		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I_S				2.5	A
Drain-Source Diode Forward Voltage(Note2)	V_{SD}	$I_S=1.7A, V_{GS}=0V$	0.6		1.3	V

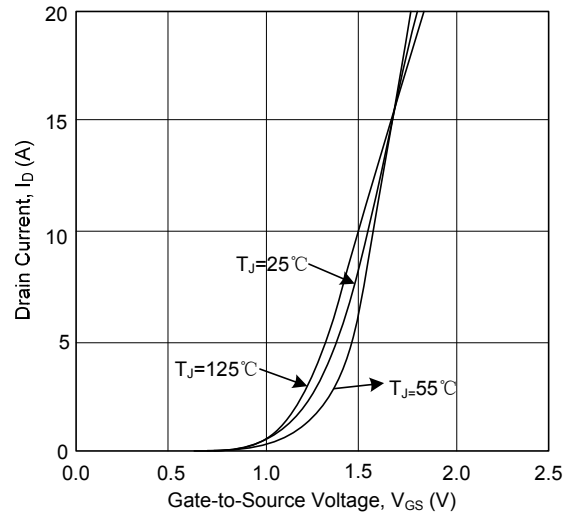
Note: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS

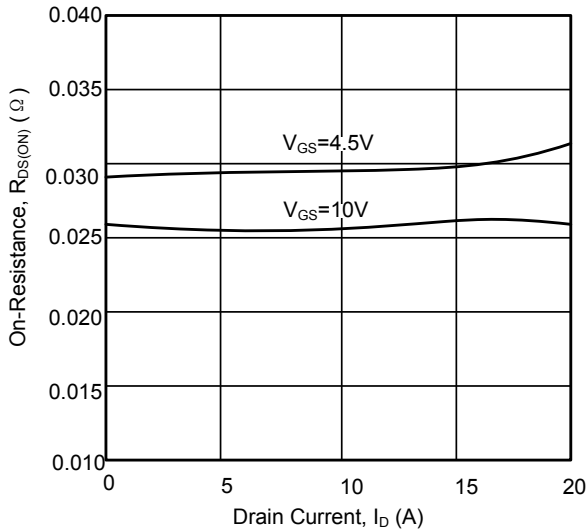
Output Characteristics



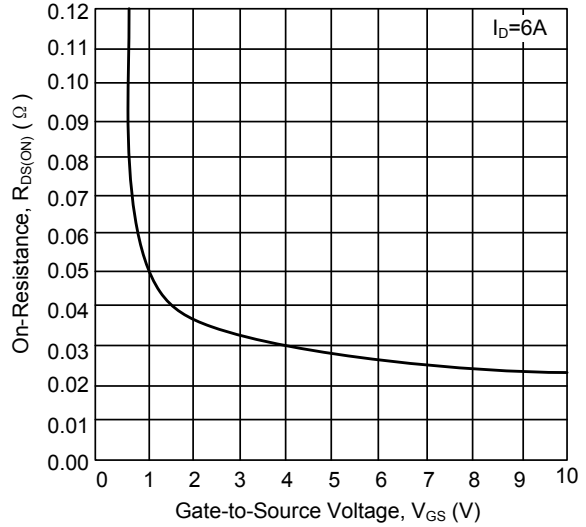
Transfer Characteristics



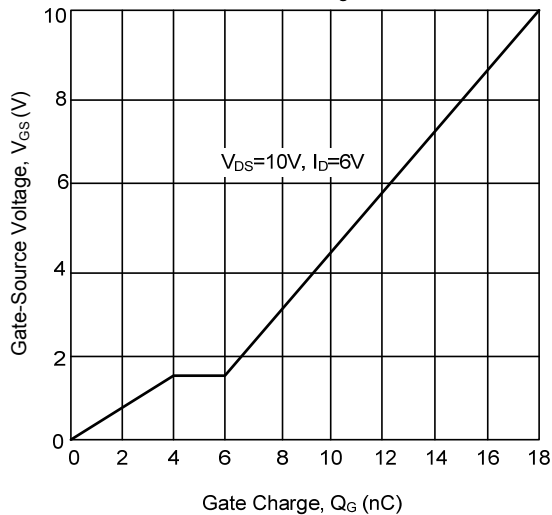
On-Resistance vs. Drain Current



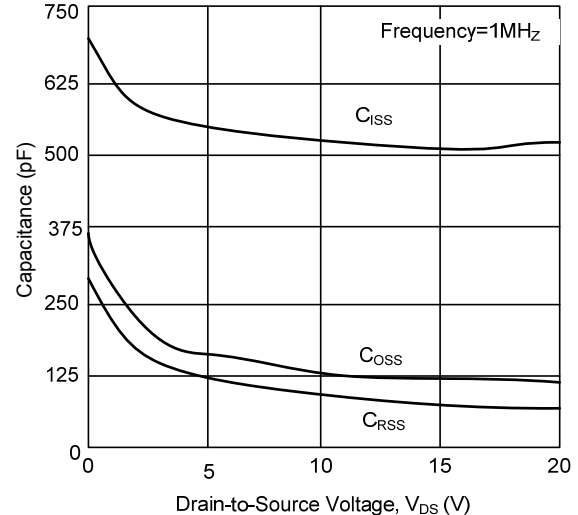
On-Resistance vs. Gate-to-Source Voltage



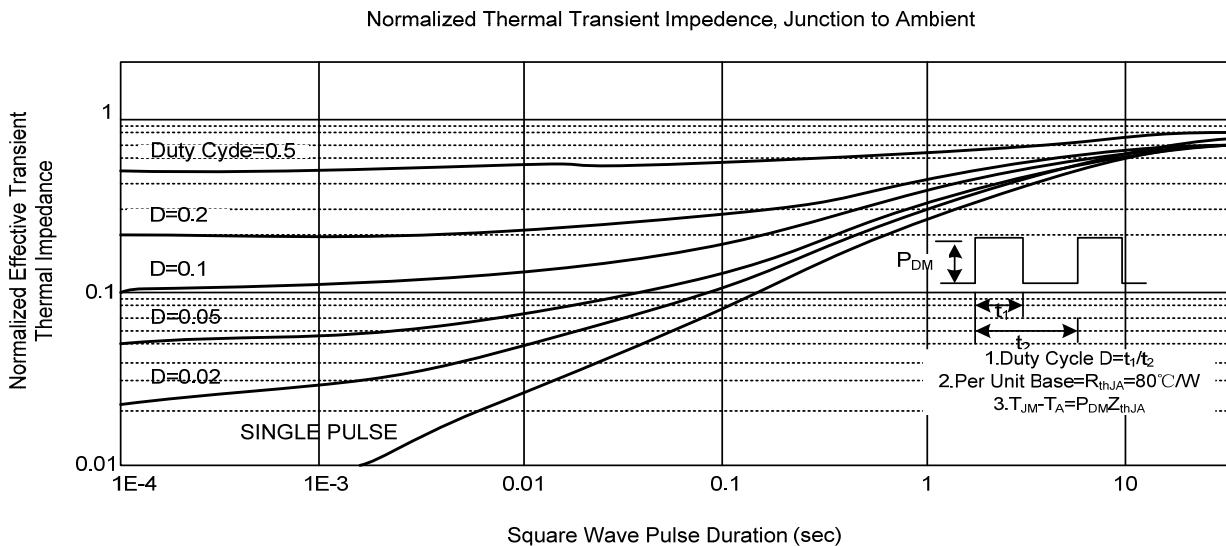
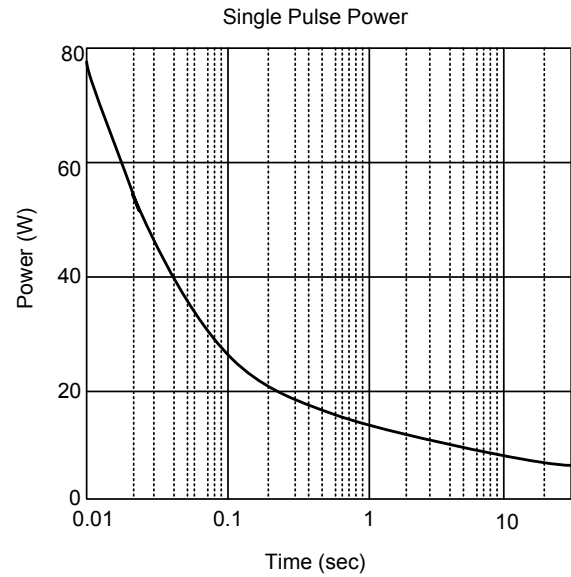
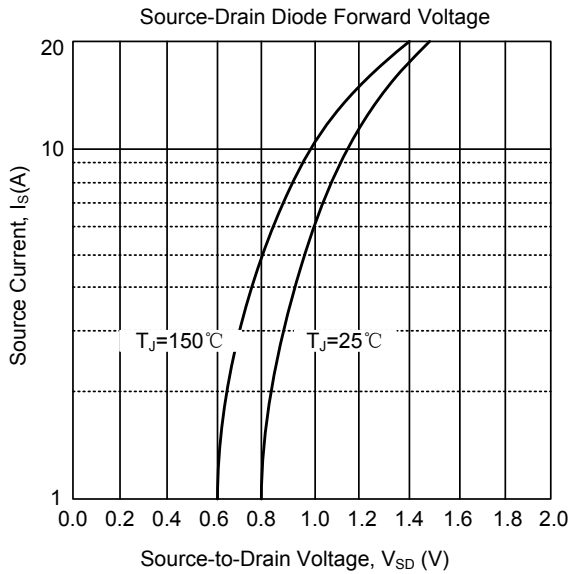
Gate Charge



Capacitance



■ TYPICAL CHARACTERISTICS (Cont.)



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