



UD9926

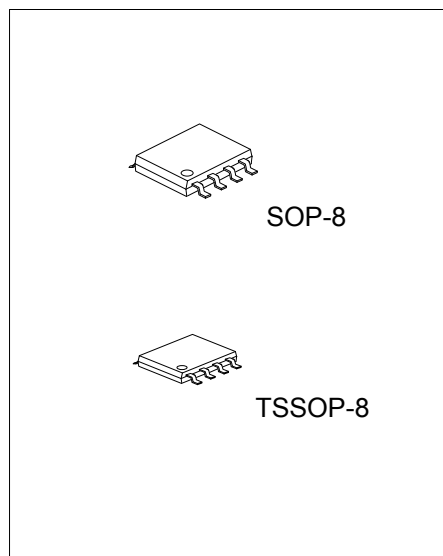
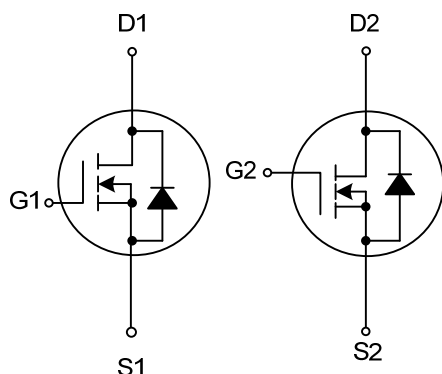
Power MOSFET

DUAL N-CHANNEL ENHANCEMENT MODE

■ FEATURES

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

■ SYMBOL



Lead-free: UD9926L
Halogen-free: UD9926G

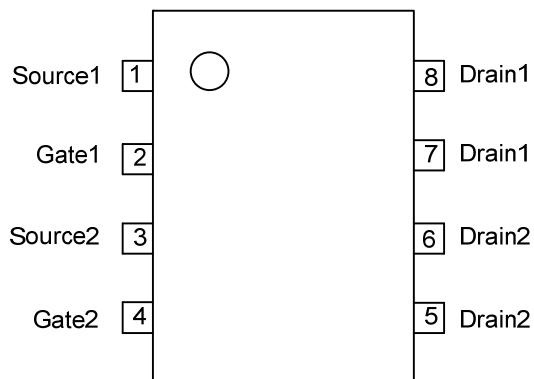
■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment								Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	4	5	6	7	8	
UD9926-S08-R	UD9926L-S08-R	UD9926G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel
UD9926-P08-R	UD9926L-P08-R	UD9926G-P08-R	TSSOP-8	D1	S1	S1	G1	G2	S2	S2	D2	Tape Reel

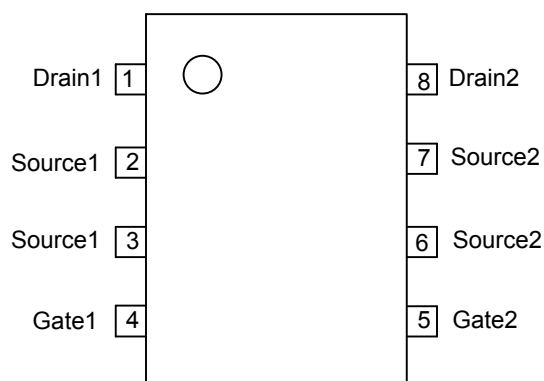
UD9226L-S08-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) S08: SOP-8, P08: TSSOP-8
	(3)Lead Plating	(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ PIN CONFIGURATION

For SOP-8 Package



For TSSOP-8 Package



■ 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 3)	I_D	6	A
	Pulsed (Note 2)	I_{DM}	20	A
Power Dissipation	SOP-8	P_D	1.6	W
	TSSOP-8		1.0	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. Surface Mounted on 1in^2 pad area, $t \leq 10\text{sec}$.

3. Pulse width limited by $T_{J(MAX)}$

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ_{JA}			80	$^\circ\text{C/W}$

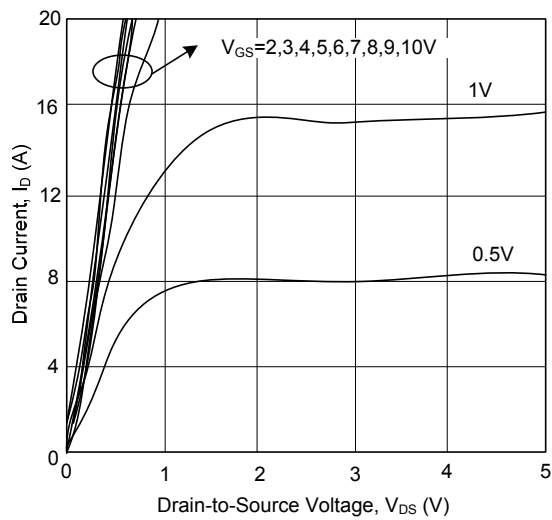
■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	20			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			1	uA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250uA	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	mΩ
		V _{GS} =2.5V, I _D =5.2A		38	45	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{GS} =0V,V _{DS} =15V,f=1.0MHz		520		pF
Output Capacitance	C _{OSS}			110		pF
Reverse Transfer Capacitance	C _{RSS}			70		pF
SWITCHING CHARACTERISTICS						
Turn-ON Delay Time (Note)	t _{D(ON)}	V _{DD} =10V, V _{GS} =4.5V, I _D =1A, R _G =0.2Ω		17		ns
Turn-ON Rise Time	t _R			15		ns
Turn-OFF Delay Time	t _{D(OFF)}			45		ns
Turn-OFF Fall Time	t _F			25		ns
Total Gate Charge (Note)	Q _G	V _{DS} =10V, V _{GS} =-4.5V, I _D =6A		10		nC
Gate-Source Charge	Q _{GS}			3.6		nC
Gate-Drain Charge	Q _{GD}			2		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note2)	V _{SD}	I _S =1.7A, V _{GS} =0V	0.6		1.3	V
Maximum Continuous Drain-Source Diode Forward Current	I _S				2.5	A

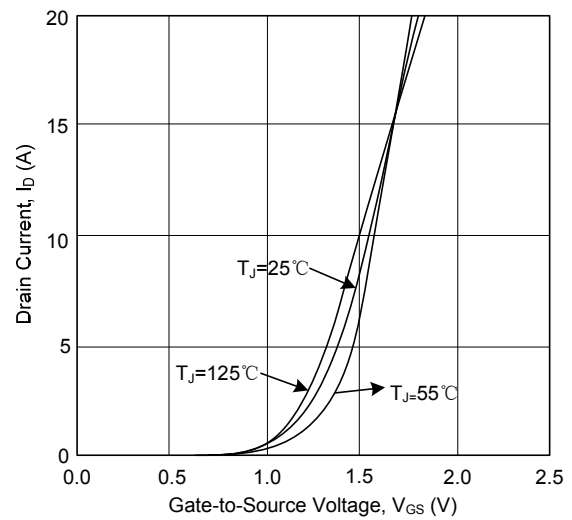
Note: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS

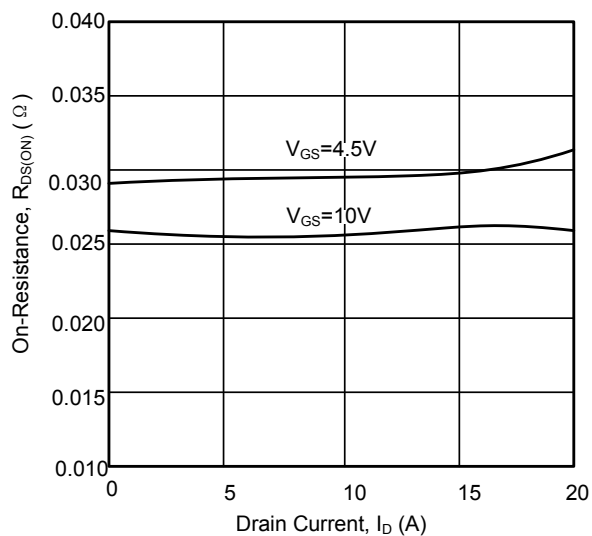
Output Characteristics



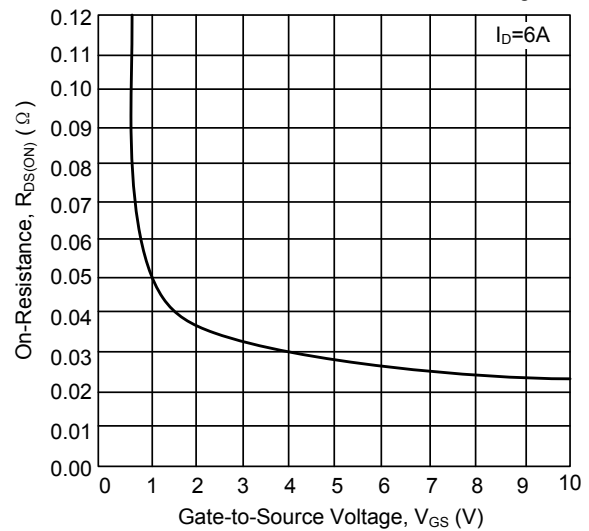
Transfer Characteristics



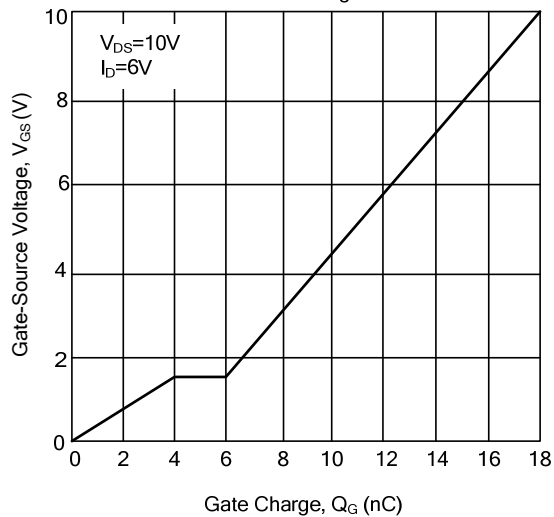
On-Resistance vs. Drain Current



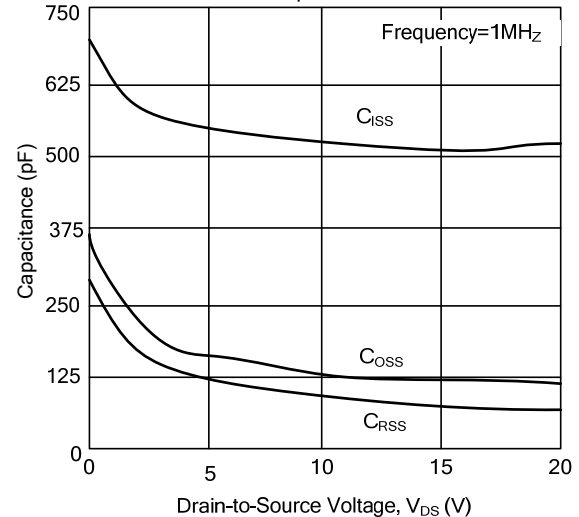
On-Resistance vs. Gate-to-Source Voltage



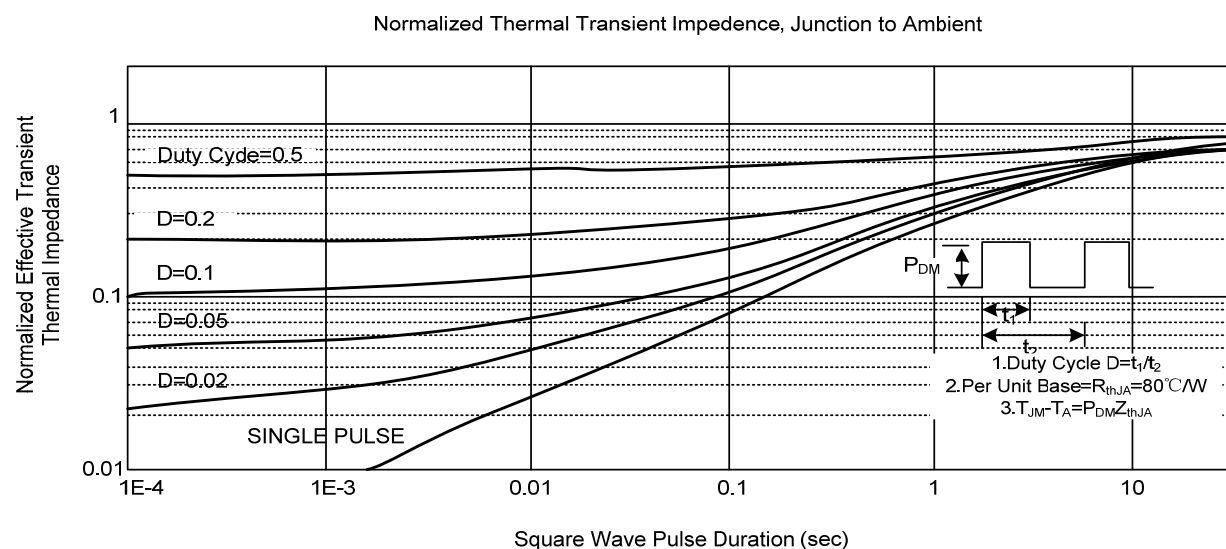
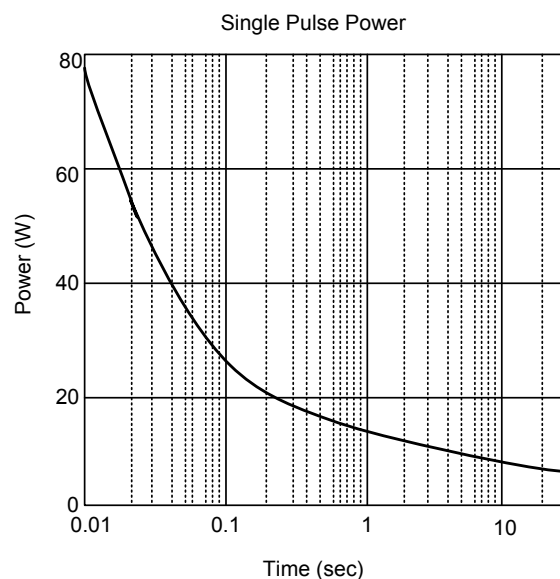
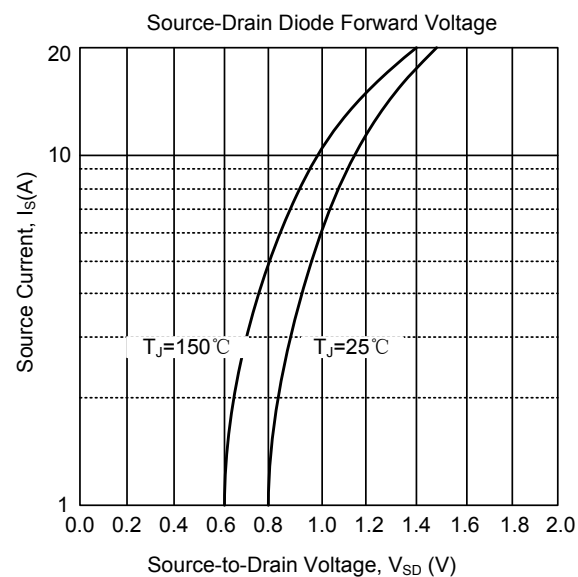
Gate Charge



Capacitance



TYPICAL CHARACTERISTICS(Cont.)



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