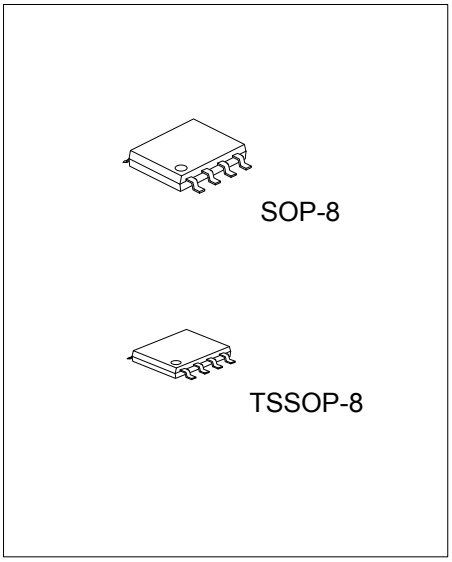
UD9926

Power MOSFET

DUAL N-CHANNEL ENHANCEMENT MODE

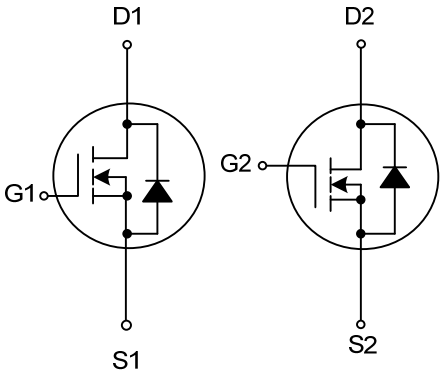


Lead-free: UD9926L
Halogen-free: UD9926G

■ FEATURES

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

■ SYMBOL



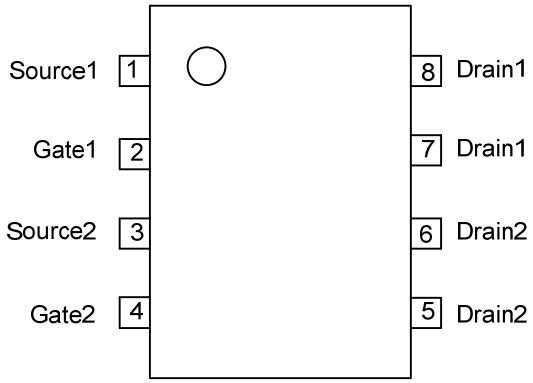
■ ORDERING INFORMATION

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

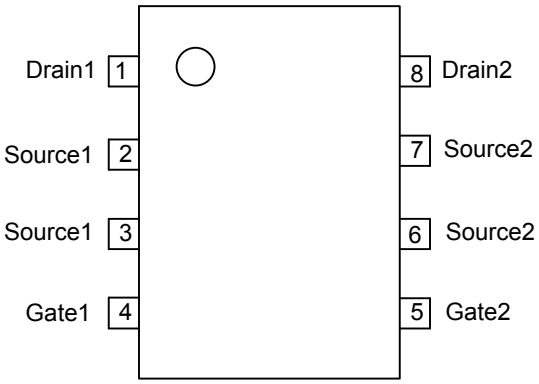
UD9226L-S08-R (1)Packing Type (2)Package Type (3)Lead Plating	(1) R: Tape Reel (2) S08: SOP-8, P08: TSSOP-8 (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ PIN CONFIGURATION

For SOP-8 Package



For TSSOP-8 Package



■ ABSOLUTE MAXIMUM RATINGS (T_A = 25°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	°C
Storage Temperature		T_{STG}	-55 ~ +150	°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≤10sec.
3. Pulse width limited by $T_{J(MAX)}$

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ_{JA}			80	°C /W

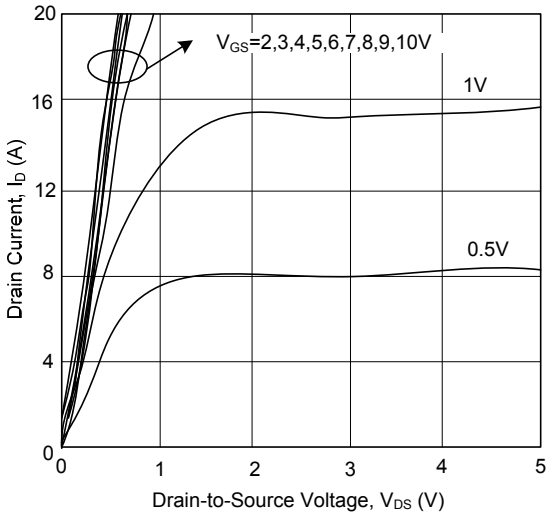
■ ELECTRICAL CHARACTERISTICS (T_A =25°C, unless otherwise specified)

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

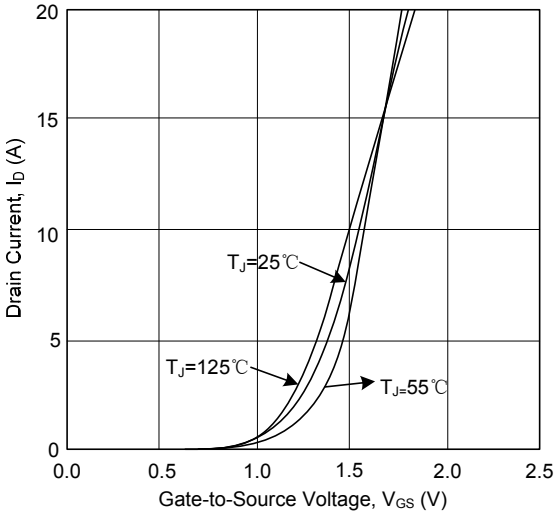
Note: Pulse width ≤300us, duty cycle ≤2%.

■ TYPICAL CHARACTERISTICS

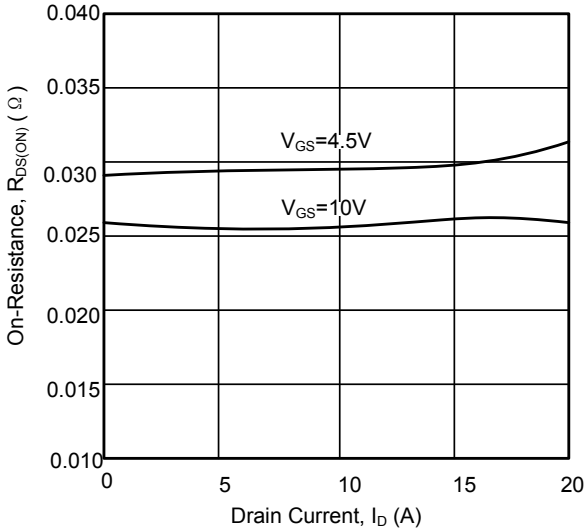
Output Characteristics



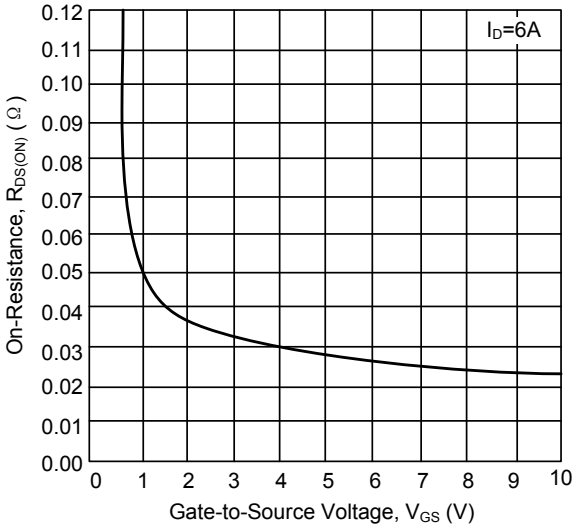
Transfer Characteristics



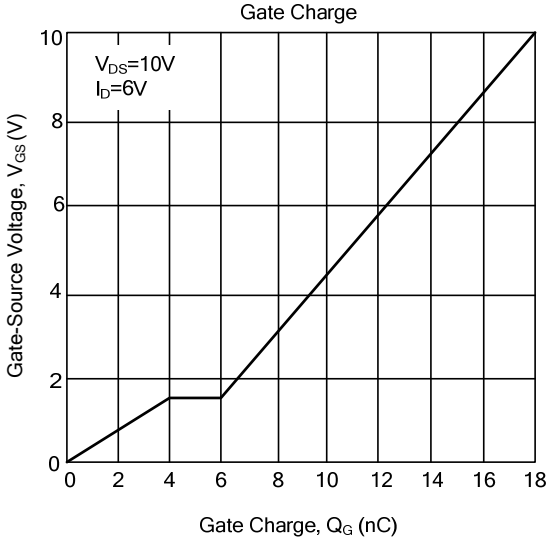
On-Resistance vs. Drain Current



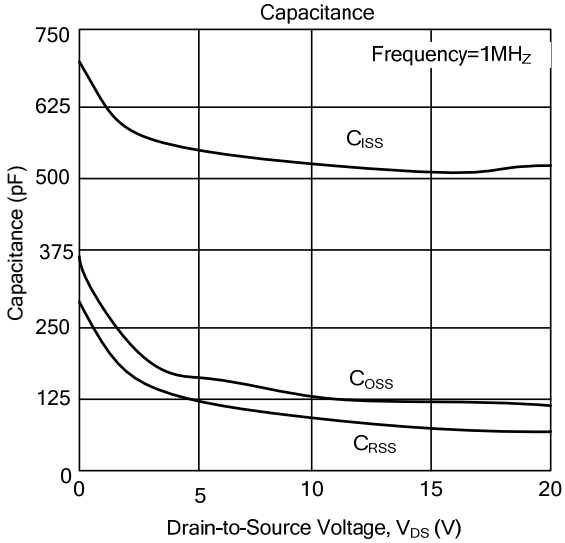
On-Resistance vs. Gate-to-Source Voltage



Gate Charge

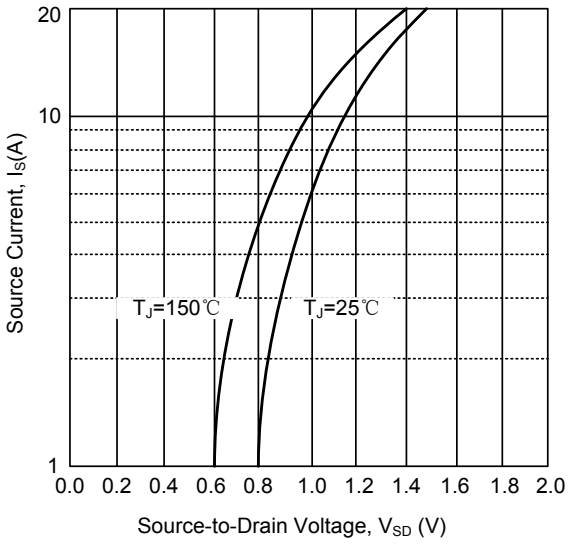


Capacitance

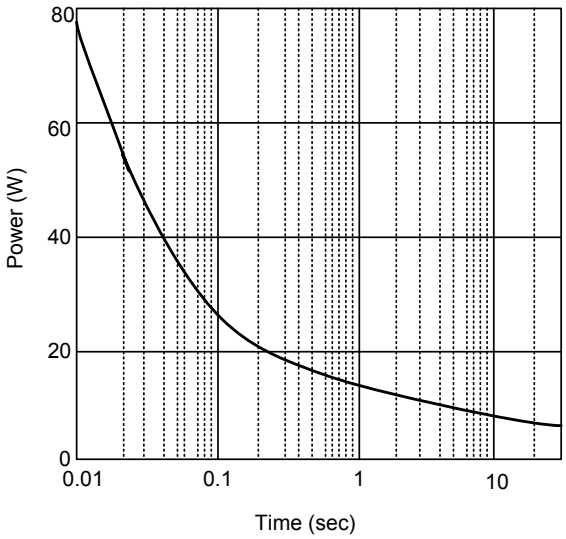


■ TYPICAL CHARACTERISTICS(Cont.)

Source-Drain Diode Forward Voltage



Single Pulse Power



Normalized Thermal Transient Impedence, Junction to Ambient