



UT9926

Preliminary

Power MOSFET

N-CHANNEL ENHANCEMENT MODE

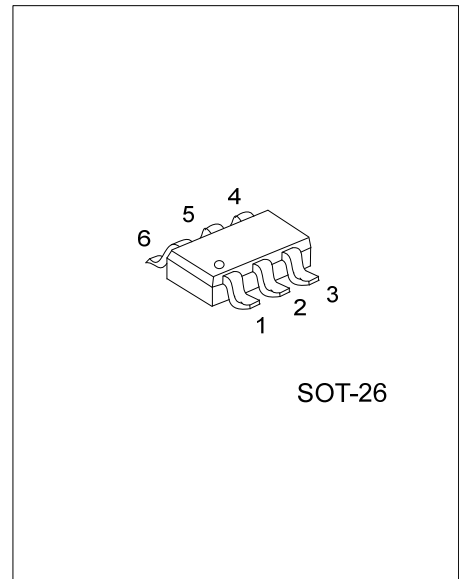
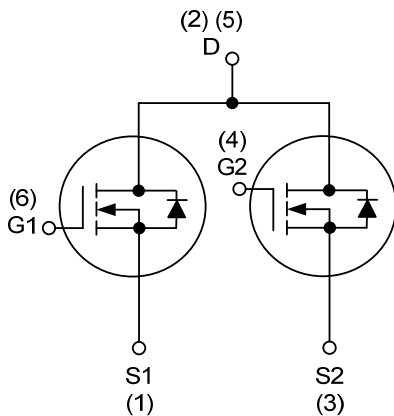
■ DESCRIPTION

The **UT9926** uses advanced technology to provide fast switching, low on-resistance and cost-effectiveness. This device is suitable for all commercial-industrial surface mount applications.

■ FEATURES

- * $R_{DS(ON)} \leq 28m\Omega @ V_{GS} = 4.5 V$
- * Ultra low gate charge (typical 23 nC)
- * Low reverse transfer Capacitance ($C_{RSS} =$ typical 150 pF)
- * Fast switching capability
- * Avalanche energy Specified
- * Improved dv/dt capability, high ruggedness

■ SYMBOL



SOT-26

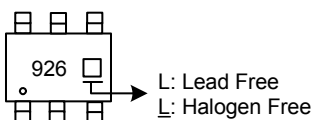
Lead-free: UT9926L
Halogen-free: UT9926G

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment						Packing
Normal	Lead Free	Halogen-Free		1	2	3	4	5	6	
UT9926-AG6-R	UT9926L-AG6-R	UT9926G-AG6-R	SOT-26	S1	D	S2	G2	D	G1	Tape Reel

<p>UM606L-AG6-R</p> <ul style="list-style-type: none"> (1)Packing Type (2)Package Type (3)Lead Plating 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AG6: SOT-26 (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	±8	V
Drain Current	Continuous(Note 1)	I_D	4	A
	Pulsed	I_{DM}	20	
Power Dissipation (Note 1)		P_D	1.14	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-55 ~ +150	°C

Note: 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.

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-Ambient (Note 1)	θ_{JA}			110	°C/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	20			V
Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS}/\Delta T_J$	$I_D=1mA$, Reference to 25°C		0.03		V/°C
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$,			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V$			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5		1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=6.0A$			28	mΩ
		$V_{GS}=2.5V, I_D=5.2A$			38	
Forward Transconductance	g_{FS}	$V_{DS}=10V, I_D=6A$		20		S
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{DS}=20V, V_{GS}=0V, f=1.0MHz$		1035		pF
Output Capacitance	C_{OSS}			320		pF
Reverse Transfer Capacitance	C_{RSS}			150		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q_G	$V_{DS}=20V, V_{GS}=5V, I_D=6A$		23		nC
Gate Source Charge	Q_{GS}			4.5		nC
Gate Drain Charge	Q_{GD}			7		nC
Turn-ON Delay Time	$t_{D(ON)}$	$V_{GS}=5V, V_{DS}=10V, R_D=10\Omega, R_G=6\Omega, I_D=1A$		30		ns
Turn-ON Rise Time	t_R			70		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			40		ns
Turn-OFF Fall-Time	t_F			65		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage	V_{SD}	$I_S=1.7A, V_{GS}=0V$			1.2	V

Note: 1. Pulse width limited by $T_{J(MAX)}$

2. Pulse Test : Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$

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