



UTL1426

Power MOSFET

N-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

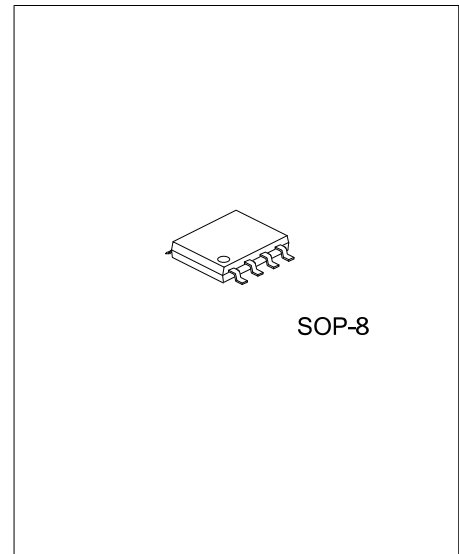
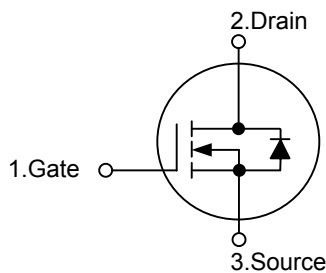
DESCRIPTION

The **UTL1426** uses UTC's advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

FEATURES

- * $R_{DS(ON)} < 10.5 \text{ m}\Omega @ V_{GS}=10\text{V}$
- * $R_{DS(ON)} < 12.5 \text{ m}\Omega @ V_{GS}=4.5\text{V}$
- * Low capacitance
- * Low gate charge
- * Fast switching capability
- * Avalanche energy specified

SYMBOL

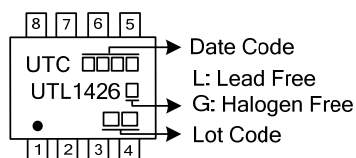


ORDERING INFORMATION

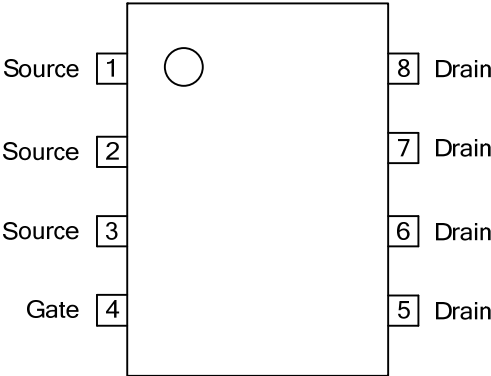
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UTL1426L-S08-R	UTL1426G-S08-R	SOP-8	Tape Reel

UTL1426G-S08-R		
(1)Packing Type	(1) R: Tape Reel	
(2)Package Type	(2) S08: SOP-8	
(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free	

MARKING



■ PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±12	V
Continuous Drain Current	I _D	46	A
Pulsed Drain Current	I _{DM}	120	A
Avalanche Current	I _{AR}	35	A
Repetitive avalanche energy L=0.3mH	E _{AR}	184	mJ
Power Dissipation	T _C =25°C P _D	43	W
Junction Temperature	T _J	+175	°C
Storage Temperature	T _{STG}	-55 ~ +175	°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.

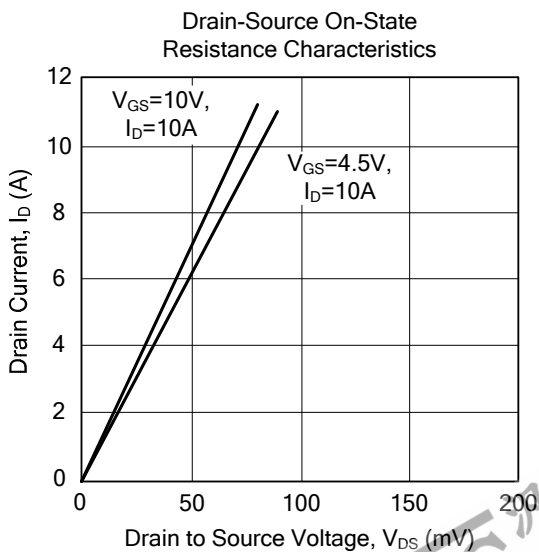
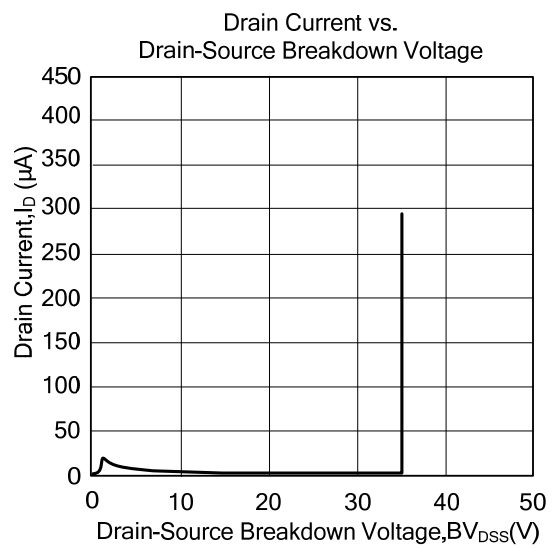
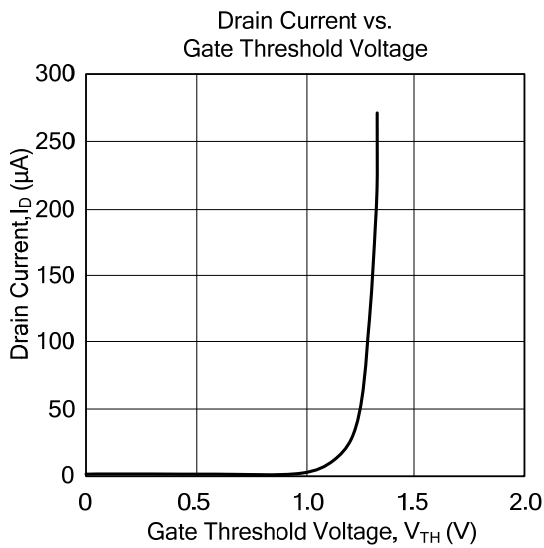
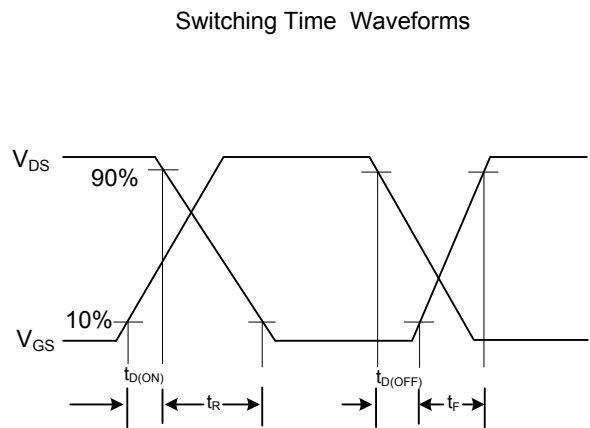
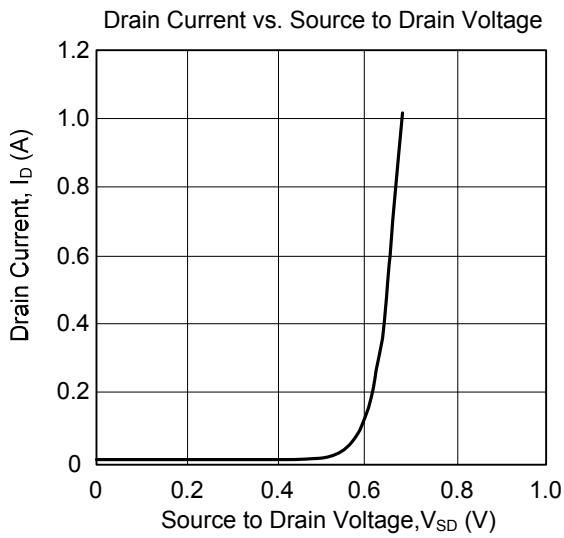
■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-Ambient	θ _{JA}		53	64	°C/W
Junction-to-Case	θ _{JC}		2.4	3.5	°C/W

■ ELECTRICAL CHARACTERISTICS (T_J=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 =250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			0.1	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	1	1.55	2.5	V
On State Drain Current	I _{D(ON)}	V _{DS} =5V, V _{GS} =10V	120			A
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =20A		8.5	10.5	mΩ
		V _{GS} =4.5V, I _D =20A		10.2	12.5	
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =15V, V _{GS} =0V, f=1MHz		1210	1452	pF
Output Capacitance	C _{OSS}			330		pF
Reverse Transfer Capacitance	C _{RSS}			85		pF
SWITCHING PARAMETERS						
Total Gate Charge	10V	Q _G	V _{DS} =15V, V _{GS} =10V, I _D =20A	22	28	nC
	4.5V			10		nC
Gate Source Charge	Q _{GS}	3.7			nC	
Gate Drain Charge	Q _{GD}	2.7			nC	
Turn-ON Delay Time	t _{D(ON)}	10			ns	
Turn-ON Rise Time	t _R	6.3			ns	
Turn-OFF Delay Time	t _{D(OFF)}	21			ns	
Turn-OFF Fall-Time	t _F	2.8			ns	
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Body-Diode Continuous Current	I _S			46		A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.73	1.0	V
Body Diode Reverse Recovery Time	t _{rr}	I _F =20A, di/dt=100A/μs		36	45	ns
Body Diode Reverse Recovery Charge	Q _{rr}			47		nC

■ TYPICAL CHARACTERISTICS



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