



UT4435

Power MOSFET

30V P-CHANNEL POWER MOSFET

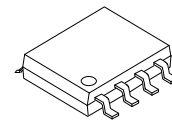
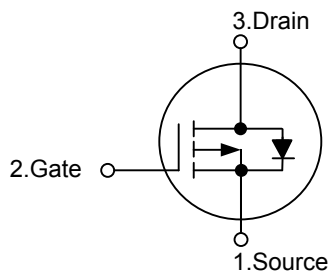
DESCRIPTION

The **UT4435** uses 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

- * $R_{DS(ON)} \leq 20m\Omega$ @ $V_{GS} = -10V$
- * $R_{DS(ON)} \leq 35m\Omega$ @ $V_{GS} = -4.5V$
- * Low capacitance
- * Low gate charge
- * Fast switching capability
- * Avalanche energy specified

SYMBOL



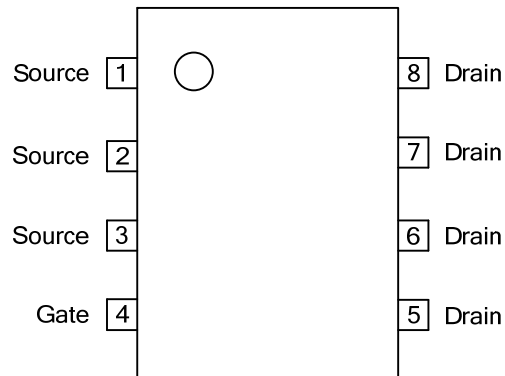
SOP-8

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UT4435L-S08-R	UT4435G-S08-R	SOP-8	Tape Reel

UT4435L-S08-R (1)Packing Type (2)Package Type (3)Lead Free		(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free, L: Lead Free
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■ 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}	±25	V
Continuous Drain Current (Note 2)	I _D	-8.8	A
Pulsed Drain Current (Note 2)	I _{DM}	-50	A
Power Dissipation	P _D	1	W
Junction Temperature	T _J	175	°C
Storage Temperature	T _{STG}	-55 ~ +175	°C

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

■ THERMAL DATA

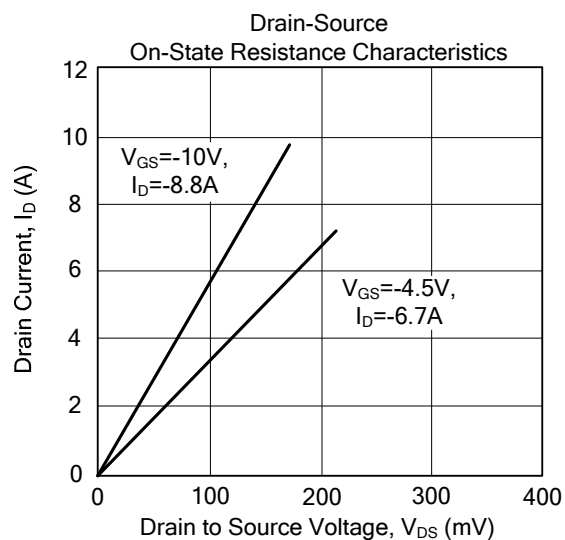
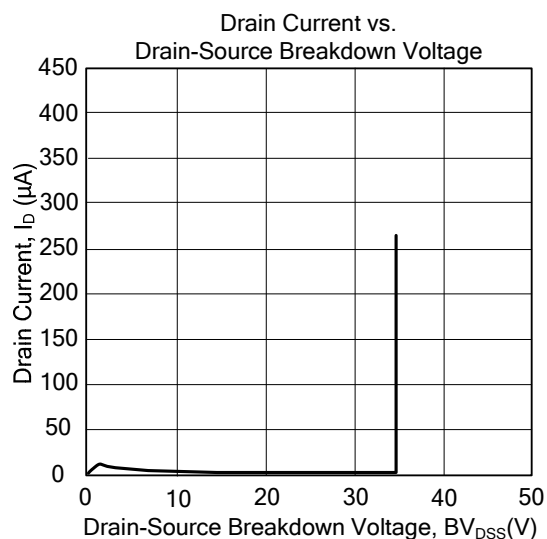
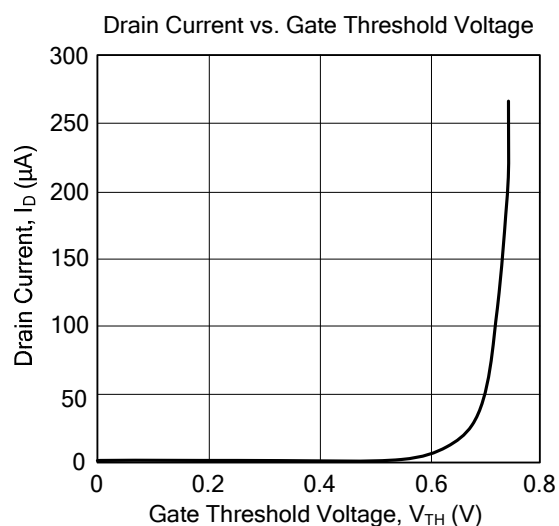
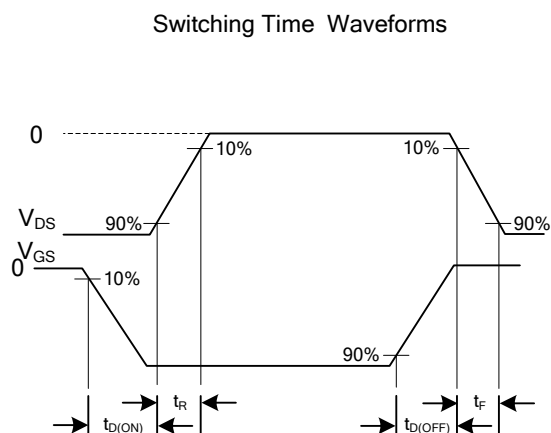
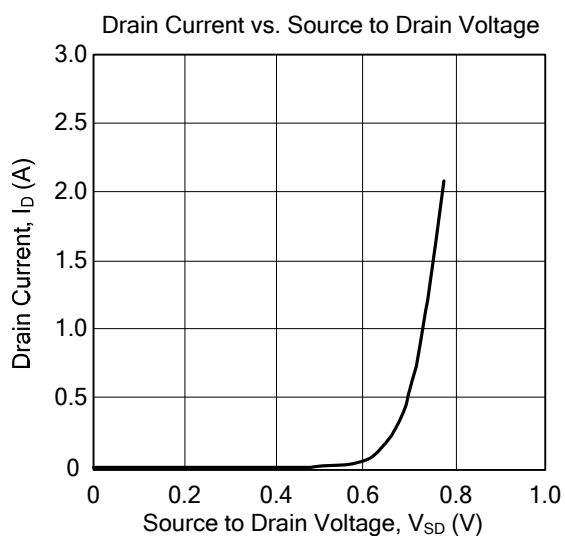
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-Ambient	θ _{JA}		125		°C/W
Junction-to-Case	θ _{JC}		25		°C/W

■ 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} =0 V, I _D =-250μA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24 V, V _{GS} =0V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±25 V, V _{DS} =0V			±100	nA
ON CHARACTERISTICS(Note)						
Gate-Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _{DS} =-250μA	-1	-1.7	-3	V
On State Drain Current	I _{D(ON)}	V _{GS} = -10V, V _{DS} =-5V	-50			A
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-8.8A		15	20	mΩ
		V _{GS} =4.5V, I _D =-6.7A		22	35	
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-8.8A		24		S
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =-15V, V _{GS} =0V, f=1.0MHz		1604		pF
Output Capacitance	C _{OSS}			408		pF
Reverse Transfer Capacitance	C _{RSS}			202		pF
SWITCHING PARAMETERS(Note)						
Total Gate Charge	Q _G	V _{DS} =-15 V, V _{GS} =-5 V, I _D =-8.8 A		17	24	nC
Gate-Source Charge	Q _{GS}			5		nC
Gate-Drain Charge	Q _{GD}			6		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =-15V,I _D =-1 A,V _{GS} =-10 V R _G =6 Ω,		13	23	ns
Turn-ON Rise Time	t _R			13.5	24	ns
Turn-OFF Delay Time	t _{D(OFF)}			42	68	ns
Turn-OFF Fall-Time	t _F			25	40	ns
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage(Note)	V _{SD}	I _S =-2.1A, V _{GS} =0V		-0.73	-1.2	V
Maximum Body-Diode Continuous Current	I _S				-2.1	A

Note: Pulse Test: Pulse Width < 300ms, Duty Cycle < 2.0%

TYPICAL CHARACTERISTICS



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