



UT9435

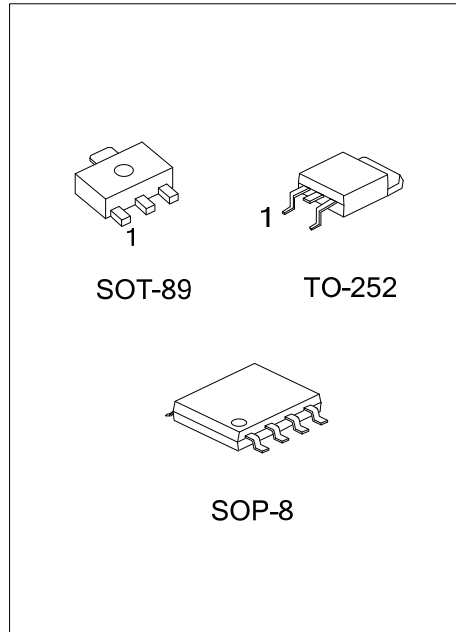
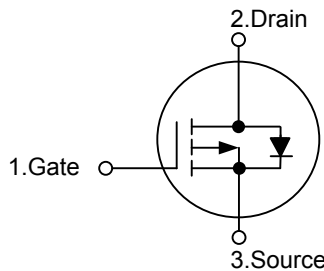
Power MOSFET

P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

The **UT9435** is P-Channel Power MOSFET, designed with high density cell with fast switching speed, ultra low on-resistance, and excellent thermal and electrical capabilities. Used in commercial and industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

SYMBOL



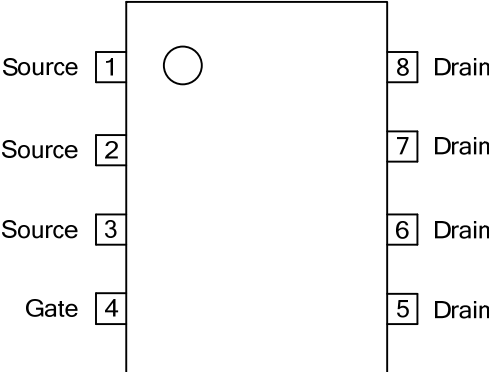
Lead-free: UT9435L
Halogen-free: UT9435G

ORDERING INFORMATION

Ordering Number			Package	Pin Assignment								Packing	
Normal	Lead Free Plating	Halogen Free		1	2	3	4	5	6	7	8		
UT9435-AB3-R	UT9435L-AB3-R	UT9435G-AB3-R	SOT-89	G	D	S	-	-	-	-	-	-	Tape Reel
UT9435-TN3-R	UT9435L-TN3-R	UT9435G-TN3-R	TO-252	G	D	S	-	-	-	-	-	-	Tape Reel
UT9435-S08-R	UT9435L-S08-R	UT9435G-S08-R	SOP-8	S	S	S	G	D	D	D	D	D	Tape Reel

<p>UT9435L-AB3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89, TN3: TO-252, SO8: SOP-8</p> <p>(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	-30	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current	I _D	-4.2	A
Pulsed Drain Current (Note 1, 2)	I _{DM}	-20	A
Power Dissipation (T _a =25°C)	SOT-89	P _D	W
	SOP-8		
	TO-252	P _D	2.5
Power Dissipation (T _c =25°C)		P _D	12.5
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	RATINGS	UNIT	
Junction to Ambient (Note 3)	SOT-89	θ _{JA}	°C/W	
	TO-252			100
	SOP-8			110
			50	

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

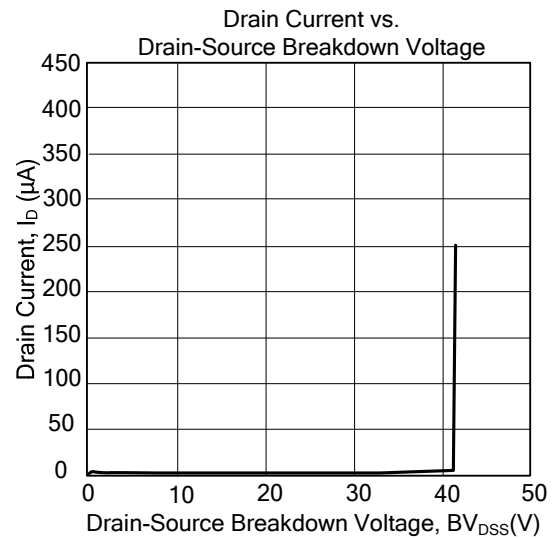
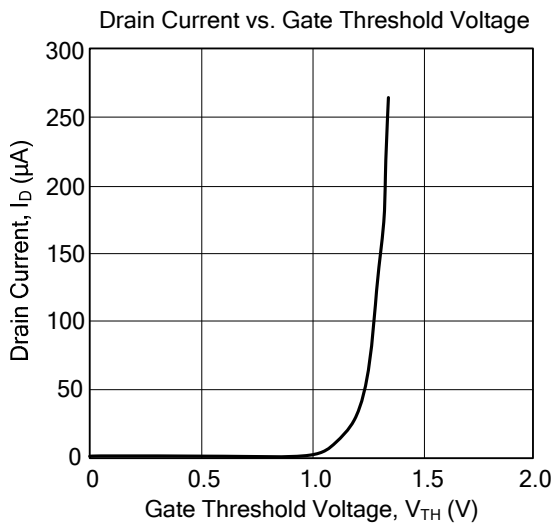
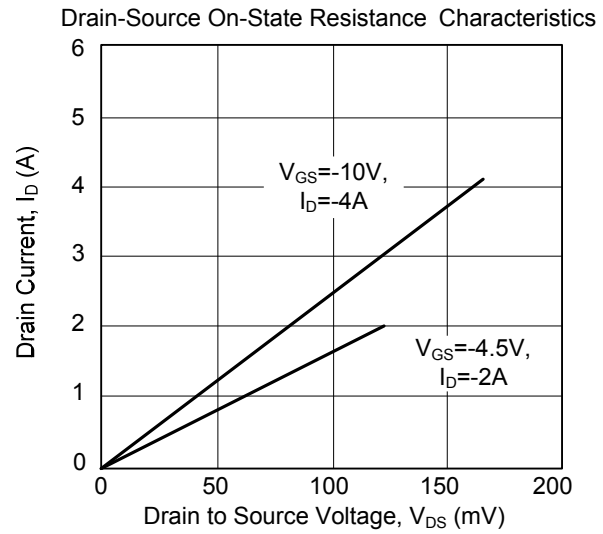
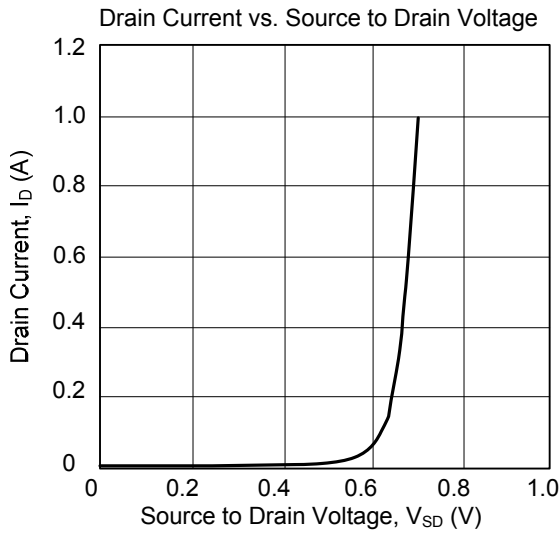
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0 V, I _D =-250 uA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±20V			±100	nA
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =-1mA		-0.1		V/°C
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250uA	-1		-3	V
Static Drain-Source On-Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-10V, I _D =-4A			50	mΩ
		V _{GS} =-4.5V, I _D =-2A			90	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =-25V, f=1.0MHz		520	830	pF
Output Capacitance	C _{OSS}			180		pF
Reverse Transfer Capacitance	C _{RSS}			130		pF
SWITCHING CHARACTERISTICS						
Total Gate Charge (Note 2)	Q _G	V _{DS} =-25V, V _{GS} =-4.5V, I _D =-4A		10	16	nC
Gate-Source Charge	Q _{GS}			2		nC
Gate-Drain Charge	Q _{GD}			6		nC
Turn-ON Delay Time (Note 2)	t _{D(ON)}	V _{DS} =-15V, I _D =-1A, R _G =3.3Ω, V _{GS} =-10V, R _D =15Ω		10	48	ns
Turn-ON Rise Time	t _R			7	40	ns
Turn-OFF Delay Time	t _{D(OFF)}			26	292	ns
Turn-OFF Fall Time	t _F			14	112	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1.3	V
Reverse Recovery Time	t _{RR}	I _S =-4A, V _{GS} =0V,		30		ns
Reverse Recovery Charge	Q _{RR}	dI/dt=-100A/μs		24		nC

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

2. Pulse width ≤300μs, duty cycle ≤2%.

3. Surface mounted on 1 in² copper pad of FR4 board, t≤10s.

TYPICAL CHARACTERISTICS



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