



UT9435H

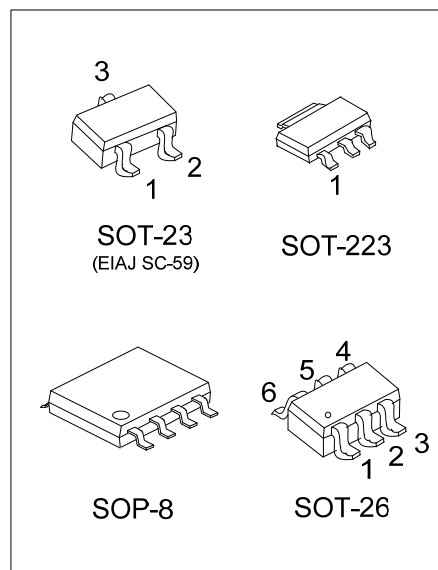
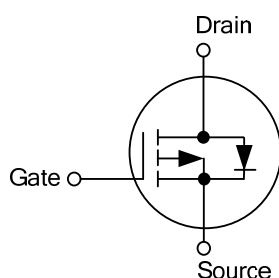
Power MOSFET

P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

The UTC **UT9435H** provide excellent $R_{DS(ON)}$, low gate charge and fast switching speed. It has been optimized for power management applications.

SYMBOL



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UT9435HL-AA3-R	UT9435HG-AA3-R	SOT-223	G	D	S	-	-	-	-	-	Tape Reel
UT9435HL-AE3-R	UT9435HG-AE3-R	SOT-23	G	S	D	-	-	-	-	-	Tape Reel
UT9435HL-AL6-R	UT9435HG-AG6-R	SOT-26	D	D	G	S	D	D	-	-	Tape Reel
UT9435HL-S08-R	UT9435HG-S08-R	SOP-8	S	S	S	G	D	D	D	D	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

	(1) Packing Type
	(2) Package Type
	(3) Green Package
(1) R: Tape Reel (2) AA3: SOT-223, S08: SOP-8, AE3: SOT-23 AG6: SOT-26 (3) G: Halogen Free and Lead Free, L: Lead Free	

MARKING

SOT-223	SOT-23
SOT-26	SOP-8

■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNITS
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (Note 3)	I_D	± 5.3	A
Pulsed Drain Current (Note 1, 2)	I_{DM}	± 20	A
Power Dissipation	SOT-223	2.5	W
	SOP-8		
	SOT-23 SOT-26	0.38	
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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 CHARACTERISTICS

PARAMETER	SYMBOL	RATING	UNIT
Junction to Ambient	SOT-223	50	$^\circ\text{C/W}$
	SOP-8		
	SOT-23 SOT-26	325	

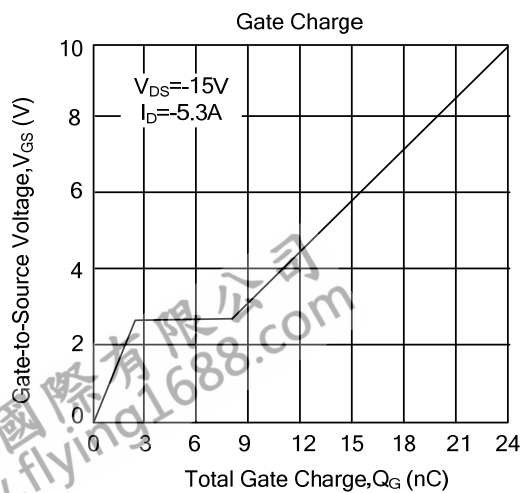
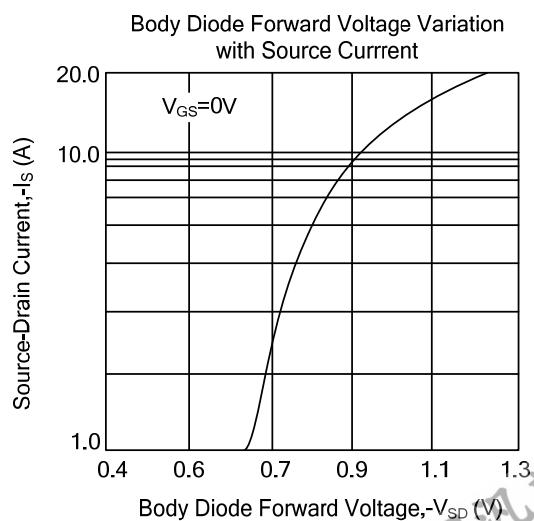
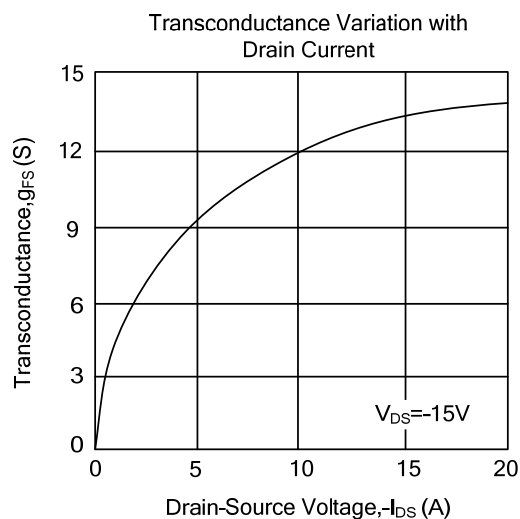
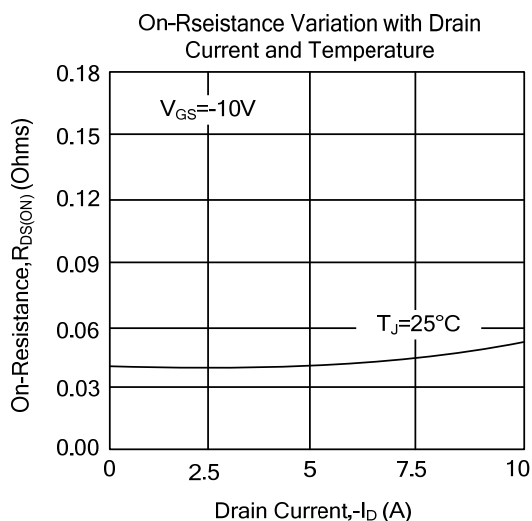
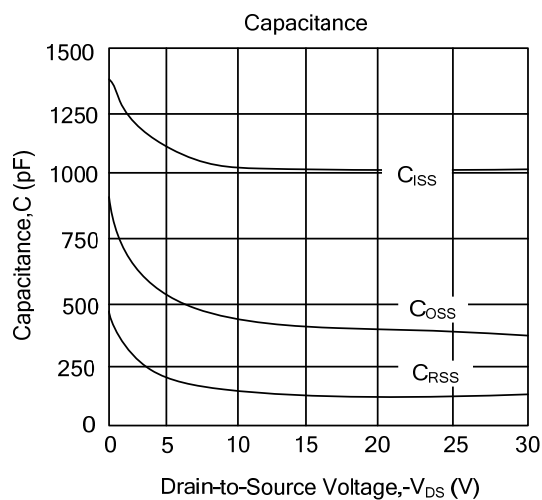
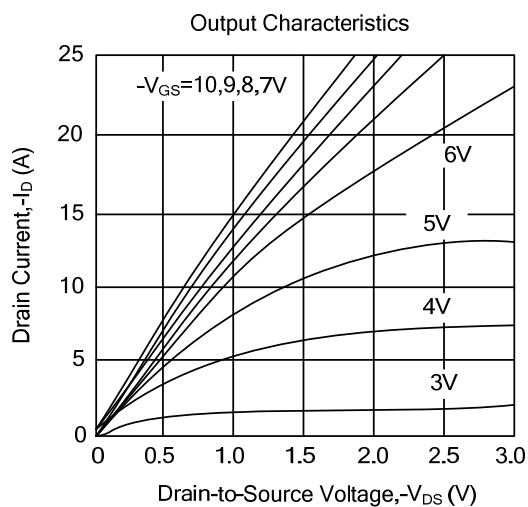
Note: Surface mounted on 1 in² copper pad of FR4 board.

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

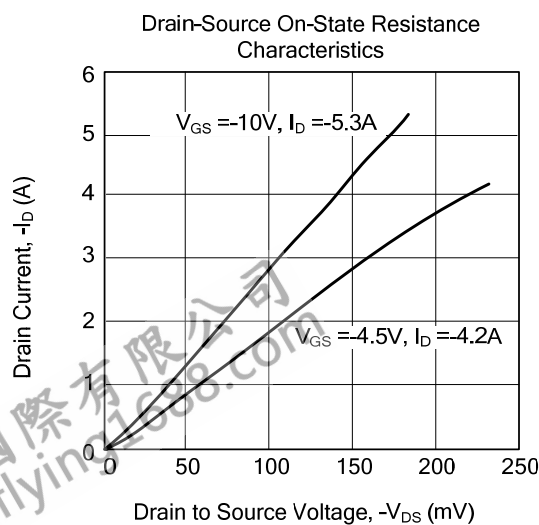
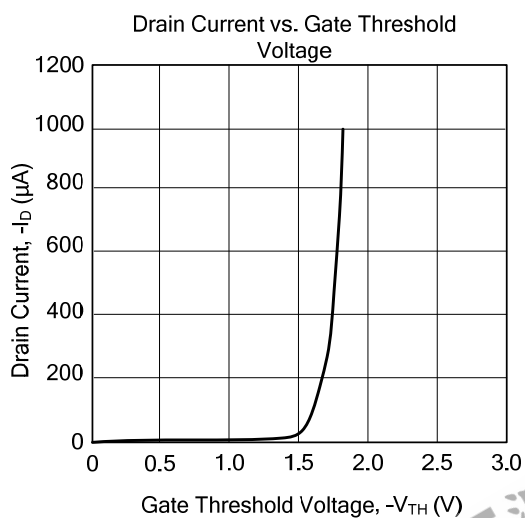
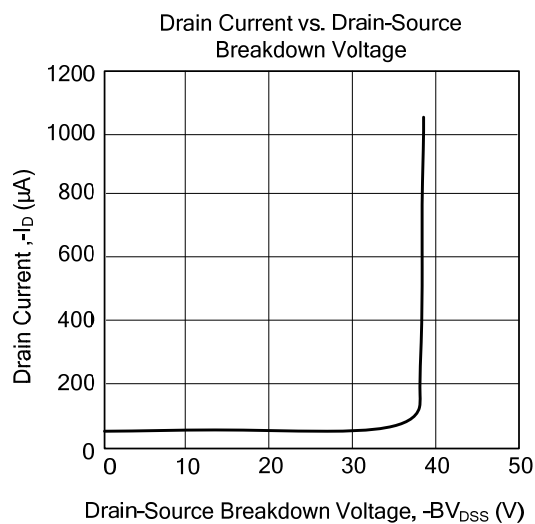
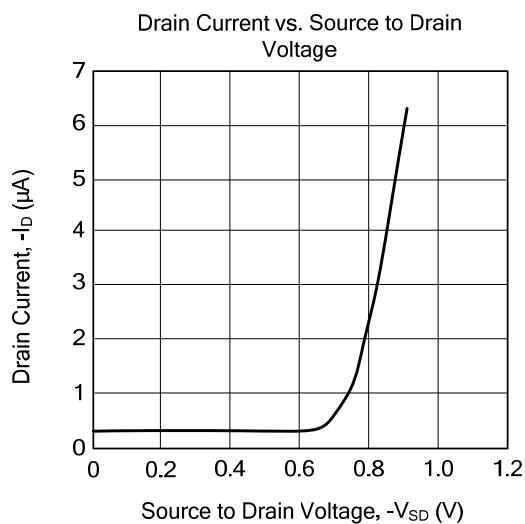
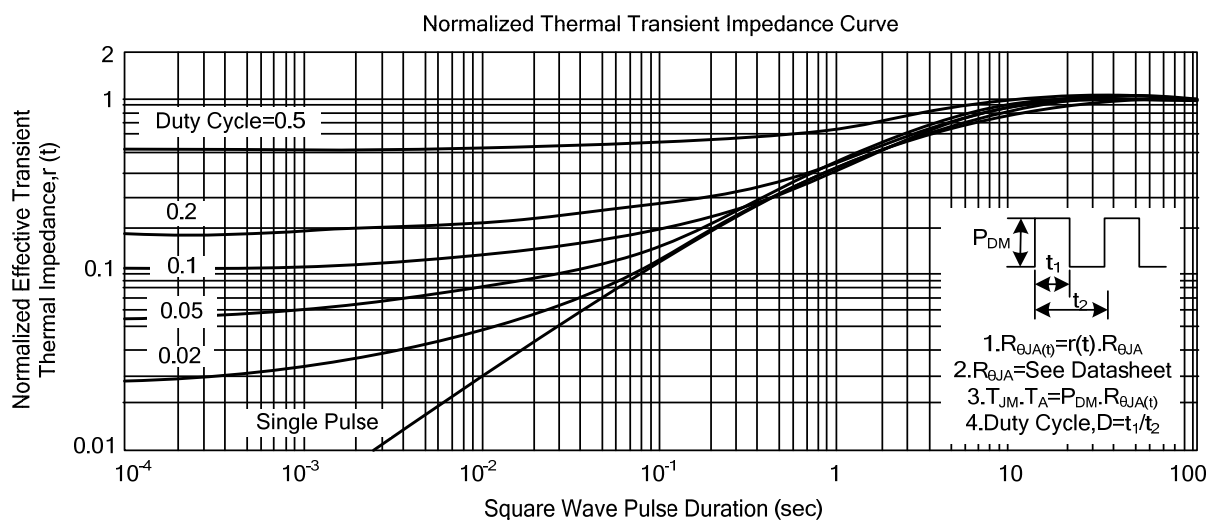
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0 V, I _D =-250 μA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24 V, V _{GS} =0 V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0 V, V _{GS} = ±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250 μA	-1		-3	V
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-10V, I _D =-5.3A		44	50	mΩ
		V _{GS} =-4.5V, I _D =-4.2A		74	90	mΩ
On State Drain Current	I _{D(ON)}	V _{DS} = -5V, V _{GS} =-10V	-20			A
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =-15V, V _{GS} =0V, f=1.0MHz		1040		pF
Output Capacitance	C _{OSS}			420		pF
Reverse Transfer Capacitance	C _{RSS}			150		pF
SWITCHING PARAMETERS						
Total Gate Charge (Note 2)	Q _G	V _{DS} =-15V, V _{GS} =-10V, I _D =-4.6A		22.5	29	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 _{DD} =-15V, I _D =-1A, V _{GEN} =-10V, R _G =6Ω		19	26	ns
Turn-ON Rise Time	t _R			9	13	ns
Turn-OFF Delay Time	t _{D(OFF)}			74	105	ns
Turn-OFF Fall Time	t _F			36	50	ns
DRAIN-SOURCE DIODE CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note 2)	V _{SD}	V _{GS} =0V, I _S =-5.3A		-0.84	-1.3	V

Notes: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.

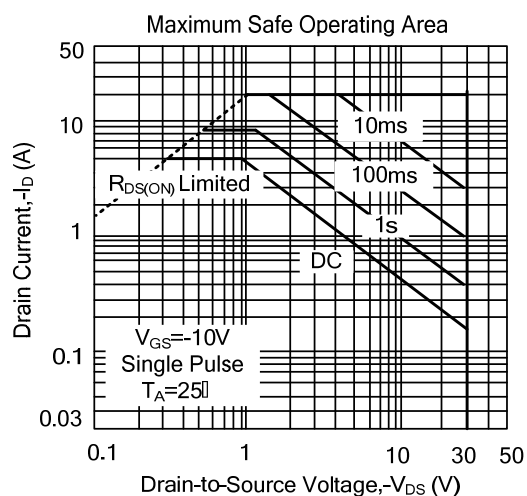
TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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