



UT9435H

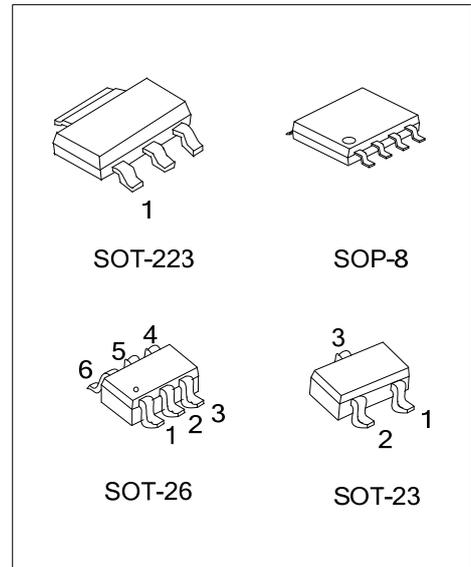
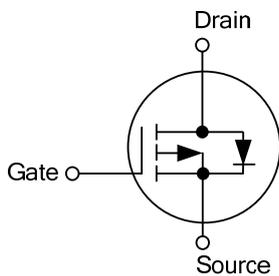
Power MOSFET

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	S	G	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

<p>UT9435HG-AA3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AA3: SOT-223, S08: SOP-8, AE3: SOT-23 AG6: SOT-26</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

<p>SOT-223</p>	<p>SOT-23</p>
<p>SOT-26</p>	<p>SOP-8</p>

■ 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	P_D	W
	SOP-8		
	SOT-23 SOT-26		
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 DATA

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

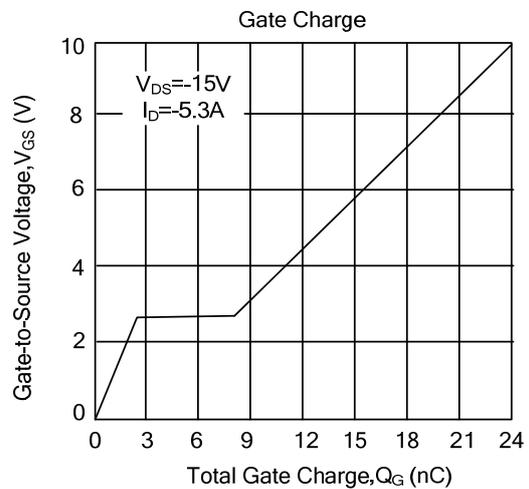
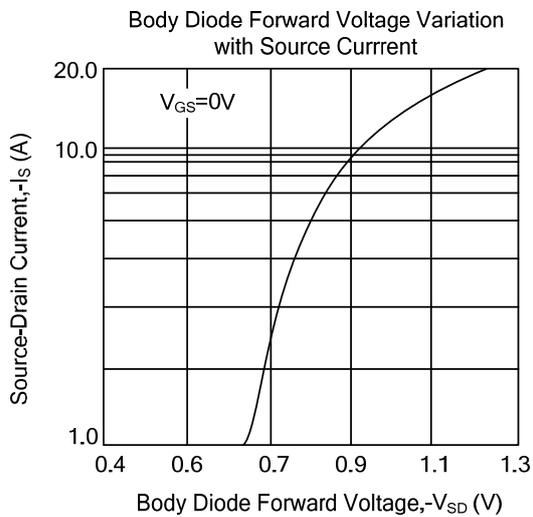
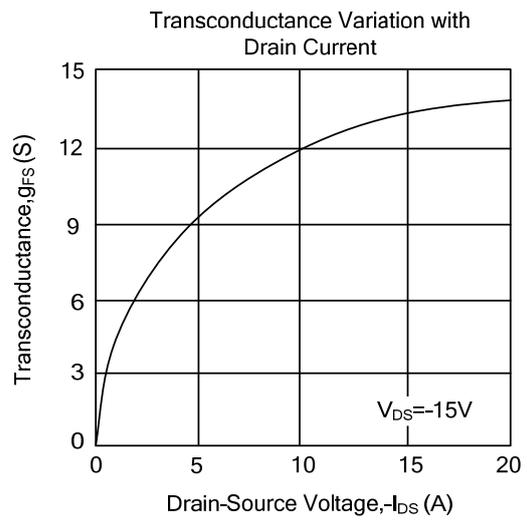
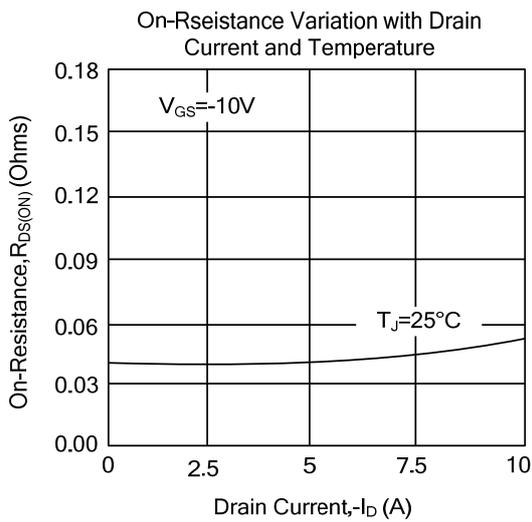
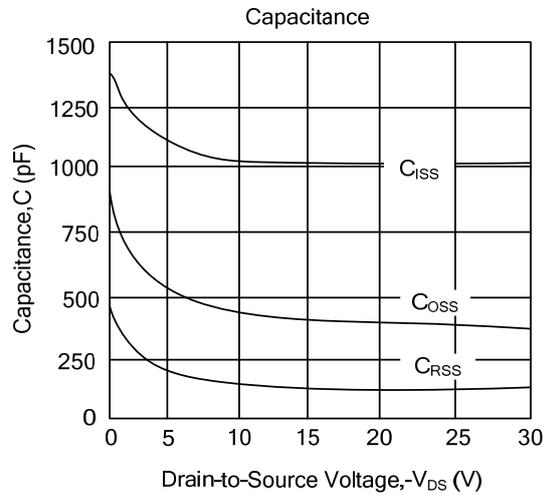
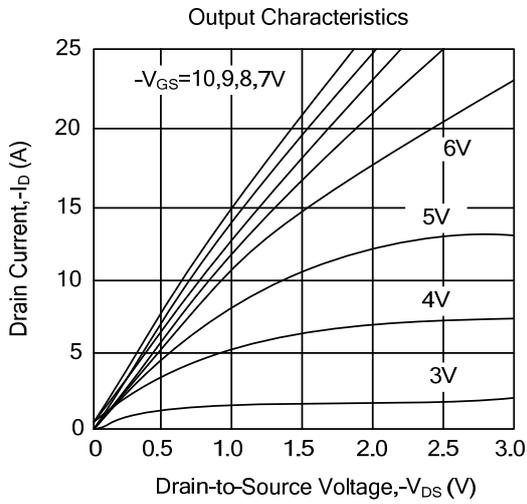
Note: Surface mounted on 1 in² copper pad of FR4 board.

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

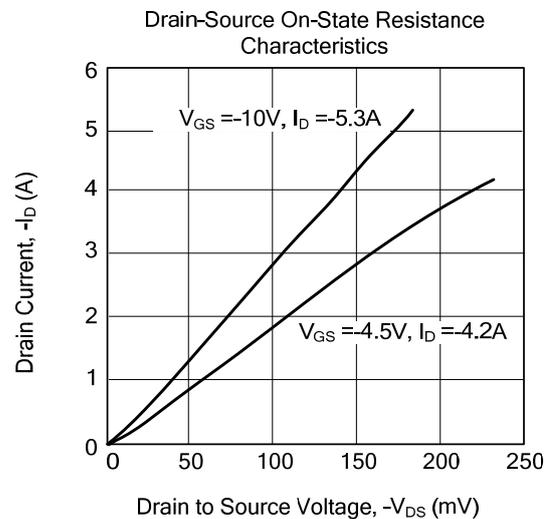
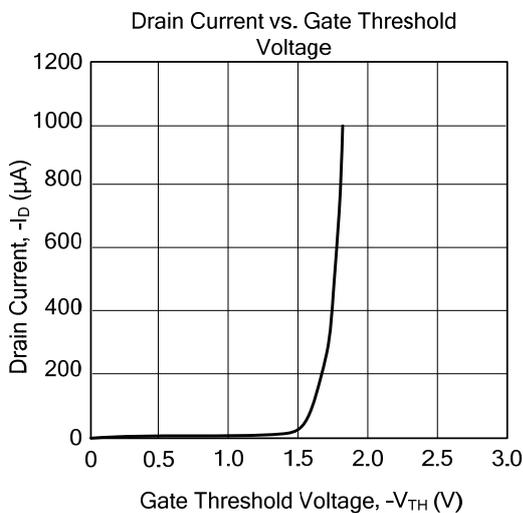
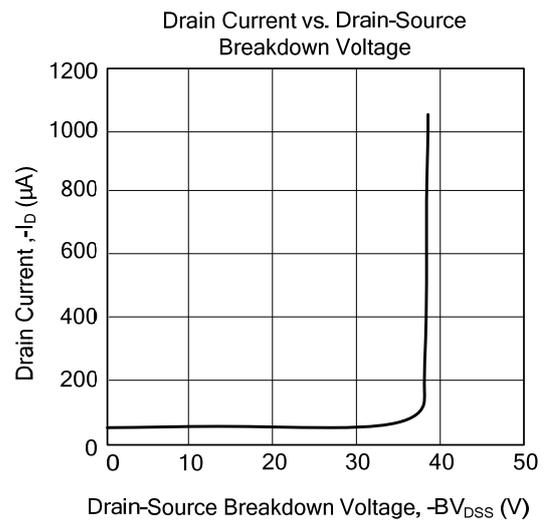
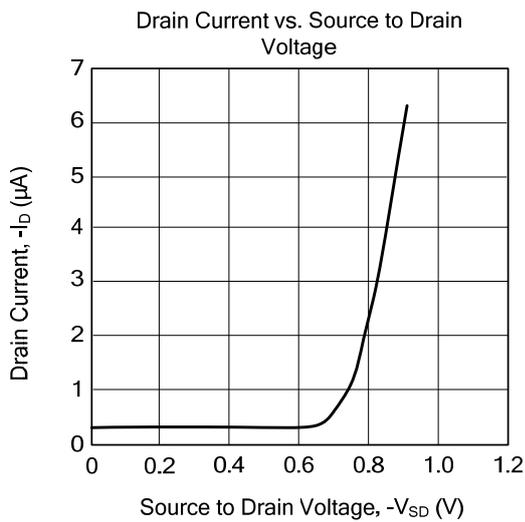
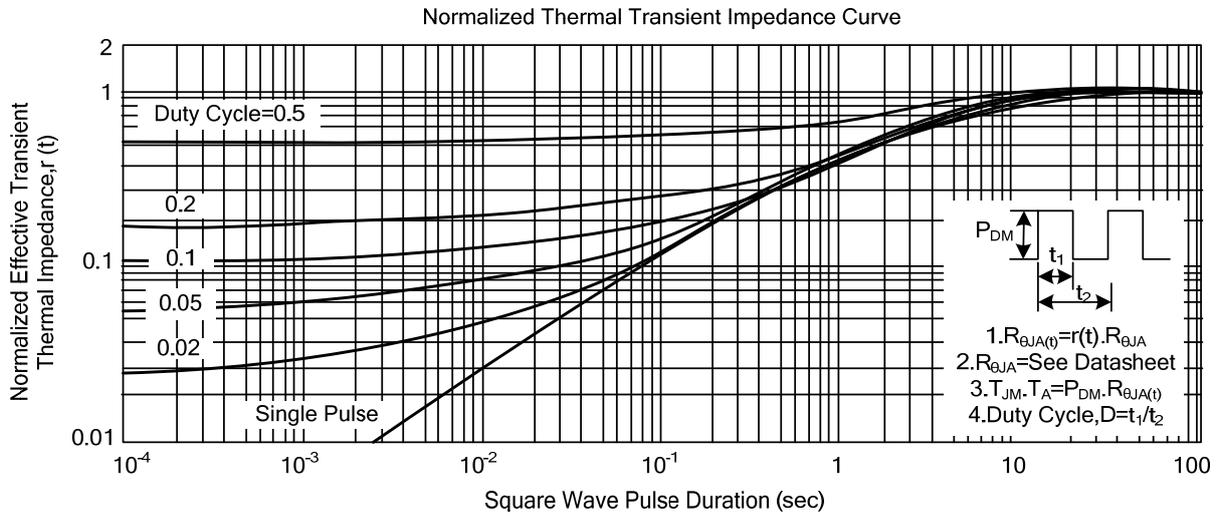
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-30			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = -24\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{V}$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-1		-3	V
Drain-Source On-State Resistance (Note 2)	$R_{DS(ON)}$	$V_{GS} = -10\text{V}, I_D = -5.3\text{A}$		44	50	m Ω
		$V_{GS} = -4.5\text{V}, I_D = -4.2\text{A}$		74	90	m Ω
On State Drain Current	$I_{D(ON)}$	$V_{DS} = -5\text{V}, V_{GS} = -10\text{V}$	-20			A
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{DS} = -15\text{V}, V_{GS} = 0\text{V},$ $f = 1.0\text{MHz}$		1040		pF
Output Capacitance	C_{OSS}			420		pF
Reverse Transfer Capacitance	C_{RSS}			150		pF
SWITCHING PARAMETERS						
Total Gate Charge (Note 2)	Q_G	$V_{DS} = -15\text{V}, V_{GS} = -10\text{V},$ $I_D = -4.6\text{A}$		22.5	29	nC
Gate-Source Charge	Q_{GS}			2		nC
Gate-Drain Charge	Q_{GD}			6		nC
Turn-ON Delay Time (Note 2)	$t_{D(ON)}$	$V_{DD} = -15\text{V}, I_D = -1\text{A},$ $V_{GEN} = -10\text{V}, R_G = 6\Omega$		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}	$V_{GS} = 0\text{V}, I_S = -5.3\text{A}$		-0.84	-1.3	V

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

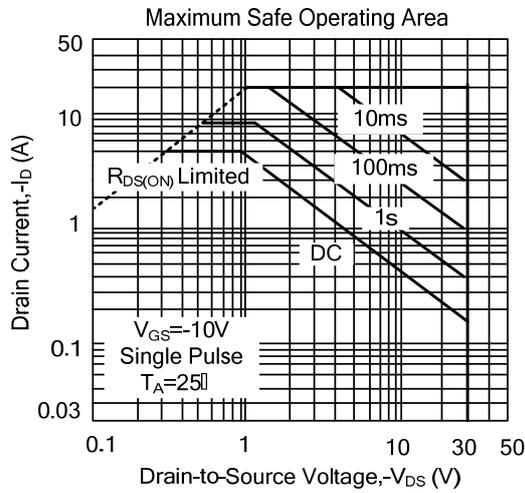
TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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