



UT9435HZ

Power MOSFET

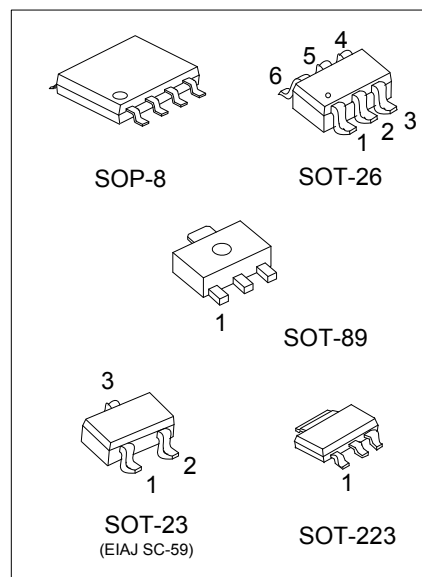
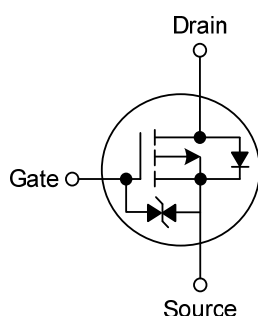
P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

The UTC **UT9435HZ** is a P-channel enhancement power MOSFET. It has low gate charge, fast switching speed and perfect $R_{DS(ON)}$.

This device is generally applied in power management applications.

SYMBOL



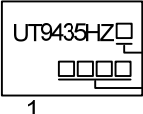
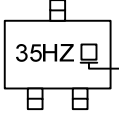
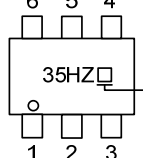
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UT9435HZL-AA3-R	UT9435HZG-AA3-R	SOT-223	G	D	S	-	-	-	-	-	Tape Reel
UT9435HZL-AB3-R	UT9435HZG-AB3-R	SOT-89	G	D	S	-	-	-	-	-	Tape Reel
UT9435HZL-AE3-R	UT9435HZG-AE3-R	SOT-23	G	S	D	-	-	-	-	-	Tape Reel
UT9435HZL-AG6-R	UT9435HZG-AG6-R	SOT-26	D	D	G	S	D	D	-	-	Tape Reel
UT9435HZL-S08-R	UT9435HZG-S08-R	SOP-8	S	S	S	G	D	D	D	D	Tape Reel

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

UT9435HZG-AE3-R	(1) R: Tape Reel (2) AA3: SOT-223, AB3: SOT-89, AE3: SOT-23, AG6: SOT-26, S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

PACKAGE	MARKING
SOT-223	 L: Lead Free G: Halogen Free Date Code
SOT-89	 Date Code L: Lead Free G: Halogen Free
SOT-23	 L: Lead Free G: Halogen Free
SOT-26	 L: Lead Free G: Halogen Free
SOP-8	 Date Code L: Lead Free G: Halogen Free Lot Code

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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain to Source Voltage	V_{DSS}	-30	V
Gate to Source Voltage	V_{GSS}	± 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-89/SOP-8	1.2	W
	SOT-23/SOT-26	1.1	W
	SOT-223	1.5	W
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	RATINGS	UNIT
Junction to Ambient	SOT-89/SOP-8	104	$^{\circ}\text{C/W}$
	SOT-23/SOT-26	113	$^{\circ}\text{C/W}$
	SOT-223	83	$^{\circ}\text{C/W}$

Note: Surface mounted on 1 in 2 copper pad of FR4 board, $t \leq 10\text{s}$.

■ 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} =0V, I _D =-250μA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V , V _{GS} =±20V			±10	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250μA	-1.0		-3.0	V
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-10V, I _D =-5.3A		44	55	mΩ
		V _{GS} =-4.5V, I _D =-4.2A		67	135	mΩ
On State Drain Current	I _{D(ON)}	V _{DS} =-5V, V _{GS} =-10V	-20			V
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =-25V, f=1.0MHz		660		pF
Output Capacitance	C _{OSS}			105		pF
Reverse Transfer Capacitance	C _{RSS}			83		pF
SWITCHING PARAMETERS						
Total Gate Charge (Note 2)	Q _G	V _{DS} =-24V, V _{GS} =-10V, I _D =-5.3A		13		nC
Gate-Source Charge	Q _{GS}			3.3		nC
Gate-Drain Charge	Q _{GD}			2.8		nC
Turn-ON Delay Time (Note 2)	t _{D(ON)}	V _{DS} =-15V, V _{GS} =-10V, I _D =-5.3A, R _G =3.3Ω,		7		ns
Turn-ON Rise Time	t _R			15		ns
Turn-OFF Delay Time	t _{D(OFF)}			18		ns
Turn-OFF Fall Time	t _F			20		ns
SOURCE- DRAIN DIODE RATINGS AND 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 $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

3. Device mounted on FR-4 substrate PC board, 2oz copper, with 1in^2 square copper plate.

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