



UT4232

Preliminary

Power MOSFET

N-CHANNEL ENHANCEMENT MODE POWER MOSFET

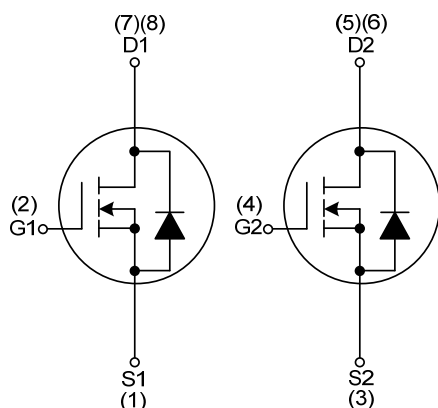
DESCRIPTION

The **UT4232** uses UTC advanced technology to provide excellent $R_{DS(ON)}$, low gate charge and to be operated with low gate voltages. This device is suitable for applications, such as high-side DC/DC conversion, notebook and sever.

FEATURES

- * $V_{DS}(V)=30V$
- * $I_D=7A$ ($V_{GS} = 10V$)
- * $R_{DS(ON)} < 22m\Omega$ @ $V_{GS}=10V$, $I_D=7A$
- * $R_{DS(ON)} < 32m\Omega$ @ $V_{GS}=4.5V$, $I_D=5A$

SYMBOL



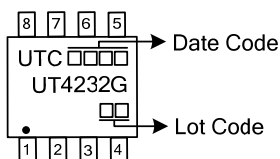
ORDERING INFORMATION

Ordering Number	Package	Pin Assignment								Packing
		1	2	3	4	5	6	7	8	
UT4232G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel

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

UT4232G-S08-R	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($T_a=25^\circ\text{C}$)(Note 2)	I_D	7.8	A
Pulsed Drain Current (Note 3)	I_{DM}	30	A
Power Dissipation ($T_a=25^\circ\text{C}$)	P_D	2	W
Derate above $T_a>25^\circ\text{C}$		0.016	W/ $^\circ\text{C}$
Junction Temperature	T_J	+150	$^\circ\text{C}$
Junction and Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes: 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. Surface mounted on 1 in² copper pad of FR4 board, $t \leq 10\text{sec}$; 135 $^\circ\text{C}/\text{W}$ when mounted on min.

3. Pulse width limited by $T_{J(MAX)}$

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ_{JA}		62.5		$^\circ\text{C}/\text{W}$

Note: Surface mounted on 1 in² copper pad of FR4 board, $t \leq 10\text{sec}$; 135 $^\circ\text{C}/\text{W}$ when mounted on min

■ ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, 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
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =1mA		0.02		V/°C
Drain-Source Leakage Current	I _{DSS}	V _{DS} =30 V, V _{GS} =0 V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20 V, V _{DS} =0 V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{D S} = V _{GS} , I _D =250 μA	1		3	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10 V, I _D =7 A			22	mΩ
		V _{GS} =4.5 V, I _D =5 A			32	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =25V, V _{GS} =0 V, f=1MHz		720	1150	pF
Output Capacitance	C _{OSS}			230		pF
Reverse Transfer Capacitance	C _{RSS}			200		pF
SWITCHING PARAMETERS						
Turn-ON Delay Time	t _{D(ON)}	V _{GS} =10V, V _{DS} =15V, R _D =15Ω, R _G =3.3Ω, I _D =1 A		10		ns
Turn-ON Rise Time	t _R			7		ns
Turn-OFF Delay Time	t _{D(OFF)}			22		ns
Turn-OFF Fall-Time	t _F			8		ns
Total Gate Charge	Q _G	V _{GS} =4.5 V, V _{DS} =24 V, I _D =7 A		13	21	nC
Gate Source Charge	Q _{GS}			3		nC
Gate Drain Charge	Q _{GD}			9		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V _{SD}	I _S =1.7 A, V _{GS} =0 V			1.2	V
Reverse Recovery Time	t _{RR}	I _S =7 A, V _{GS} =0 V, dI/dt=100A/μs		16		ns
Reverse Recovery Charge	Q _{RR}			8		nC

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