



UTT4850

Power MOSFET

N-CHANNEL POWER MOSFET

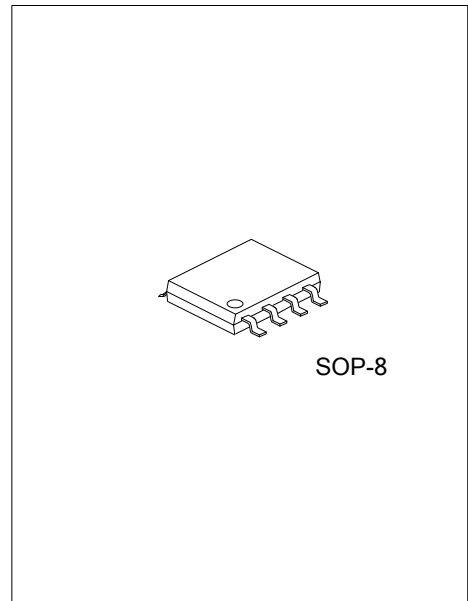
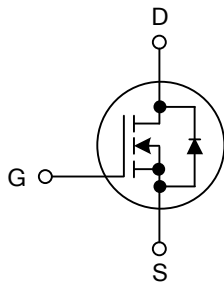
DESCRIPTION

The UTC **UTT4850** is a N-channel, it uses UTC's advanced technology to provide the customers with a minimum on state resistance and high switching speed.

FEATURES

- * $R_{DS(ON)} < 25m\Omega @ V_{GS}=10V, I_D=6.0A$
- $R_{DS(ON)} < 31m\Omega @ V_{GS}=4.5V, I_D=5.1A$
- * High switching speed

SYMBOL



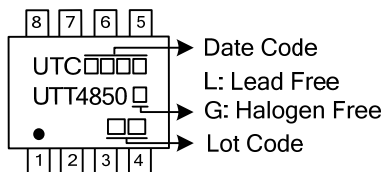
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UTT4850L-S08-R	UTT4850G-S08-R	SOP-8	S	S	S	G	D	D	D	D	Tape Reel

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

UTT4850G-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, L: Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V _{DSS}	60	V
Gate-Source Voltage		V _{GSS}	±20	V
Continuous Drain Current (T _J =175°C) (Note 1)	T _A =25°C	I _D	6.0	A
	T _A =70°C		5.0	A
Pulsed Drain Current		I _{DM}	24	A
Avalanche Current		I _{AS}	6	A
Repetitive Avalanche Energy		E _{AS}	120	mJ
Power Dissipation (Note 1)	T _A =25°C	P _D	1.7	W
	T _A =70°C		1.2	W
Junction Temperature		T _J	-50 ~ +150	°C
Storage Temperature Range		T _{STG}	-50 ~ +150	°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. L=6.66mH, I_{AS}=6A, V_{DD}=50V, R_G=25Ω, Starting T_J=25°C

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient (Note)	θ _{JA}	75	°C/W

Note: Surface Mounted on 1" x 1" FR4 Board.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA
		V _{DS} =60V, V _{GS} =0V, T _J =55°C			20	μA
Gate-Source Leakage Current	Forward	I _{GSS}	V _{GS} =+20V, V _{DS} =0V		+100	nA
	Reverse			V _{GS} =-20V, V _{DS} =0V		-100
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	1		2.5	V
On State Drain Current (Note 1)	I _{D(ON)}	V _{DS} =2V, V _{GS} =10V	40			A
Static Drain-Source On-State Resistance (Note 1)	R _{DS(ON)}	V _{GS} =10V, I _D =6.0A		20	25	mΩ
		V _{GS} =4.5V, I _D =5.1A		22	31	mΩ
DYNAMIC PARAMETERS (Note 2)						
Input Capacitance	C _{ISS}	V _{DS} =25V, V _{GS} =0V, f=1.0MHz		2500	2700	pF
Output Capacitance	C _{OSS}			185	200	pF
Reverse Transfer Capacitance	C _{RSS}			150	170	pF
Gate Resistance	R _G	V _{GS} =0.1V, f=1MHz	0.5	1.4	2.4	Ω
SWITCHING PARAMETERS						
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =30V, I _D ≈0.5A, V _{GS} =10V, R _G =25Ω		70	90	ns
Rise Time	t _R			80	100	ns
Turn-OFF Delay Time	t _{D(OFF)}			750	800	ns
Fall-Time	t _F			165	200	ns
Total Gate Charge	Q _G	V _{GS} =10V, V _{DS} =50V, I _D =1.3A		70	100	nC
Gate to Source Charge	Q _{GS}			8		nC
Gate to Drain Charge	Q _{GD}			13		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage (Note 1)	V _{SD}	I _S =1.7A, V _{GS} =0V		0.8	1.2	V

Notes: 1. Pulse test; pulse width≤300μs, duty cycle≤2%.

2. Guaranteed by design, not subject to production testing

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