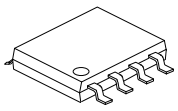
N-CHANNEL POWER MOSFET



SOP-8

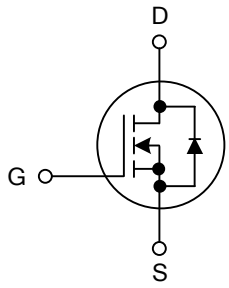
■ DESCRIPTION

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

■ FEATURES

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

■ SYMBOL



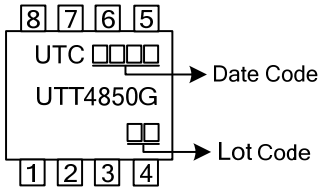
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment								Packing
		1	2	3	4	5	6	7	8	
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

■ 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	nA
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.