

**UTT60N10**

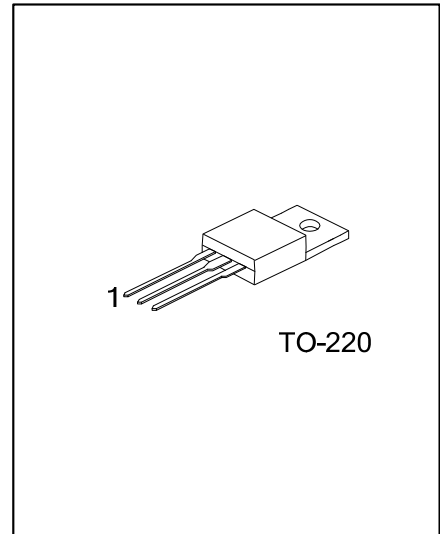
Preliminary

Power MOSFET**60A, 100V N-CHANNEL
ENHANCEMENT MODE POWER
MOSFET TRANSISTOR**

■ DESCRIPTION

The UTC **UTT60N10** is an N-channel enhancement power MOSFET using UTC's advanced technology to provide the customers with perfect $R_{DS(ON)}$, high switching speed, high current capacity and low gate charge.

The UTC **UTT60N10** is suitable for motor control, AC-DC or DC-DC converters and audio amplifiers, etc.



■ FEATURES

- * $R_{DS(ON)}=18m\Omega$ @ $V_{GS}=10V, I_D=20A$
- * High Switching Speed
- * High Current Capacity
- * Low Gate Charge(typical 50nC)

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT60N10L-TA3-T	UTT60N10G-TA3-T	TO-220	G	D	S	Tube

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

UTT60N10L-TA3-T		(1)Packing Type	(1) T: Tube
		(2)Package Type	(2) TA3: TO-220
		(3)Lead Free	(3) G: Halogen Free, L: Lead Free

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	± 25	V
Drain Current	Continuous	I_D	60	A
	Pulsed	I_{DM}	100	A
Avalanche Energy	Single Pulsed	E_{AS}	560	mJ
Power Dissipation		P_D	100	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	θ_{JA}	62.5	$^{\circ}\text{C/W}$
Junction to Case	θ_{JC}	1.25	$^{\circ}\text{C/W}$

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV _{DSS}	I _D =250μA, V _{GS} =0V	100			V
Drain-Source Leakage Current		I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	μA
Gate- Source Leakage Current	Forward	I _{GSS}	V _{GS} =+25V, V _{DS} =0V			+100	nA
	Reverse		V _{GS} =-25V, V _{DS} =0V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	2		4	V
Static Drain-Source On-State Resistance		R _{DS(ON)}	V _{GS} =10V, I _D =30A		18	24	mΩ
DYNAMIC PARAMETERS							
Input Capacitance		C _{ISS}	V _{GS} =0V, V _{DS} =25V, f=1.0MHz		1450	1900	pF
Output Capacitance		C _{OSS}			520	680	pF
Reverse Transfer Capacitance		C _{RSS}			120	155	pF
SWITCHING PARAMETERS							
Total Gate Charge		Q _G	V _{GS} =10V, V _{DS} =80V, I _D =30A,		50	65	nC
Gate to Source Charge		Q _{GS}			9.3		nC
Gate to Drain Charge		Q _{GD}			25		nC
Turn-ON Delay Time		t _{D(ON)}	V _{DD} =30V, I _D =1A, R _G =50Ω, V _{GS} =10V		16.5	45	ns
Rise Time		t _R			200	410	ns
Turn-OFF Delay Time		t _{D(OFF)}			70	150	ns
Fall-Time		t _F			95	200	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Maximum Body-Diode Continuous Current		I _S		60			A
Maximum Body-Diode Pulsed Current		I _{SM}		100			A
Drain-Source Diode Forward Voltage		V _{SD}	I _S =30A, V _{GS} =0V			1.5	V

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