



UTT60N10

Preliminary

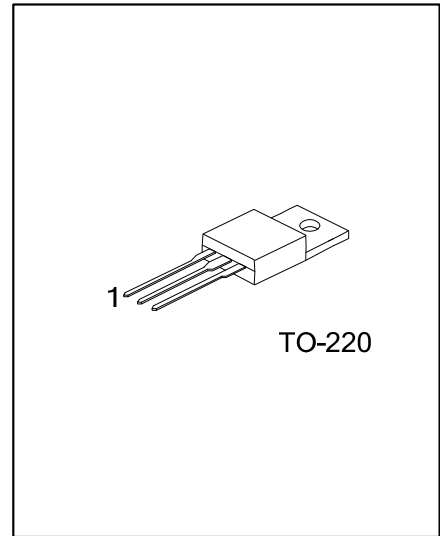
Power MOSFET

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

<p>UTT60N10L-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	100	V
Gate-Source Voltage		V_{GSS}	±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	°C
Storage Temperature		T_{STG}	-55 ~ 150	°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	°C/W
Junction to Case	θ_{JC}	1.25	°C/W

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	100			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate- Source Leakage Current	Forward	I_{GSS}			+100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2		4	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=30A$		18	24	m Ω
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	$t_{D(ON)}$	$V_{DD}=30V, I_D=1A, R_G=50\Omega,$ $V_{GS}=10V$		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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