



UTT80N75

Preliminary

Power MOSFET

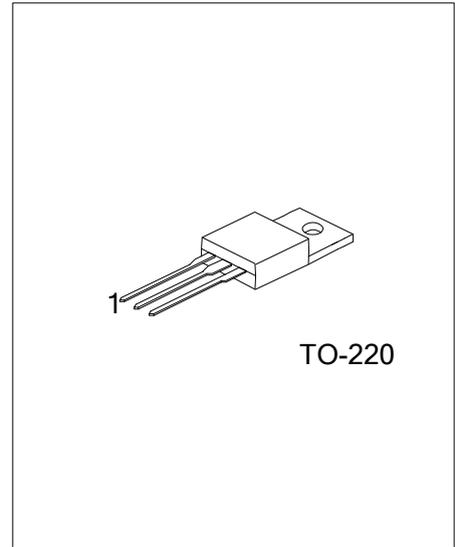
80A, 75V N-CHANNEL POWER MOSFET

DESCRIPTION

The UTC **UTT80N75** is an N-Channel power MOSFET, it uses UTC's advanced technology to provide customers with a minimum on-state resistance, low gate charge and high switching speed.

FEATURES

- * 80A, 75V, $R_{DS(ON)}=10m\Omega$ @ $V_{GS}=10V$, $I_D=20A$
- * Low gate charge (typical 117nC)
- * High switching speed



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT80N75L-TA3-T	UTT80N75G-TA3-T	TO-220	G	D	S	Tube

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

UTT80N75L-TA3-T (1) Packing Type (2) Package Type (3) Lead Free	(1) T: Tube (2) TA3: TO-220 (3) L: Lead Free, G: Halogen Free
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■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V _{DSS}	75	V
Gate-Source Voltage		V _{GSS}	±25	V
Drain Current	Continuous	I _D	80	A
	Pulsed	I _{DM}	320	A
Avalanche Energy	Single Pulsed	E _{AS}	330	mJ
Power Dissipation		P _D	167	W
Junction Temperature		T _J	-50~+150	°C
Storage Temperature Range		T _{STG}	-50~+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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	62.5	°C/W
Junction to Case	θ _{JC}	0.75	°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	75			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =75V, V _{GS} =0V			10	μA
Gate-Source Leakage Current	I _{GSS}	Forward			+100	nA
		Reverse			-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 =20A		10	12	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =25V, f=1.0MHz		3700		pF
Output Capacitance	C _{OSS}			730		pF
Reverse Transfer Capacitance	C _{RSS}			240		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q _G	V _{GS} =10V, V _{DD} =60V, I _D =40A, I _G =3.33mA		117		nC
Gate to Source Charge	Q _{GS}			27		nC
Gate to Drain Charge	Q _{GD}			47		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =30V, I _D =1.0A, R _G =4.6Ω, V _{GS} =10V		25		ns
Rise Time	t _R			25		ns
Turn-OFF Delay Time	t _{D(OFF)}			66		ns
Fall-Time	t _F			30		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Body-Diode Continuous Current	I _S		80			A
Maximum Body-Diode Pulsed Current	I _{SM}		320			A
Drain-Source Diode Forward Voltage	V _{SD}	I _S =80A, V _{GS} =0V			1.5	V
Body Diode Reverse Recovery Time	t _{RR}					ns

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