



UTT40N08

Preliminary

Power MOSFET

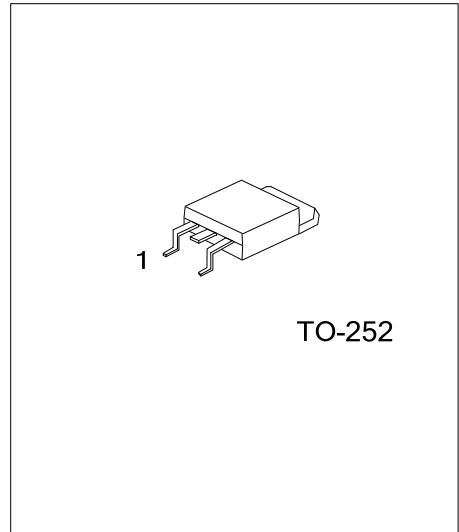
**40A, 80V N-CHANNEL
POWER MOSFET**

■ DESCRIPTION

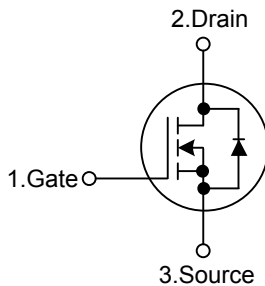
The **UTT40N08** power MOSFET provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness

■ FEATURES

- * $R_{DS(ON)} < 45m\Omega @V_{GS} = 10 V$
- * Low capacitance
- * Optimized gate charge
- * Fast switching capability
- * Avalanche energy specified



■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT40N08L-TN3-R	UTT40N08G-TN3-R	TO-252	G	D	S	Tape Reel

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

<p>UTT40N08L-TN3-R</p> <ul style="list-style-type: none"> (1)Packing Type (2)Package Type (3)Lead Free 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) TN3: TO-252 (3) L: Lead Free, G: Halogen Free
---	--

■ MARKING INFORMATION

PACKAGE	MARKING
TO-252	<p> UTC UTT40N08 □ □ □ □ □ □ □ □ □ Lot Code ← → Data Code </p> <p> L: Lead Free G: Halogen Free </p>

■ ABSOLUTE MAXIMUM RATINGS ($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	80	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	40	A
	Pulsed (Note 1)	I_{DM}	160	A
Power Dissipation	$T_C=25^{\circ}\text{C}$	P_D	65	W
	$T_C=125^{\circ}\text{C}$		1.92	
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	$^{\circ}\text{C}/\text{W}$
Junction to Case		θ_{JC}	1.92	$^{\circ}\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
OFF CHARACTERISTICS								
Drain-Source Breakdown Voltage		BV_{DSS}	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$	80			V	
Drain-Source Leakage Current		I_{DSS}	$V_{DS}=80\text{V}$, $V_{GS}=0\text{V}$, $T_J=25^{\circ}\text{C}$			1	μA	
Gate- Source Leakage Current	Forward	I_{GSS}	$V_{GS}=+20\text{V}$			+100	nA	
	Reverse		$V_{GS}=-20\text{V}$			-100	nA	
ON CHARACTERISTICS								
Gate Threshold Voltage		$V_{GS(TH)}$	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$	2.0		4.0	V	
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	$V_{GS}=10\text{V}$, $I_D=20\text{A}$		35	45	m Ω	
DYNAMIC PARAMETERS								
Input Capacitance		C_{ISS}	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $f=1.0\text{MHz}$		2800		pF	
Output Capacitance		C_{OSS}				320		pF
Reverse Transfer Capacitance		C_{RSS}				140		pF
SWITCHING PARAMETERS								
Total Gate Charge		Q_G	$V_{DS}=25\text{V}$, $V_{GS}=10\text{V}$, $I_D=40\text{A}$		200		nC	
Gate to Source Charge		Q_{GS}			19		nC	
Gate to Drain Charge		Q_{GD}			14		nC	
Turn-ON Delay Time		$t_{D(ON)}$	$V_{DS}=30\text{V}$, $I_D=1\text{A}$, $V_{GS}=10\text{V}$, $R_G=1.7\Omega$		66	78	ns	
Rise Time		t_R			52	70	ns	
Turn-OFF Delay Time		$t_{D(OFF)}$			350	380	ns	
Fall-Time		t_F			90	110	ns	
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS								
Maximum Body-Diode Continuous Current		I_S	$V_D=V_G=0\text{V}$, $V_S=1.3\text{V}$			40	A	
Maximum Body-Diode Pulsed Current		I_{SM}				160	A	
Drain-Source Diode Forward Voltage		V_{SD}	$T_J=25^{\circ}\text{C}$, $I_S=40\text{A}$, $V_{GS}=0\text{V}$			1.3	V	

Notes: 1. Pulse width limited by $T_{J(MAX)}$
2. Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.