



UF3N30Z

Power MOSFET

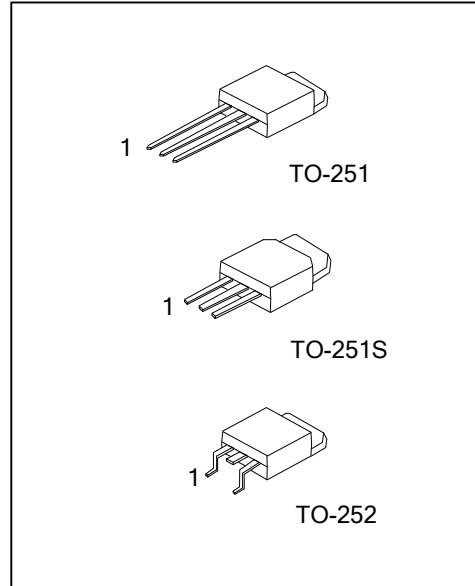
3A, 300V N-CHANNEL POWER MOSFET

■ DESCRIPTION

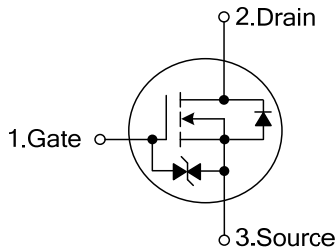
The UTC **UF3N30Z** is an N-channel enhancement mode Power MOSFET using UTC' s advanced technology to provide customers with a minimum on-state resistance, low gate charge and superior switching performance.

■ FEATURES

- * $R_{DS(ON)} < 2\Omega @ V_{GS}=10V, I_D=1.5A$
- * High switching speed
- * Typically 4nC low gate charge
- * 100% avalanche tested



■ SYMBOL



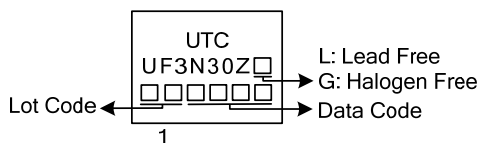
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UF3N30ZL-TM3-T	UF3N30ZG-TM3-T	TO-251	G	D	S	Tube
UF3N30ZL-TMS-T	UF3N30ZG-TMS-T	TO-251S	G	D	S	Tube
UF3N30ZL-TN3-R	UF3N30ZG-TN3-R	TO-252	G	D	S	Tape Reel

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

<p>UF3N30ZL-TM3-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TM3: TO-251, TMS: TO-251S, TN3: TO-252</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS

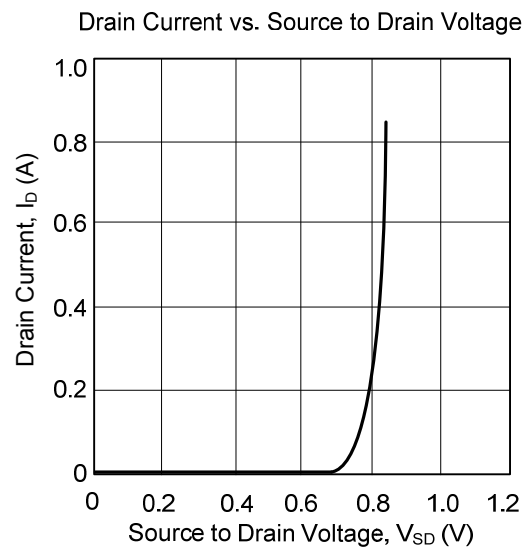
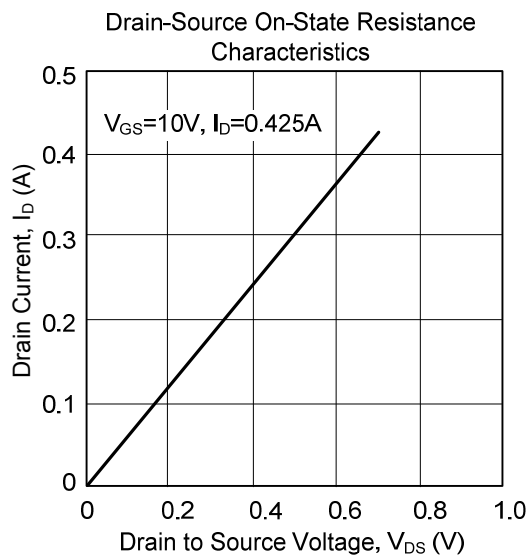
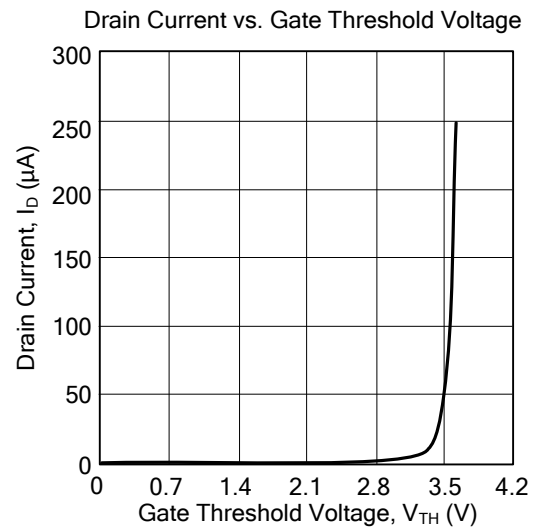
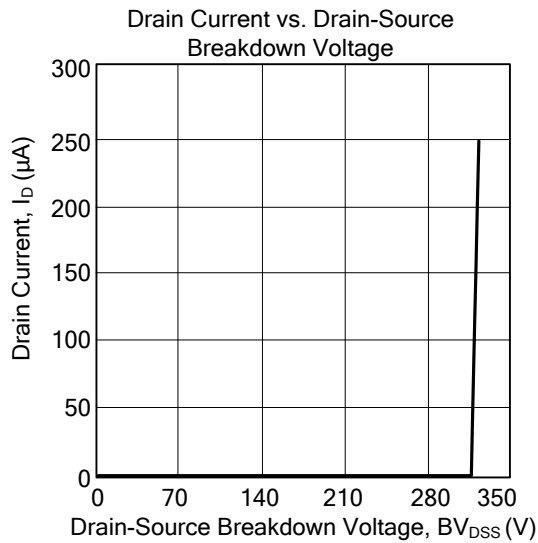
PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	300	V
Gate-Source Voltage		V_{GSS}	± 20	V
Continuous Drain Current	Continuous	I_D	3	A
	Pulsed	I_{DM}	12	A
Avalanche Energy		E_{AS}	52	mJ
Power Dissipation ($T_C=25^\circ\text{C}$)		P_D	50	W
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature Range		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.

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
OFF CHARACTERISTICS								
Drain-Source Breakdown Voltage		BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	300			V	
Drain-Source Leakage Current		I_{DSS}	$V_{DS}=300\text{V}$			1	μA	
Gate-Source Leakage Current	Forward	I_{GSS}	$V_{GS}=+20\text{V}, V_{DS}=0\text{V}$			10	μA	
	Reverse		$V_{GS}=-20\text{V}, V_{DS}=0\text{V}$			-10	μA	
ON CHARACTERISTICS								
Gate Threshold Voltage		$V_{GS(TH)}$	$I_D=250\mu\text{A}$	2		4	V	
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=1.5\text{A}$			2	Ω	
DYNAMIC PARAMETERS								
Input Capacitance		C_{ISS}	$V_{GS}=0\text{V}, V_{DS}=25\text{V}, f=1\text{MHz}$		200		pF	
Output Capacitance		C_{OSS}				90		pF
Reverse Transfer Capacitance		C_{RSS}				30		pF
SWITCHING PARAMETERS								
Turn-ON Delay Time		$t_{D(ON)}$	$V_{DD}=30\text{V}, I_D=0.5\text{A}, R_G=25\Omega,$ $V_{GS}=0\sim 10\text{V}$		10		ns	
Rise Time		t_R				50		ns
Turn-OFF Delay Time		$t_{D(OFF)}$				30		ns
Fall-Time		t_F				40		ns
Total Gate Charge		Q_G	$V_{DD}=50\text{V}, I_D=1.3\text{A}, I_G=100\mu\text{A},$ $V_{GS}=10\text{V}$		4		nC	
Gate to Source Charge		Q_{GS}				0.64		nC
Gate to Drain Charge		Q_{GD}				1.6		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS								
Maximum Body-Diode Continuous Current		I_S				3	A	
Maximum Body-Diode Pulsed Current		I_{SM}				12	A	
Drain-Source Diode Forward Voltage		V_{SD}	$I_S=0.85\text{A}$			1.3	V	

■ TYPICAL CHARACTERISTICS



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