



UF3N30Z

Power MOSFET

3A, 300V N-CHANNEL POWER MOSFET

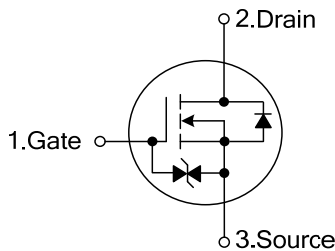
DESCRIPTION

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



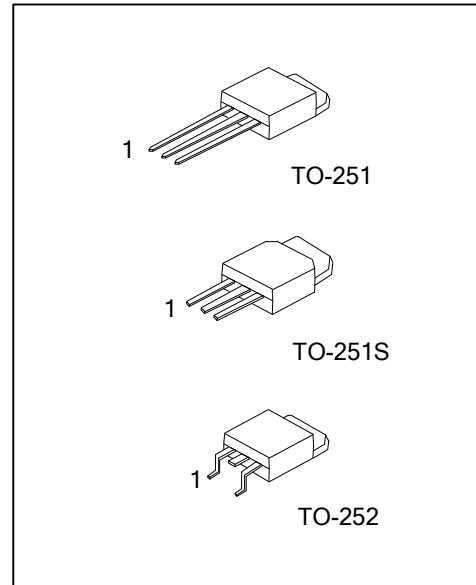
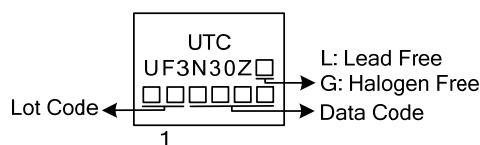
ORDERING INFORMATION

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

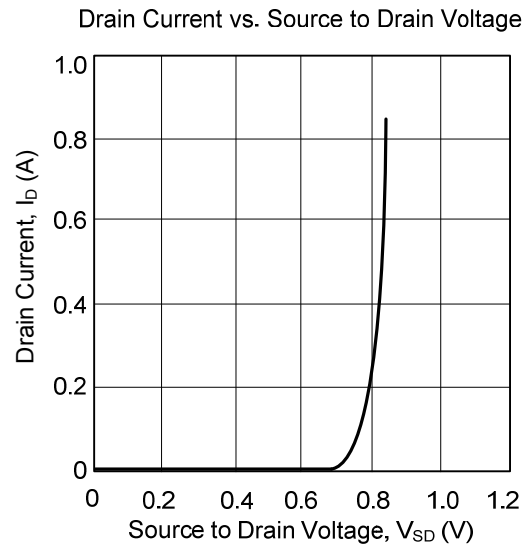
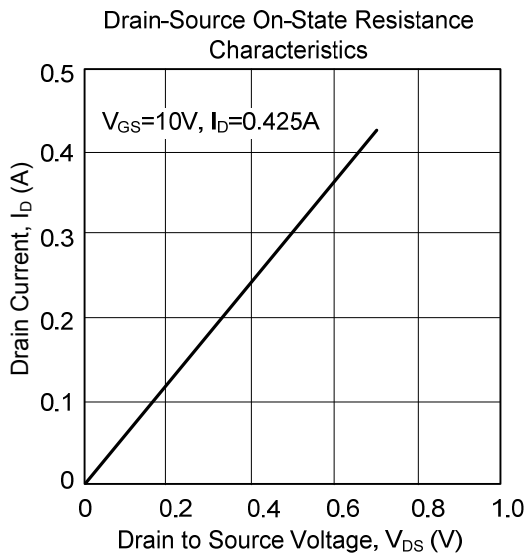
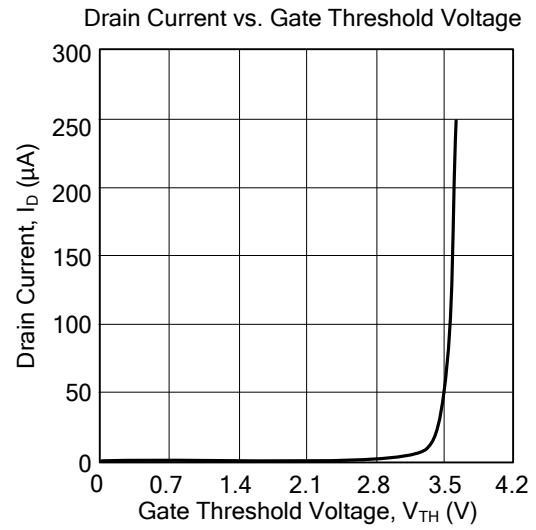
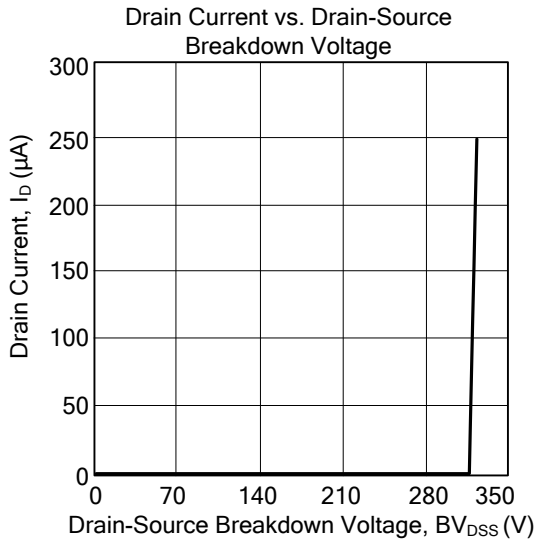
PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	300	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	Continuous	I_D	3
	Pulsed	I_{DM}	12
Avalanche Energy	E_{AS}	52	mJ
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	50	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature 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	I_{GSS}	Forward			10	μA
		Reverse			-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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