



UF6N15Z

Power MOSFET

6A, 150V N-CHANNEL POWER MOSFET

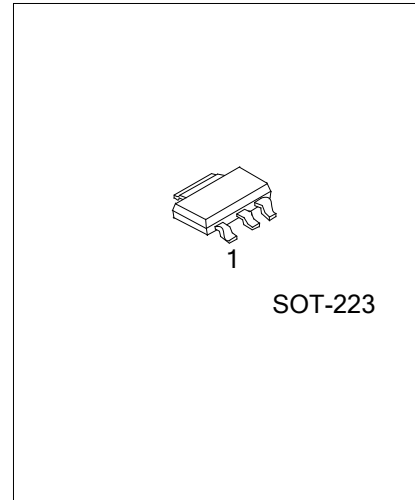
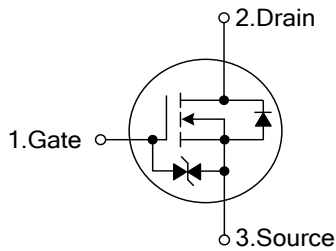
DESCRIPTION

The UTC **UF6N15Z** 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

- * $R_{DS(ON)} < 1.95\Omega$ @ $V_{GS}=10V, I_D=6A$
- * High switching speed
- * Typically 3.2nC low gate charge
- * 100% avalanche tested

SYMBOL



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UF6N15ZL-AA3-R	UF6N15ZG-AA3-R	SOT-223	G	D	S	Tape Reel

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

<p>UF6N15L-AA3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel</p> <p>(2) AA3: SOT-223</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ ABSOLUTE MAXIMUM RATINGS

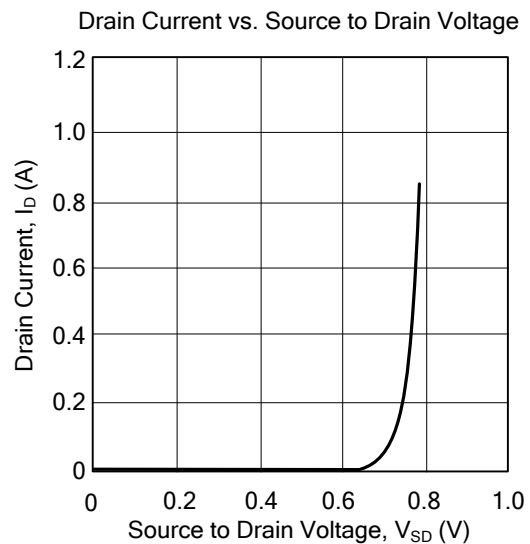
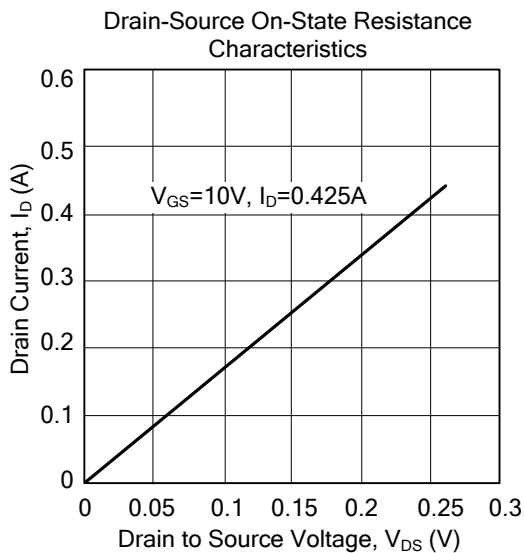
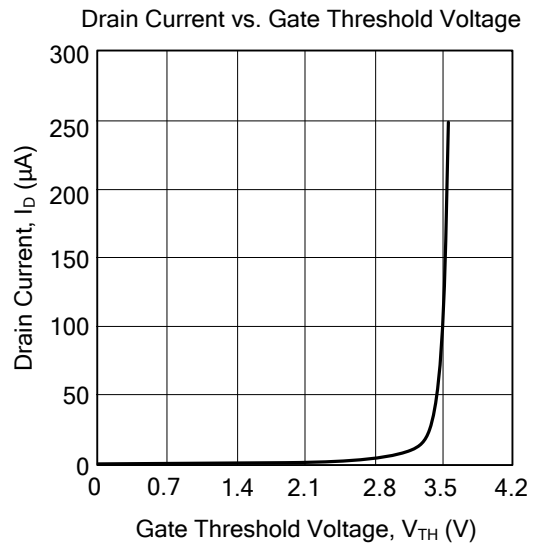
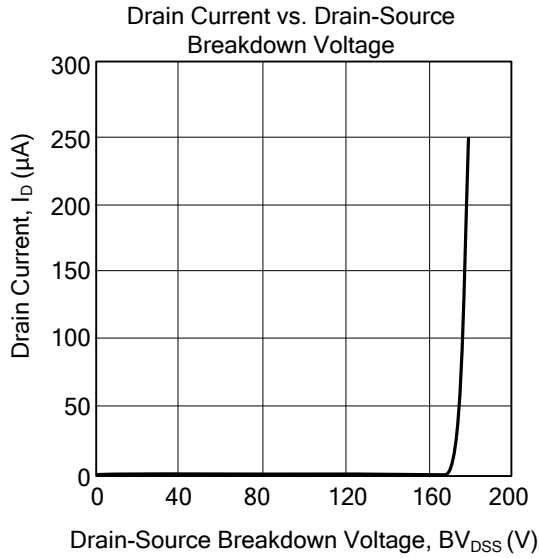
PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	150	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	Continuous	I_D	6
	Pulsed	I_{DM}	24
Avalanche Energy	E_{AS}	52	mJ
Power Dissipation	P_D	2	W
Junction Temperature	T_J	+150	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}C$

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}	$I_D=250\mu A, V_{GS}=0V$	150			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=150V$			1	μA
Gate-Source Leakage Current	I_{GSS}	Forward			10	μA
		Reverse	$V_{GS}=-20V, V_{DS}=0V$		-10	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$I_D=250\mu A$	2		4	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=6A$			1.95	Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=25V, f=1MHz$		190	300	pF
Output Capacitance	C_{OSS}			70	100	pF
Reverse Transfer Capacitance	C_{RSS}			20	50	pF
SWITCHING PARAMETERS						
Total Gate Charge	Q_G	$V_{DD}=50V, I_D=6A, I_G=100\mu A, V_{GS}=10V$		3.2		nC
Gate to Source Charge	Q_{GS}			0.64		nC
Gate to Drain Charge	Q_{GD}			1.6		nC
Turn-ON Delay Time	$t_{D(ON)}$	$V_{DD}=30V, I_D=1A, R_G=25\Omega, V_{GS}=10V$		6		ns
Rise Time	t_R			38		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			11		ns
Fall-Time	t_F			13		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Body-Diode Continuous Current	I_S				6	A
Maximum Body-Diode Pulsed Current	I_{SM}				24	A
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=6A$			1.48	V

TYPICAL CHARACTERISTICS



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