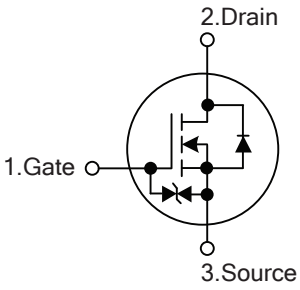
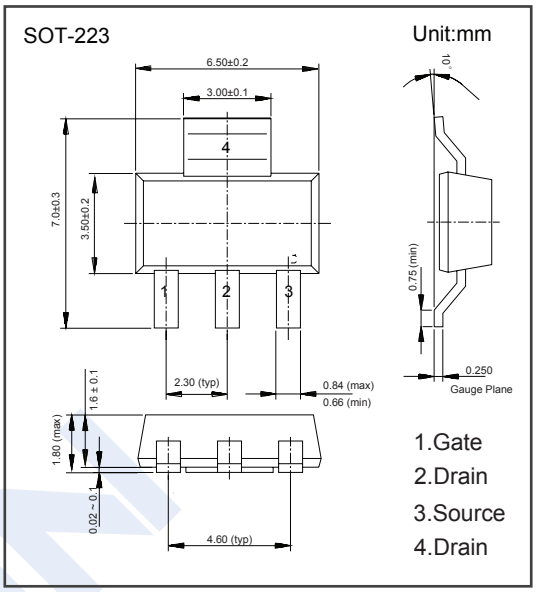
N-Channel Power MOSFET

UTT6N10Z

■ Features

- $R_{DS(on)}$ = 80mΩ @V_{GS} = 10V,I_D=6A
- High Switching Speed
- Low Crss (Typically 3.1pF)
- Low Gate Charge (Typically 4.3nC)





■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	6	A
Pulsed Drain Current	I_{DM}	24	
Single Pulsed Avalanche Energy (Note1)	E_{AS}	12	mJ
Power Dissipation	P_D	2.2	W
Thermal Resistance.Junction- to-Ambient	R_{thJA}	55	℃/W
Thermal Resistance.Junction- to-Case	R_{thJC}	12	
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note1: Starting T_J=25°C, L=11mH, I_{AS} =6A, V_{DD}=90V, V_{GS} =10V.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=80V, V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	1.0		2.2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=6A			108	mΩ
		V_{GS}=4.5V, I_D=3A			153	
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1MHz		234	315	pF
Output Capacitance	C_{oss}			46	65	
Reverse Transfer Capacitance	C_{rss}			3.1	5	
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=25V, I_D=6A		4.3	7	nC
Gate Source Charge	Q_{gs}	V_{DS}=50V, I_D=6A		0.7		
Gate Drain Charge	Q_{gd}			0.9		
Turn-On DelayTime	$t_{d(on)}$	V_{DS}=50V, I_D=6A,V_{GS}=10V, R_{GEN}=6Ω		3.8	10	ns
Turn-On Rise Time	t_r			1.3	10	
Turn-Off DelayTime	$t_{d(off)}$			10	20	
Turn-Off Fall Time	t_f			1.5	10	
Maximum Body-Diode Continuous Current	I_S				6	A
Source Current Pulsed	I_{SM}				24	
Diode Forward Voltage	V_{SD}	I_S=6A,V_{GS}=0V (Note2)			1.3	V

Note2: Pulse Test: Pulse width ≤300μs, Duty cycle ≤2%.

■ Ordering Information

UTT6N10ZL-AA3-R (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel (2) AA3: SOT-223 (3) L: Lead Free, G: Halogen Free

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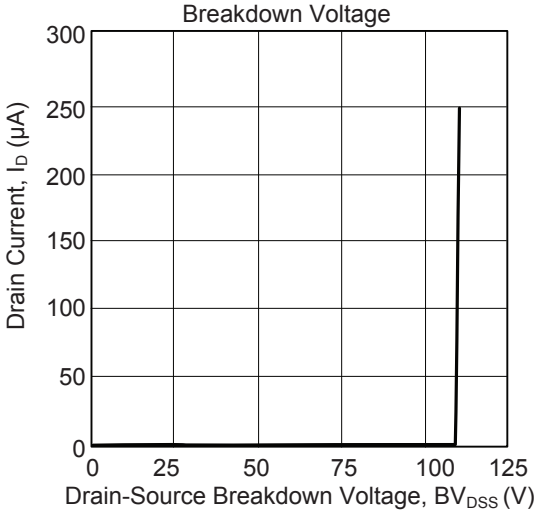
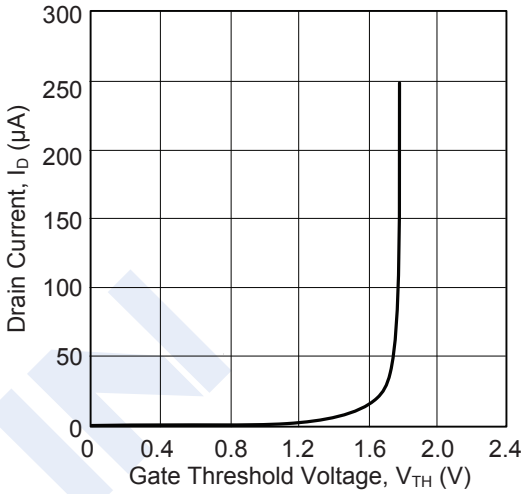
■ Typical Characterisitics

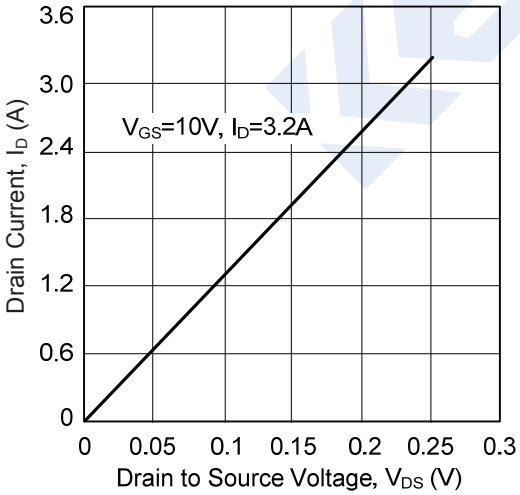
Drain Current vs. Drain-Source Breakdown Voltage



Drain Current vs. Gate Threshold Voltage



Drain-Source On-State Resistance Characteristics



Drain Current vs. Source to Drain Voltage