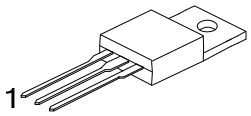
70A, 100V P-CHANNEL POWER MOSFET



TO-220

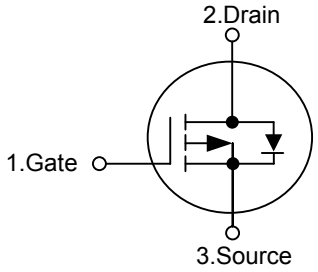
■ DESCRIPTION

The UTC **UTT70P10** is a P-channel power MOSFET using UTC's advanced technology to provide the customers with high switching speed and a minimum on-state resistance. It can also withstand high energy in the avalanche.

■ FEATURES

* $R_{DS(ON)}$=0.03Ω @ V_{GS}=-10V, I_D=-20A
* High Switching Speed

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT70P10L-TA3-T	UTT70P10G-TA3-T	TO-220	G	D	S	Tube

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

UTT70P10L-TA3-T (1)Packing Type (2)Package Type (3)Lead Free	(1) T: Tube (2) TA3: TO-220 (3) G: Halogen Free, L: Lead Free

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■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current	Continuous	I_D	-70	A
	Pulsed	I_{DM}	-90	A
Power Dissipation		P_D	225	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-55~+150	°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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	0.55	°C/W

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	I_D=-250μA, V_{GS}=0V	-100			V
Drain-Source Leakage Current		I_{DSS}	V_{DS}=0.8×Max.rating,V_{GS}=0V,T_J=25°C			-1	μA
			V_{DS}=0.8×Max.rating,V_{GS}=0V,T_J=125°C			-500	
Gate- Source Leakage Current	Forward	I_{GSS}	V_{GS}=+20V			+100	nA
	Reverse		V_{GS}=-20V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(TH)}$	V_{DS}=V_{GS}, I_D=-250μA	-1		-3	V
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	V_{GS}=-10V, I_D=-20A			0.03	Ω
DYNAMIC PARAMETERS							
Input Capacitance		C_{ISS}	V_{GS}=0V, V_{DS}=-50V, f=1.0MHz		2250		pF
Output Capacitance		C_{OSS}			700		pF
Reverse Transfer Capacitance		C_{RSS}			275		pF
SWITCHING PARAMETERS							
Turn-ON Delay Time		$t_{D(ON)}$	V_{DD}=-50V, V_{GS}=-10V, I_D=-50A,R_G=1Ω		20	200	ns
Rise Time		t_R			110	420	ns
Turn-OFF Delay Time		$t_{D(OFF)}$			145	1500	ns
Fall-Time		t_F			300	500	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Drain-Source Diode Forward Voltage		V_{SD}	I_F=-20A, V_{GS}=0V, Pulse test, t≤300μs, duty cycle d≤2%		-1.0	-1.5	V
Body Diode Reverse Recovery Time		t_{rr}	T_J=25°C, I_F=-20A, V_R=-50V, di/dt=-100A/μs		80	120	ns

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