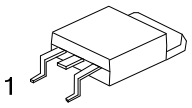
-30V, -36A P-CHANNEL POWER MOSFET



TO-252

■ DESCRIPTION

The UTC **UTT36P03** 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, and it can also withstand high energy in the avalanche.

The UTC **UTT36P03** is suitable for low voltage ,high speed switching applications

■ FEATURES

* $R_{DS(ON)}$<38mΩ @ V_{GS}=-10V, I_D=-36A
* High Switching Speed

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT36P03L-TN3-R	UTT36P03G-TN3-R	TO-252	G	D	S	Tape Reel

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

UTT36P03L-TN3-R (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel (2) TN3: TO-252 (3) G: Halogen Free, L: Lead Free

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current	Continuous	I_D	-36	A
	Pulsed	I_{DM}	-144	A
Avalanche Current		I_{AR}	-36	A
Avalanche Energy	Single Pulsed	E_{AS}	36	mJ
Power Dissipation		P_D	1.2	W
Junction Temperature		T_J	+150	°C
Storage Temperature Range		T_{STG}	-55+~150	°C

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.
2. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
3. T_J=25°C, V_{DD}=-25V, L=0.1mH, R_G=25Ω, I_{AS}=-36A.

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	I_D=-250μA, V_{GS}=0V	-30			V
Drain-Source Leakage Current		I_{DSS}	V_{DS}=-30V			-1	μA
Gate-Source Leakage Current	Forward	I_{GSS}	V_{GS}=+20V, V_{DS}=0V			+100	nA
	Reverse		V_{GS}=-20V, V_{DS}=0V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(TH)}$	I_D=-250μA	-1		-3	V
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	V_{GS}=-10V, I_D=-36A			38	mΩ
			V_{GS}=-4.5V, I_D=-10A			58	mΩ
DYNAMIC PARAMETERS							
Input Capacitance		C_{ISS}	V_{GS}=0V, V_{DS}=-25V, f=1MHz		3200		pF
Output Capacitance		C_{OSS}			350		pF
Reverse Transfer Capacitance		C_{RSS}			205		pF
SWITCHING PARAMETERS							
Total Gate Charge		Q_G	V_{GS}=-10V, V_{DD}=-25V, I_D=-36A		17		nC
Gate to Source Charge		Q_{GS}			5		nC
Gate to Drain Charge		Q_{GD}			3		nC
Turn-ON Delay Time		$t_{D(ON)}$	V_{DD}=-25V, I_D=-36A, R_G=25Ω, V_{GS}=-10V		6		ns
Rise Time		t_R			16		ns
Turn-OFF Delay Time		$t_{D(OFF)}$			26		ns
Fall-Time		t_F			10		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Maximum Body-Diode Continuous Current		I_S				-36	A
Maximum Body-Diode Pulsed Current		I_{SM}				-144	A
Drain-Source Diode Forward Voltage		V_{SD}	I_S=-36A			-1.2	V