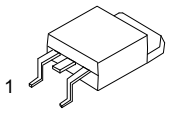
UT30P03

Preliminary | ***Power MOSFET***

P-CHANNEL ENHANCEMENT MODE

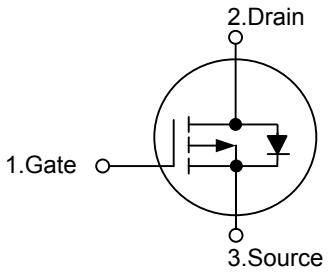


TO-252

■ FEATURES

* $R_{DS(ON)}$ = 40mΩ @V_{GS} =-10 V
* Low Capacitance
* Optimized gate charge
* Fast switching capability
* Avalanche energy specified

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UT30P03L-TN3-R	UT30P03G-TN3-R	TO-252	G	D	S	Tape Reel

UT30P03G-TN3-R

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

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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-26	A
Power Dissipation	P_D	50	W
Junction Temperature	T_J	+175	°C
Storage Temperature	T_{STG}	-55 ~ +175	°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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	°C/W
Junction to Case	θ_{JC}	3	°C/W

■ ELECTRICAL CHARACTERISTICS (T_J =25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D =-250 μA	-30			V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V			-1	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS}, I_D=-250 μA	-1		-3	V
Static Drain-Source On-State Resistance (Note)	$R_{DS(ON)}$	V_{GS}=-10V, I_D =-10A		30	40	mΩ
		V_{GS}=-4.5V, I_D =-10A		40	60	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	V_{DS} =-25V, V_{GS}=0V, f=1.0MHz		700		pF
Output Capacitance	C_{OSS}			130		pF
Reverse Transfer Capacitance	C_{RSS}			120		pF
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	V_{DS} =-15V, I_D=1A, R_L = 15Ω, V_{GS}=-10V, R_G=3.3Ω		25		ns
Turn-On Rise Time	t_R			50		ns
Turn-Off Delay Time	$t_{D(OFF)}$			380		ns
Turn-Off Fall Time	t_F			180		ns
Total Gate Charge	Q_G	V_{DS}= -24V, I_D= -30A, V_{GS}= -4.5V		100		nC
Gate-Source Charge	Q_{GS}			15		nC
Gate-Drain Charge	Q_{GD}			10		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS} = 0V, I_S =-10A			-1.2	V
Maximum Continuous Drain-Source Diode Forward Current	I_S				-26	A

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