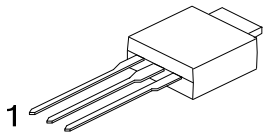
0.2A, 500V N-CHANNEL POWER MOSFET



TO-251

■ DESCRIPTION

The UTC **02N50** is an N-channel MOSFET, it uses UTC's advanced technology to provide the customers with high breakdown voltage

■ FEATURES

* $R_{DS(on)}$=75Ω @V_{GS}=10V, I_D=0.15A
* High breakdown voltage

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
02N50L-TM3-T	02N50G-TM3-T	TO-251	G	D	S	Tube

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

02N50L-TM3-T (1)Packing Type (2)Package Type (3)Lead Free	(1) T: Tube (2) TM3: TO-251 (3) L: Lead Free, G: Halogen Free

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	500	V
Gate-Source Voltage		V_{GSS}	±30	V
Drain Current	Continuous	I_D	0.2	A
	Pulsed	I_{DM}	1	A
Avalanche Current (Note 1)		I_{AR}	0.2	A
Power Dissipation		P_D	40	W
Junction Temperature		T_J	150	°C
Storage Temperature Range		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.

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	I_D=250μA, V_{GS}=0V	500			V
Drain-Source Leakage Current		I_{DSS}	V_{DS}=500V, V_{GS}=0V, T_A=25°C			10	μA
Gate-Source Leakage Current	Forward	I_{GSS}	V_{GS}=+30V, V_{DS}=0V			+100	nA
	Reverse		V_{GS}=-30V, V_{DS}=0V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(TH)}$	V_{DS}=V_{GS}, I_D=250μA	2.5		4.5	V
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	V_{GS}=10V, I_D=0.15A, T_A=25°C		62	75	Ω
DYNAMIC PARAMETERS							
Input Capacitance		C_{ISS}	V_{GS}=0V, V_{DS}=25V, f=1.0MHz		200		pF
Output Capacitance		C_{OSS}			20		pF
Reverse Transfer Capacitance		C_{RSS}			8		pF
SWITCHING PARAMETERS							
Total Gate Charge		Q_G	V_{GS}=10V, I_D=0.2A, V_{PS}=400V		3.0	4.5	nC
Gate to Source Charge		Q_{GS}			0.45	0.7	nC
Gate to Drain Charge		Q_{GD}			0.4	0.75	nC
Turn-ON Delay Time		$t_{D(ON)}$	V_{DD}=250V, I_D=0.2A, R_G=25Ω		9		ns
Rise Time		t_R			4		ns
Turn-OFF Delay Time		$t_{D(OFF)}$			28		ns
Fall-Time		t_F			45		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Maximum Body-Diode Continuous Current		I_S				0.2	A
Maximum Body-Diode Pulsed Current		I_{SM}				1	A
Drain-Source Diode Forward Voltage		V_{SD}	I_S=0.2A, V_{GS}=0V			1	V