

UNISONIC TECHNOLOGIES CO., LTD

4N30 **Power MOSFET**

4A, 300V N-CHANNEL POWER MOSFET

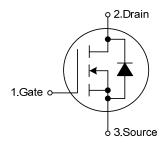
DESCRIPTION

The UTC 4N30 is an N-channel mode power MOSFET using UTC's advanced technology to provide customers with a minimum on-state resistance, low gate charge and superior switching performance.

FEATURES

- * $R_{DS(ON)}$ <2 Ω @ V_{GS} =10V, I_D =4A
- * High switching speed
- * Typically 3.2nC low gate charge
- * 100% avalanche tested

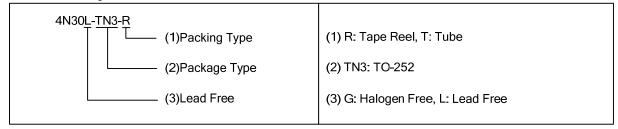


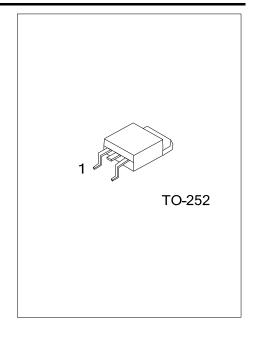


ORDERING INFORMATION

Ordering Number		Darling	Pin Assignment			Dealing	
Lead Free	Halogen Free	Package	1	2	3	Packing	
4N30L-TN3-R	4N30G-TN3-R	TO-252	G	D	S	Tape Reel	
4N30L-TN3-T	4N30G-TN3-T	TO-252	G	D	S	Tube	

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





■ ABSOLUTE MAXIMUM RATINGS

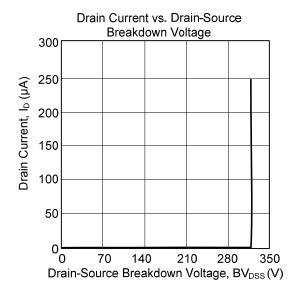
PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		$V_{ extsf{DSS}}$	300	V
Gate-Source Voltage		V_{GSS}	±20	V
Continuous Drain Current		I_{D}	4	Α
Avalanche Current		I _{AR}	4	Α
A	Single Pulsed	E _{AS}	52	mJ
Avalanche Energy	Repetitive	E _{AR}	52	mJ
Power Dissipation		P_D	1.14	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T _{STG}	-55~+150	°C

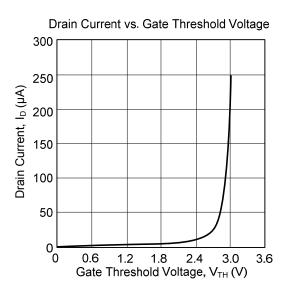
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

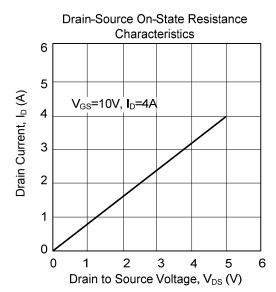
■ ELECTRICAL CHARACTERISTICS

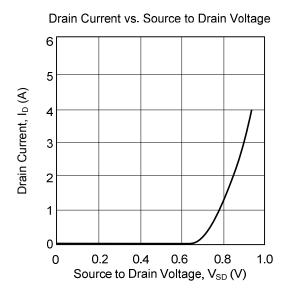
PARAMETER		SYMBOL	TEST CONDITIONS M		TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV _{DSS}	I _D =250μA, V _{DS} =0V				V
Drain-Source Leakage Current		I _{DSS}	V _{DS} =300V			1	μA
Gate-Source Leakage Current	Forward	I _{GSS}	V_{GS} =+20V, V_{DS} =0V			±100	nA
	Reverse		V _{GS} =-20V, V _{DS} =0V			±100	nΑ
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(TH)}$	I _D =250μA			4	V
Static Drain-Source On-State Resistance		R _{DS(ON)}	V _{GS} =10V, I _D =4A			2	Ω
DYNAMIC PARAMETERS							
nput Capacitance		C_{ISS}	V _{GS} =0V, V _{DS} =25V, f=1MHz			850	pF
Output Capacitance		Coss				250	pF
Reverse Transfer Capacitance		C _{RSS}				200	pF
SWITCHING PARAMETERS							
Total Gate Charge		Q_G	 V _{DD} =50V, I _D =4A, I _G =100μA,		3.2		nC
Gate to Source Charge		Q_GS	V _{BS} =30V, I _B =4A, I _G =100μA, -V _{GS} =10V		0.64		nC
Gate to Drain Charge		Q_{GD}			1.6		nC
Turn-ON Delay Time		$t_{D(ON)}$]		6		ns
Rise Time		t_R	V _{DD} =30V, I _D =4A, R _G =25Ω, V _{GS} =0~10V		38		ns
Turn-OFF Delay Time		$t_{D(OFF)}$			11		ns
Fall-Time		t _F			13		ns
SOURCE- DRAIN DIODE RATIF	NGS AND C	CHARACTERI	STICS				
Maximum Body-Diode Continuous Current		Is				4	Α
Maximum Body-Diode Pulsed Current		I _{SM}				16	Α
Drain-Source Diode Forward Voltage		V_{SD}	I _S =4A	0.1		1.48	V

■ TYPICAL CHARACTERISTICS









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