

# UTCK1109 JUNCTION FIELD EFFECT TRANSISTOR

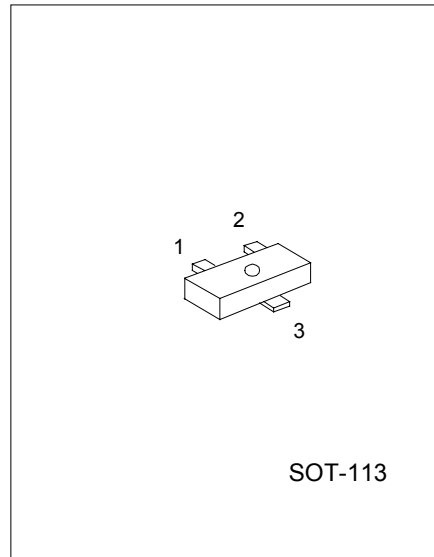
## N-CHANNEL JFET FOR ELECTRET CONDENSER MICROPHONE

### DESCRIPTION

The UTC K1109 is N-channel JFET for electret condenser microphone.

### FEATURES

- \*High gm implies low transfer loss
- \*Built-in gate-source diode and resistor implies fast power on settling time



1: SOURCE 2: DRAIN 3: GATE

### ABSOLUTE MAXIMUM RATINGS ( Operating temperature range applies unless otherwise specified )

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V <sub>DSX</sub>	20	V
Gate-Drain Voltage	V <sub>GDO</sub>	-20	V
Drain Current	I <sub>D</sub>	10	mA
Gate Current	I <sub>G</sub>	10	mA
Total Power Dissipation	P <sub>T</sub>	80	mW
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +125	°C

### ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C, unless otherwise specified)

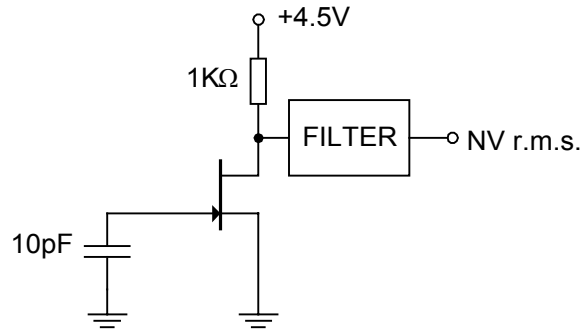
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0	40		600	μA
Gate Off Voltage	V <sub>GS(OFF)</sub>	V <sub>DS</sub> =5.0V, I <sub>D</sub> =1.0μA	-0.1		-1.0	V
Forward Transfer Admittance	Y <sub>Fs1l</sub>	V <sub>DS</sub> =5.0V, I <sub>D</sub> =30μA, f=1kHz	350	480		μS
Forward Transfer Admittance	Y <sub>Fs2l</sub>	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0, f=1kHz	350	1600		μS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0, f=1.0MHz		7.0	8.0	pF
Noise Voltage	NV			1.8	3.0	V

### CLASSIFICATION OF I<sub>DSS</sub>

RANK	J34	J35	J36
RANGE	90-180	150-300	200-450

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## NOISE VOLTAGE TEST CIRCUIT



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