



K1109

N-CHANNEL JFET

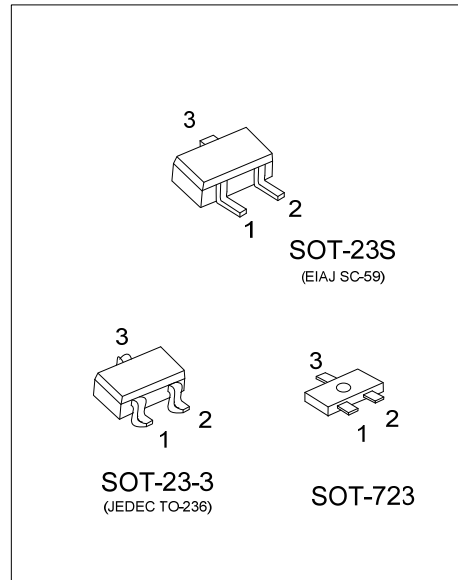
N-CHANNEL JFET FOR ELECTRET CONDENSER MICROPHONE

DESCRIPTION

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

FEATURES

- * High GM Implies Low Transfer loss
- * Built-In Gate-Source Diode and Resistor Implies Fast Power on Settling Time



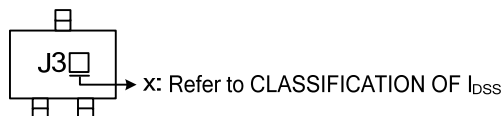
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
K1109L-x-AE3-R	K1109G-x-AE3-R	SOT-23	D	S	G	Tape Reel
K1109L-AE3S-R	K1109G-AE3S-R	SOT-23S	D	S	G	Tape Reel
K1109L-x-AQ3-R	K1109G-x-AQ3-R	SOT-723	D	S	G	Tape Reel

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

K1109G-x-AE3-R (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel (2) AE3: SOT-23, AE3S: SOT-23S, AQ3: SOT-723 (3) x: refer to CLASSIFICATION OF I_{DSS} (4) G: Halogen Free and Lead Free, L: Lead Free
---	---

MARKING



■ **ABSOLUTE MAXIMUM RATINGS** (unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSX}	20	V
Gate-Drain Voltage	V_{GDO}	-20	V
Drain Current	I_D	10	mA
Gate Current	I_G	10	mA
Power Dissipation	P_D	80	mW
Junction Temperature	T_J	+125	°C
Storage Temperature	T_{STG}	-55 ~ +125	°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.

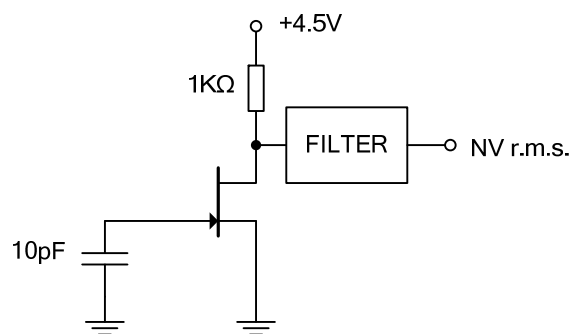
■ **ELECTRICAL CHARACTERISTICS** ($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Drain Current	I_{DSS}	$V_{DS}=2.0\text{V}$, $V_{GS}=0$	40		600	μA
Gate Off Voltage	$V_{GS(OFF)}$	$V_{DS}=5.0\text{V}$, $I_D=1.0\mu\text{A}$	-0.1		-1.0	V
Forward Transfer Admittance	Y_{FSI}	$V_{DS}=5.0\text{V}$, $V_{GS}=0$, $f=1\text{kHz}$	600	1600		μS
Input Capacitance	C_{ISS}	$V_{DS}=5.0\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$		7.0	8.0	pF
Noise Voltage	NV			1.8	3.0	μV

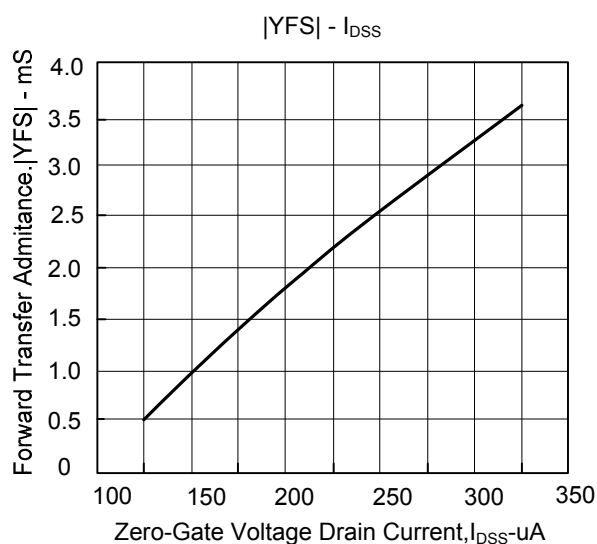
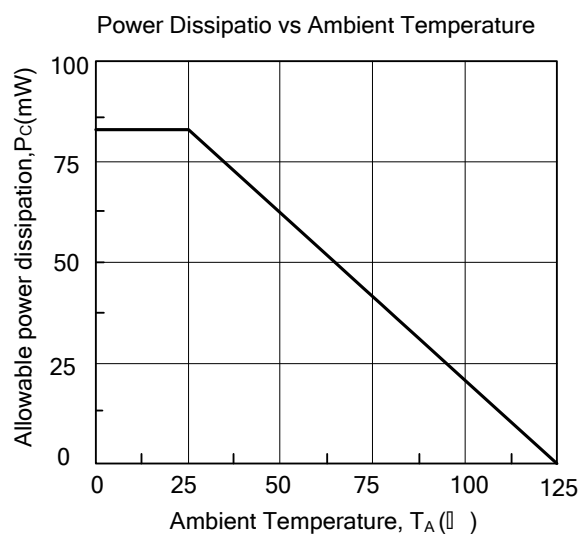
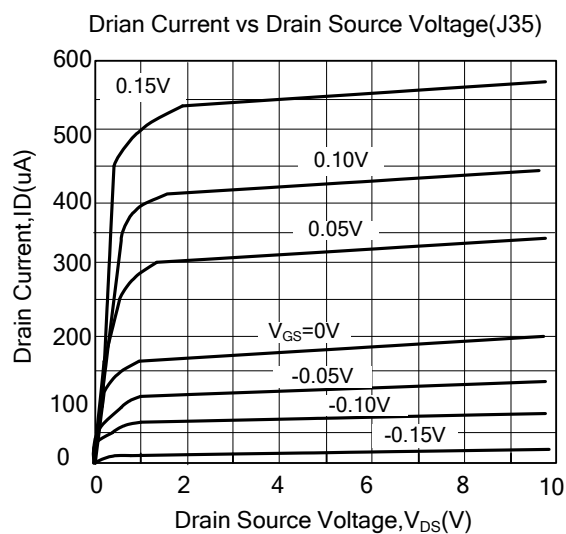
■ **CLASSIFICATION OF I_{DSS}**

RANK	J32	J33	J34	J35	J36	J37
RANGE	40-70	60-110	90-180	150-300	200-450	300-600

■ TEST CIRCUIT



■ TYPICAL CHARACTERISTICS



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.