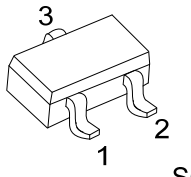
2SK209

JFET

FIELD EFFECT TRANSISTOR
SILICON N-CHANNEL
JUNCTION TYPE



SOT-23
(JEDEC TO-236)

■ DESCRIPTION

The UTC **2SK209** is an N-channel junction silicon FET, it uses UTC's advanced technology to provide the customers with low I_{GSS} and low C_{RSS}.

The UTC **2SK209** is suitable for audio frequency low noise amplifier, impedance conversion, infrared sensor applications.

■ FEATURES

* High breakdown voltage: V_{GDS}= −50V
* High input impedance: I_{GSS}= −1nA (max) at V_{GS}= −30V

■ ORDERING INFORMATION

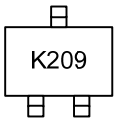
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SK209L-xx-AE3-R	2SK209G-xx-AE3-R	SOT-23	S	D	G	Tape Reel

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

2SK209G-xx-AE3-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) AE3: SOT-23
(3)Rank	(3) xx: refer to Classification of I_{DSS}
(4)Green Package	(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Gate-Drain Voltage	V_{GDS}	-50	V
Gate Current	I_G	10	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	+125	°C
Storage Temperature Range	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_C=25°C, unless otherwise specified)

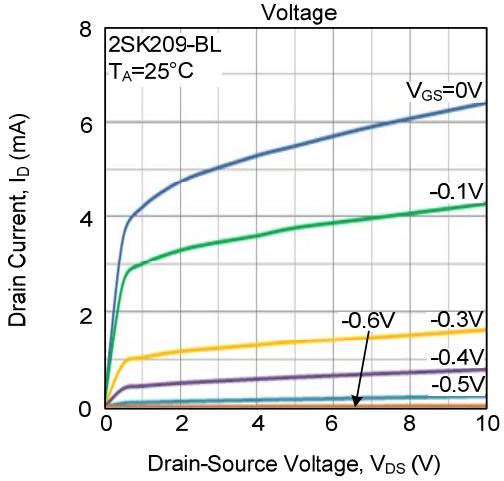
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Gate Cut-off Current	I_{GSS}	V_{GS}=-30V, V_{DS}=0V			-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=-100μA, V_{DS}=0V	-50			V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=10V, V_{GS}=0V	1.2		14	mA
Forward Transfer Admittance	$\|yfs\|$	V_{GS}=0V, V_{DS}=10V, f=1kHz	4.0			mS
ON CHARACTERISTICS						
Cutoff Voltage	$V_{GS(OFF)}$	V_{DS}=10V, I_D=0.1μA	-0.2		-1.5	V
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	V_{DS}=10V, V_{GS}=0V, f=1MHz		13		pF
Reverse Transfer Capacitance	C_{RSS}	V_{DG}=10V, I_D=0A, f=1MHz		3		pF
Noise Figure	NF	V_{DS}=10V, R_G=1kΩ, I_D=0.5A, f=10Hz		6		dB
		V_{DS}=10V, R_G=1kΩ, I_D=0.5A, f=1kHz		1		dB

■ CLASSIFICATION OF I_{DSS}

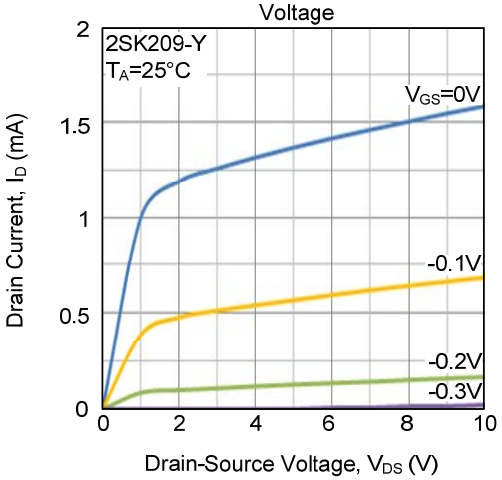
RANK	Y	GR	BL
RANGE	1.2 ~ 3.0	2.6 ~ 6.5	6.0 ~ 14

■ TYPICAL CHARACTERISTICS

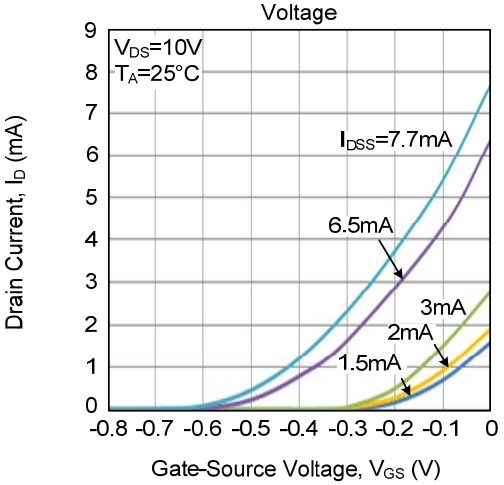
Drain Current to Drain-Source Voltage



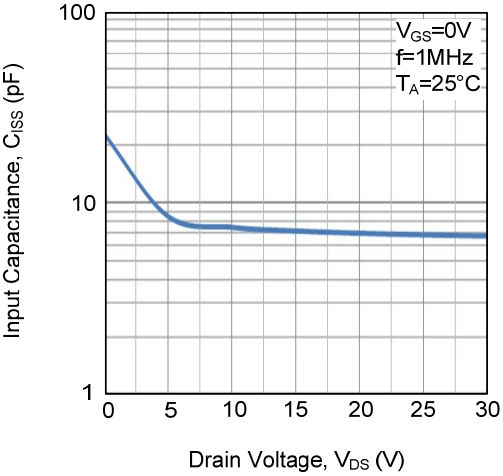
Drain Current to Drain-Source Voltage



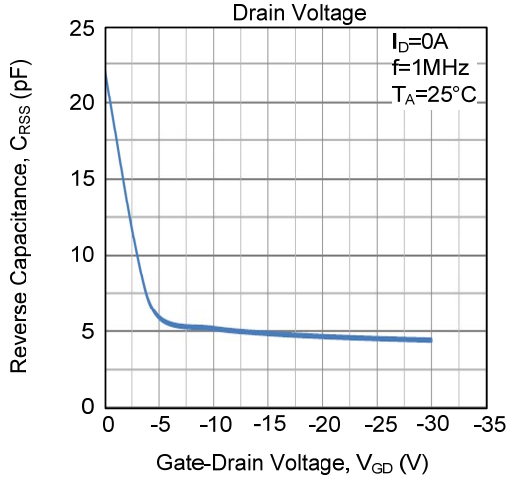
Drain Current to Gate-Source Voltage



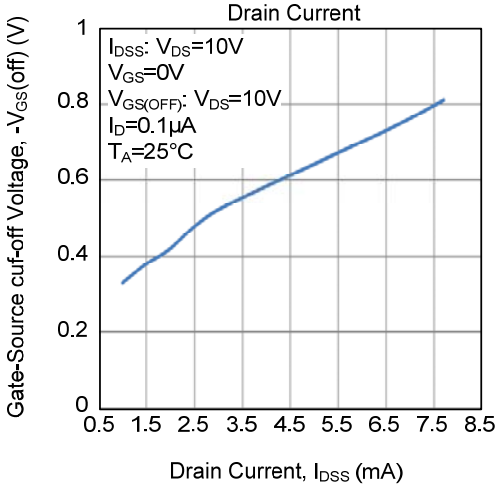
Input Capacitance vs. Drain Voltage



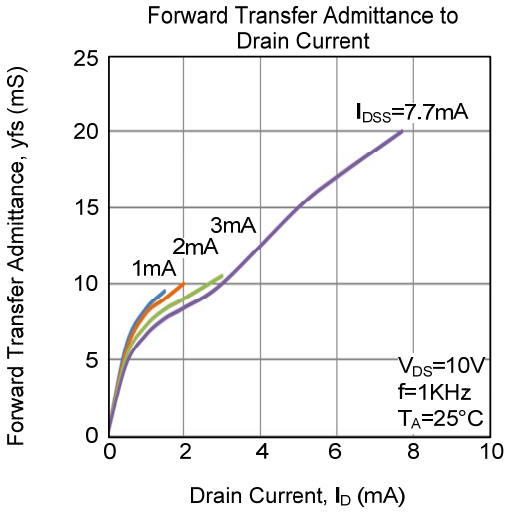
Reverse Capacitance vs. Gate-Drain Voltage

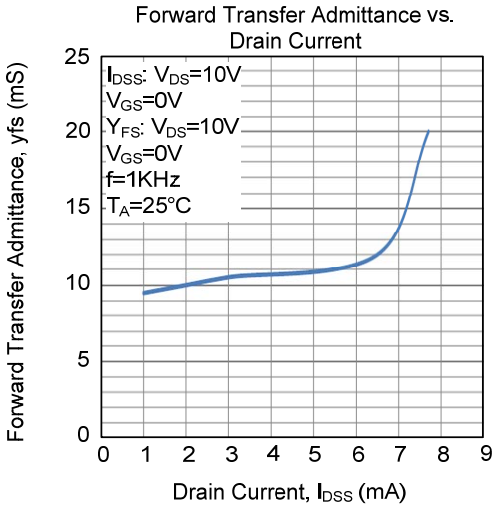


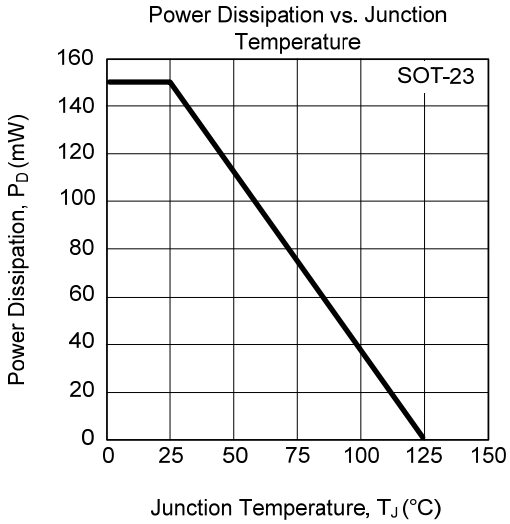
Gate-Source cuf-off Voltage vs. Drain Current



■ TYPICAL CHARACTERISTICS







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