

**2SK2219**

Capacitor Microphone Applications

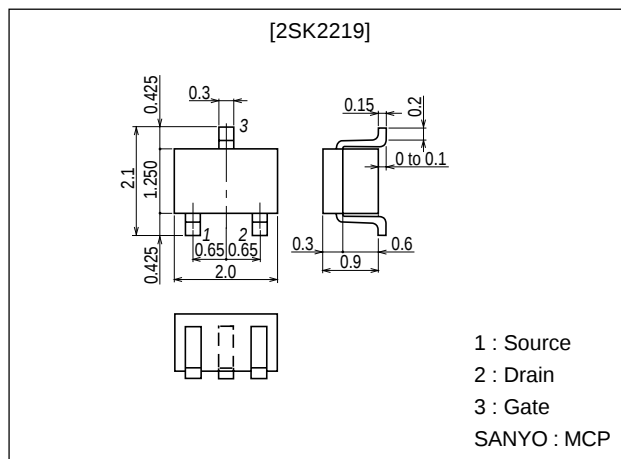
Features

- Ultrasmall-sized package permitting 2SK2219-applied sets to be made small and slim.
- Especially suited for use in audio, telephone capacitor microphones.
- Excellent voltage characteristic.
- Excellent transient characteristic.
- Adoption of FBET process.

Package Dimensions

unit:mm

2058A



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Gate-to-Drain Voltage	V_{GDO}		-20	V
Gate Current	I_G		10	mA
Drain Current	I_D		1	mA
Allowable Power Dissipation	P_D		100	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu\text{A}$	-20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=5\text{V}, V_{GS}=0$	140*		500*	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=5\text{V}, I_D=1\mu\text{A}$	-0.2	-0.6	-1.2	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{kHz}$	0.5	1.2		mS
Input Capacitance	C_{iss}	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		4.1		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		0.88		pF

* : The 2SK2219 is classified by I_{DSS} as follows : (unit : μA)

140	21	240	210	22	350	320	23	500
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Marking : D

 I_{DSS} rank : 21, 22, 23

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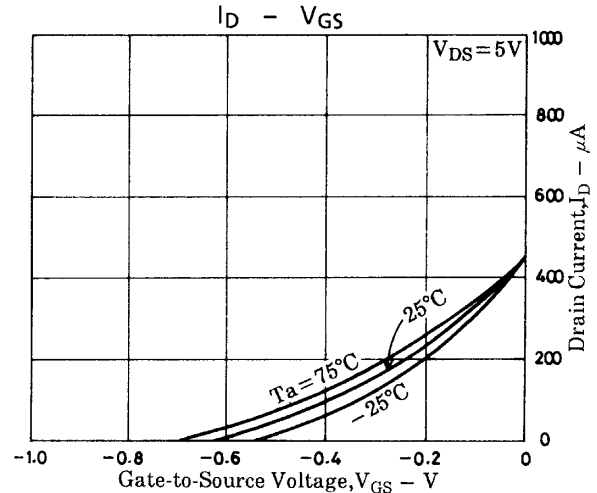
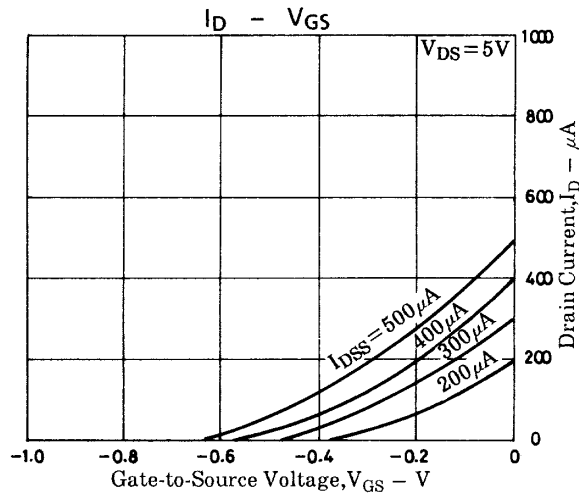
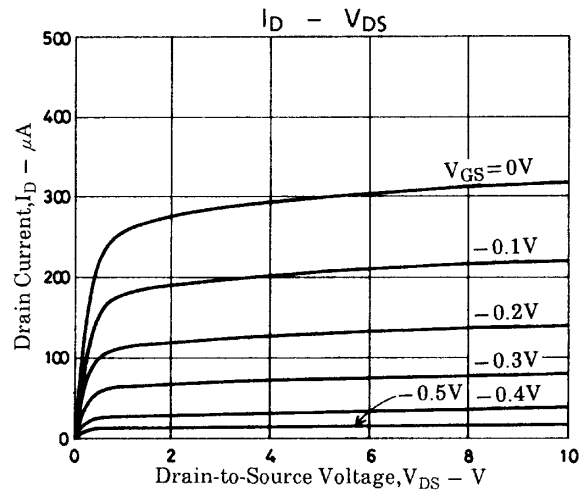
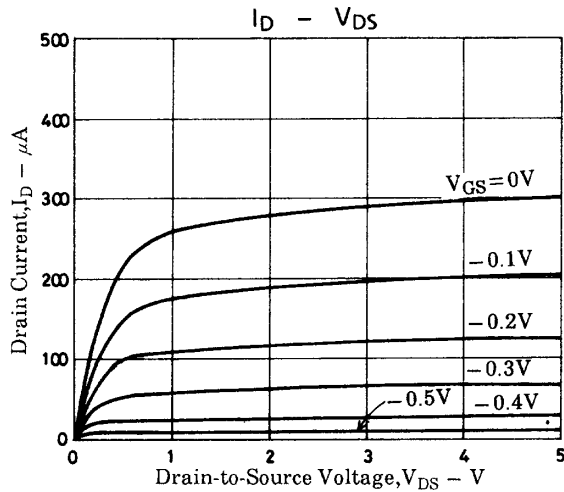
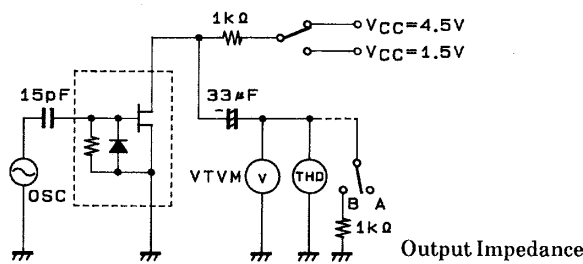
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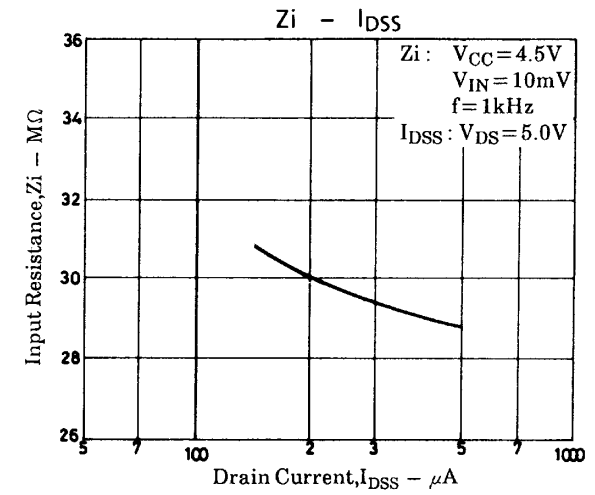
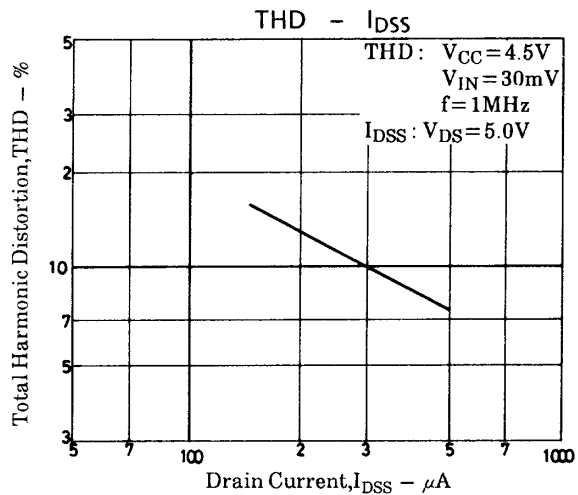
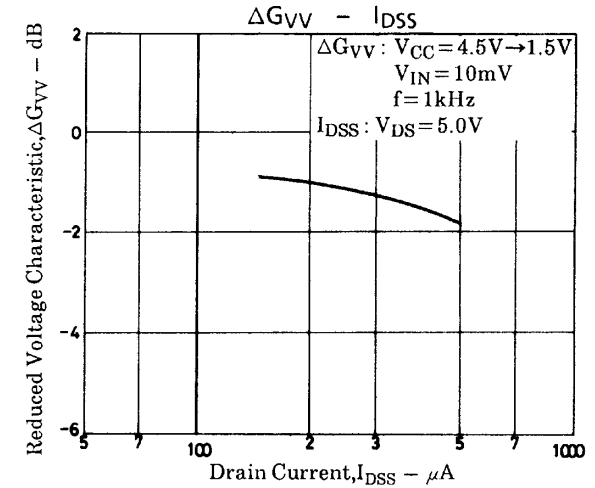
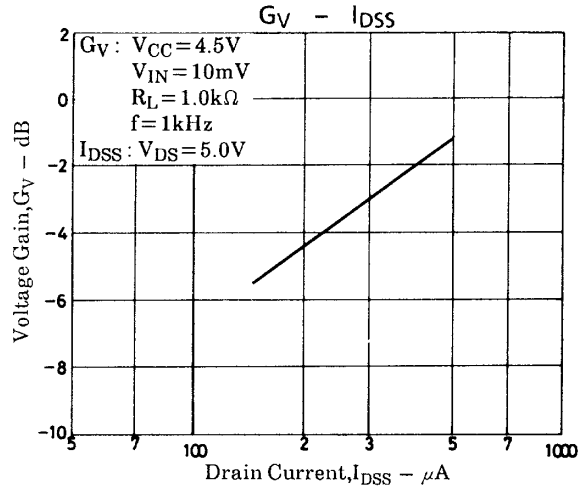
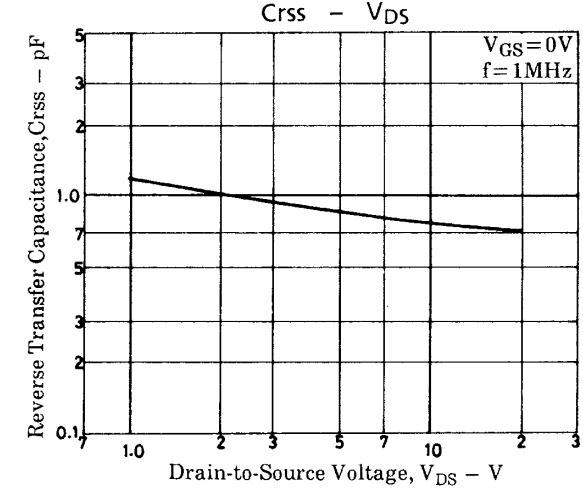
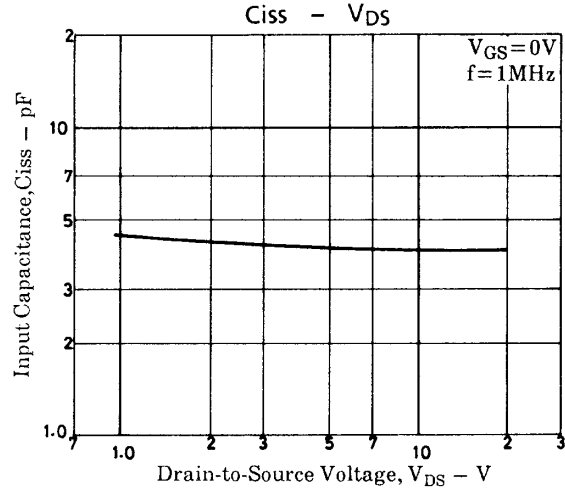
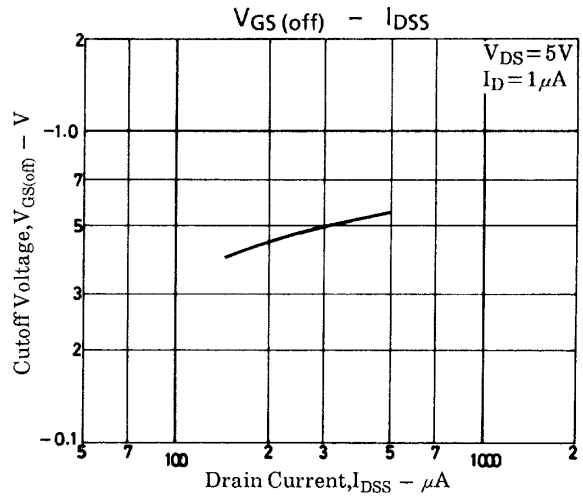
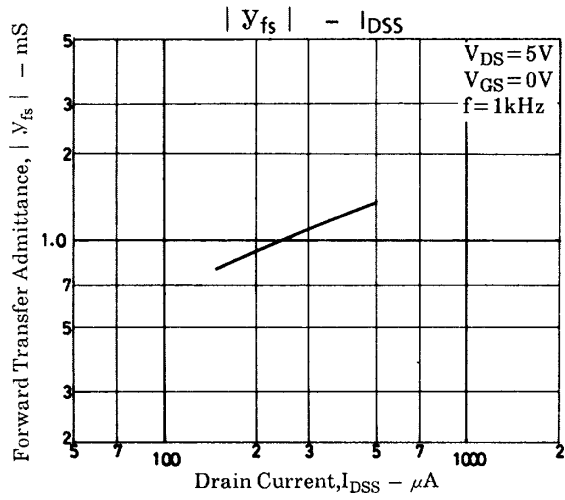
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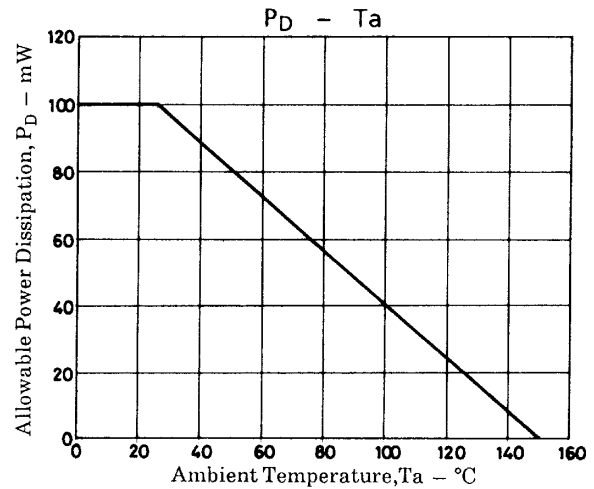
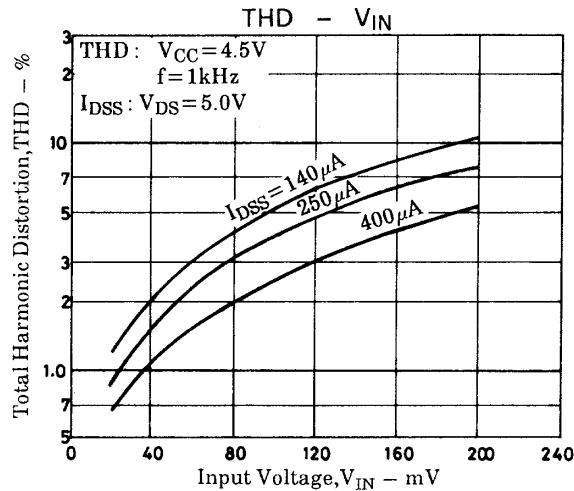
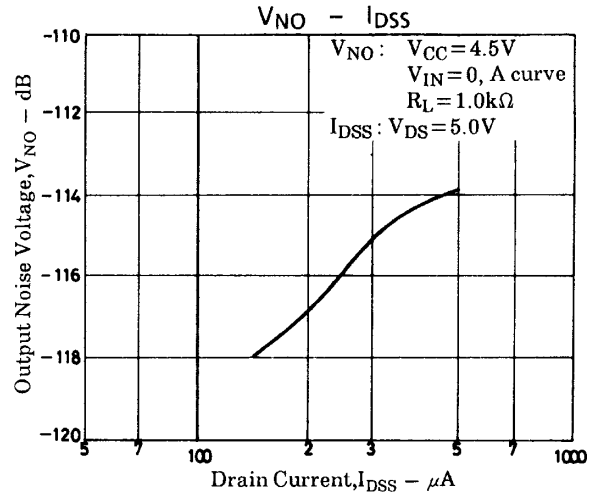
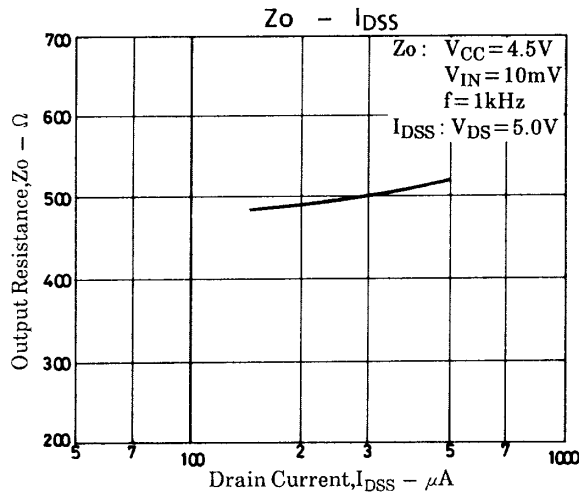
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Ta=25°C, VCC=4.5V, RL=1kΩ, Cin=15pF, See specified Test Circuit						
Voltage Gain	GV	VIN=10mV, f=1kHz		−3.0		dB
Reduced Voltage Characteristic	ΔGVV	VIN=10mV, f=1kHz, VCC=4.5 → 1.5V		−1.2	−3.5	dB
Frequency Characteristic	ΔGVf	f=1kHz to 110Hz			−1.0	dB
Input Impedance	Zin	f=1kHz	25			MΩ
Output Impedance	Zo	f=1kHz			700	Ω
Total Harmonic Distortion	THD	VIN=30mV, f=1kHz		1.0		%
Output Noise Voltage	VNO	VIN=0, A curve			−110	dB

Test Circuit

Voltage Gain
Frequency Characteristic
Distortion
Reduced Voltage Characteristic







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