

N-CHANNEL JUNCTION FIELD-EFFECT TRANSISTOR

2SK195

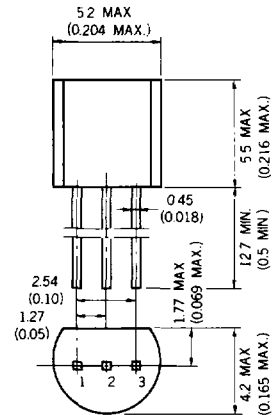
DESCRIPTION The 2SK195 is designed for use in FM tuner of a portable radio receiver.

- FEATURES**
- High $|Y_{fs1}|$: 3.5 mS TYP.
($V_{DS} = 5.0 \text{ V}$, $I_D = 0.5 \text{ mA}$, $f = 1.0 \text{ kHz}$)
 - Low C_{rss} : 0.07 pF TYP.
($V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$)

ABSOLUTE MAXIMUM RATINGS

- Maximum Temperatures
- Storage Temperature -55 to +125 °C
 - Junction Temperature +125 °C Maximum
- Maximum Power Dissipation ($T_a = 25 \text{ °C}$)
- Total Power Dissipation 250 mW
- Maximum Voltages and Currents ($T_a = 25 \text{ °C}$)
- V_{GDO} Gate to Drain Voltage -20 V
 - V_{GSO} Gate to Source Voltage -1.0 V
 - V_{DSX} Drain to Source Voltage 20 V
 - I_D Drain Current 10 mA
 - I_G Gate Current 10 mA

PACKAGE DIMENSIONS
in millimeters (inches)



- 1. GATE EIAJ : SC-43
- 2. SOURCE JEDEC : TO-92
- 3. DRAIN IEC : PA33

ELECTRICAL CHARACTERISTICS ($T_a = 25 \text{ °C}$)

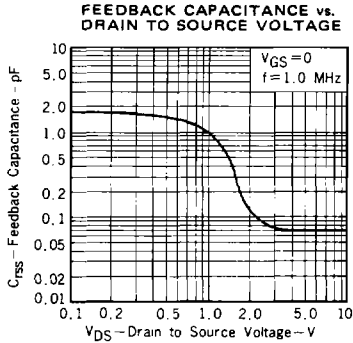
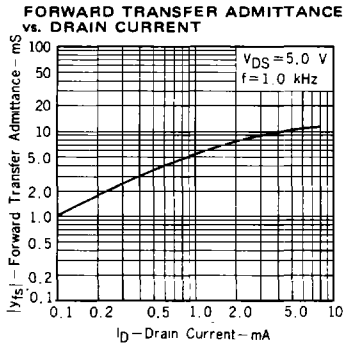
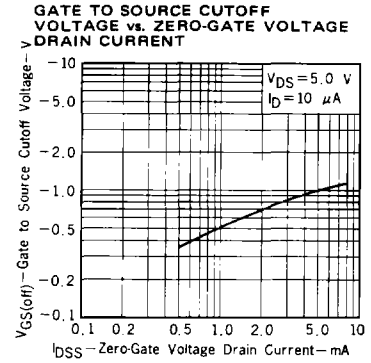
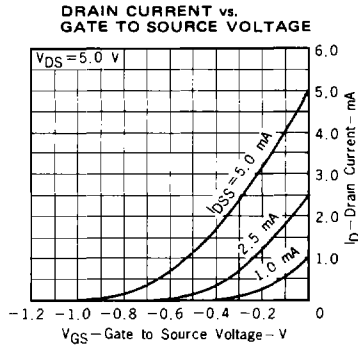
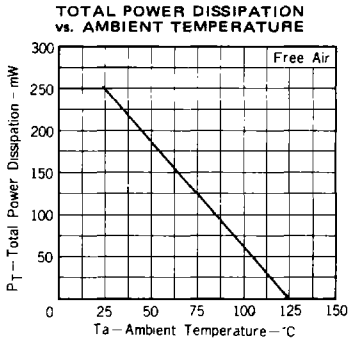
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
I_{DSS}	Zero-Gate Voltage Drain Current	0.5	2.5	8.0	mA	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$
$ Y_{fs1} $	Forward Transfer Admittance	2.3	3.5		mS	$V_{DS} = 5.0 \text{ V}$, $I_D = 0.5 \text{ mA}$, $f = 1.0 \text{ kHz}$
$ Y_{fs2} $	Forward Transfer Admittance	2.3			mS	$V_{DS} = 5.0 \text{ V}$, $I_D = 0.5 \text{ mA}$, $f = 1.0 \text{ kHz}$
C_{iss}	Input Capacitance		5.0	6.5	pF	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$
C_{rss}	Feedback Capacitance		0.07	0.25	pF	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$
C_{oss}	Output Capacitance		4.5	6.0	pF	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$
G_{ps}	Power Gain	13	21		dB	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$, Z_{in} , $Z_{out} = 50 \Omega$ $f = 100 \text{ MHz}$, See test circuit
NF	Noise Figure		3.0	6.0	dB	$V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$, Z_{in} , $Z_{out} = 50 \Omega$ $f = 100 \text{ MHz}$, See test circuit
I_{GSS}	Gate Cutoff Current			-100	nA	$V_{GS} = -0.5 \text{ V}$, $V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage			-2.5	V	$V_{DS} = 5.0 \text{ V}$, $I_D = 10 \mu\text{A}$

Classification of I_{DSS}

Rank	E	F	H	J
$I_{DSS}(\text{mA})$	0.5 - 1.5	1.0 - 3.0	2.0 - 6.0	4.0 - 8.0

I_{DSS} Test Conditions: $V_{DS} = 5.0 \text{ V}$, $V_{GS} = 0$

TYPICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted)



NOISE FIGURE and POWER GAIN TEST CIRCUIT (f = 100 MHz)

