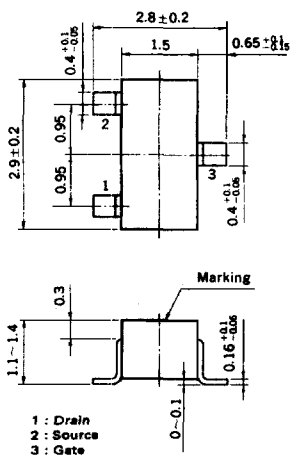
JUNCTION FIELD EFFECT TRANSISTOR

2SK94

AUDIO FREQUENCY AMPLIFIER
N-CHANNEL SILICON JUNCTION FIELD EFFECT TRANSISTOR
MINI MOLD

PACKAGE DIMENSIONS
in millimeters



FEATURES

- High Voltage V_{GDO} > −50 V
- High $|Y_{fs}|$ $|Y_{fs}|$ = 12 mS TYP.

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (T_a=25 °C)

Gate to Drain Voltage	V_{GDO}	−50	V
Gate to Source Voltage	V_{GSO}	−50	V
Drain to Source Voltage (V_{GS} = −2.0 V)	V_{DSX}	50	V
Drain Current (DC)	I_D	20	mA
Gate Current (DC)		10	mA
Maximum Power Dissipation			
Total Power Dissipation at 25 °C Ambient Temperature	P_T	150	mW
Maximum Temperatures			
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55 to +125	°C

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

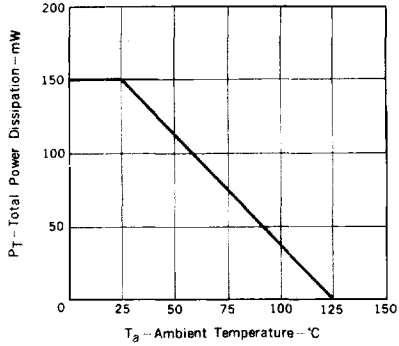
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Gate Cutoff Current	I_{GSS}			−5	nA	V_{GS} = −20 V, V_{DS} = 0
Zero-Gate Voltage Drain Current	I_{DSS}	0.5	2.5	12	mA	V_{DS} = 10 V, V_{GS} = 0
Gate to Source Cutoff Voltage	$V_{GS(off)}$	−0.13	−0.5	−1.5	V	V_{DS} = 10 V, I_D = 10 μA
Forward Transfer Admittance	$\|Y_{fs}\|_1$	4.0	5.2		mS	V_{DS} = 10 V, I_D = 0.5 mA, f = 1.0 kHz
Forward Transfer Admittance	$\|Y_{fs}\|_2$	4.0	12		mS	V_{DS} = 10 V, V_{GS} = 0, f = 1.0 kHz
Input Capacitance	C_{iss}		13		pF	V_{DS} = 10 V, V_{GS} = 0, f = 1.0 MHz
Feedback Capacitance	C_{rss}		2.6		pF	V_{DS} = 10 V, V_{GS} = 0, f = 1.0 MHz

I_{DSS} Classification

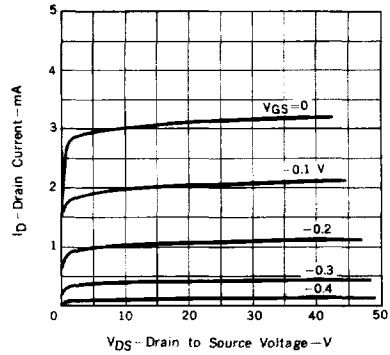
Marking	X1	X2	X3	X4
I_{DSS}(mA)	0.5 to 1.5	1.0 to 3.0	2.0 to 6.0	4.0 to 12

TYPICAL CHARACTERISTICS (T_a = 25 °C)

TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



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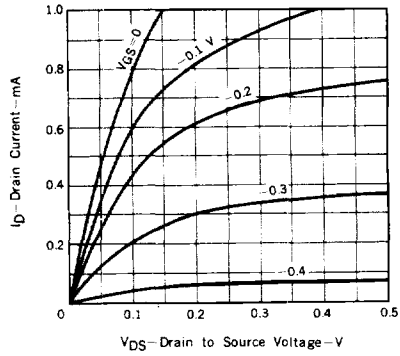

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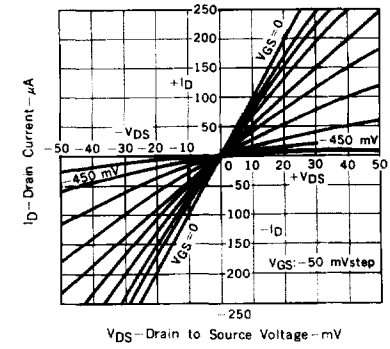
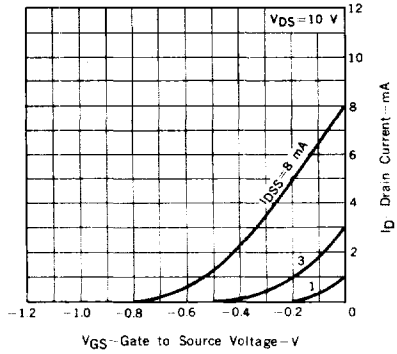
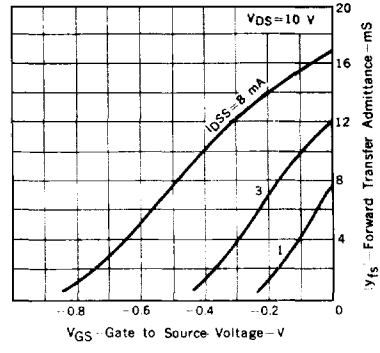


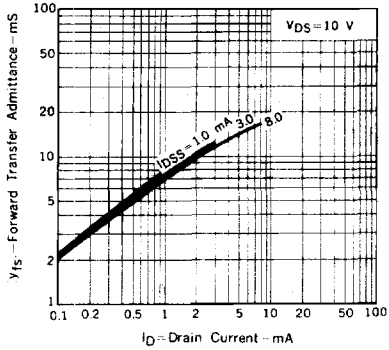
DRAIN CURRENT vs. GATE TO SOURCE VOLTAGE



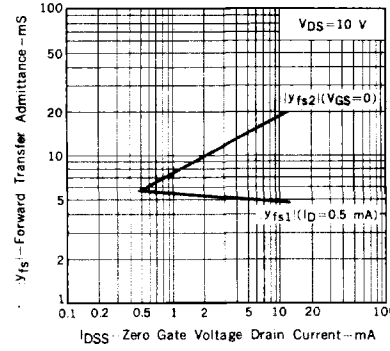
FORWARD TRANSFER ADMITTANCE (v_{fs}) vs. GATE TO SOURCE VOLTAGE



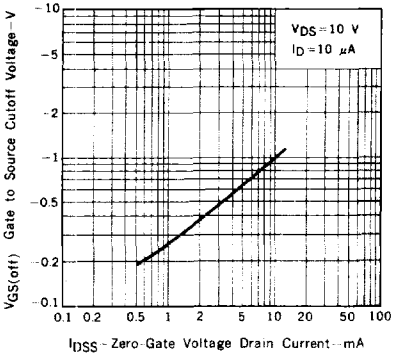
FORWARD TRANSFER ADMITTANCE (y_{fs}) vs. DRAIN CURRENT



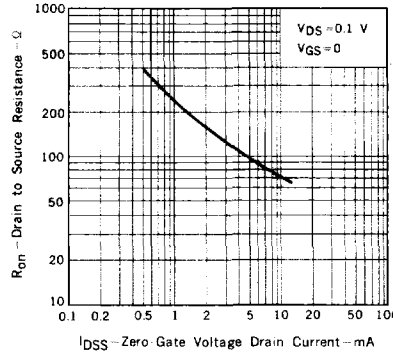
FORWARD TRANSFER ADMITTANCE (y_{fs}) vs. ZERO-GATE VOLTAGE CURRENT CO-RELATIONS



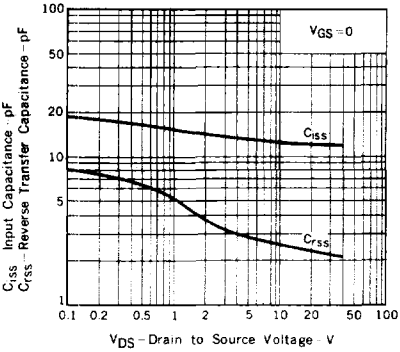
GATE TO SOURCE CUTOFF VOLTAGE vs. ZERO-GATE VOLTAGE DRAIN CURRENT



DRAIN TO SOURCE RESISTANCE vs. ZERO-GATE VOLTAGE DRAIN CURRENT



INPUT AND REVERSE TRANSFER CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



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