〈FIELD-EFFECT TRANSISTOR〉

2SK930

FOR LOW FREQUENCY AMPLIFY APPLICATION
N CHANNEL JUNCTION TYPE

DESCRIPTION

2SK930 is a super mini outline resin sealed N channel junction type FET. It is designed for low frequency voltage amplify, application and analog switch application.

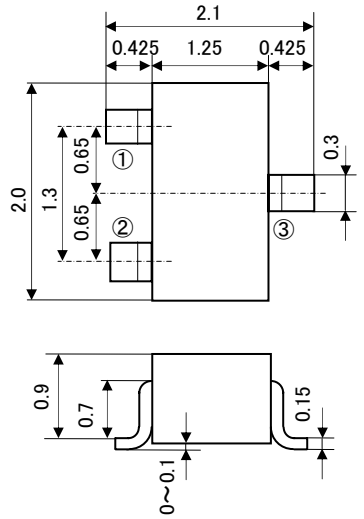
FEATURE

- Small type for mounting.
- High |yfs| | yfs | =3mS(typ)
- Low RDS(ON) RDS(ON)=250Ω (typ)

APPLYCATION

General purpose voltage amplify, analog switch circuit for stereo, cassette deck, VTR.

OUTLINE DRAWING Unit: mm



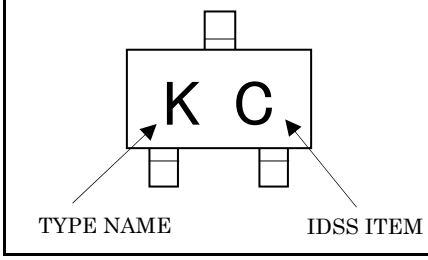
JEITA: SC-70
JEDEC: —

TERMINAL CONNECTOR
①: SOURCE
②: DRAIN
③: GATE

MAXIMUN RATINGS(Ta=25℃)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to Drain voltage	−50	V
IG	Gate current	10	mA
PT	Total allowable dissipation	150	mW
Tch	Channel temperature	+150	℃
Tstg	Storage temperature	−55～+150	℃

MARKING



ELECTRICAL CHARACTERISTICS(Ta=25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V(BR)GDO	Gate to Drain breakdown voltage	I_G=−10μA, I_S=0A	−50	−	−	V
IGSS	Gate leakage current	VGS=−30V, VDS=0V	−	−	−1	nA
IDSS *	Drain current	VDS=10V, VGS=0V	1.0	−	12	mA
VGS(OFF)	Cut off voltage	VDS=10V, I_D=10μA	−0.3	−1.5	−6.0	V
| yfs |	Forward transfer admittance	VDS=10V, VGS=0V, f=1kHz	1.0	3.0	−	mS
| yos |	Output admittance	VDS=10V, VGS=0V, f=1kHz	−	10	−	μS
Ciss	Input capacitance	VDS=10V, VGS=0V, f=1MHz	−	8	−	pF
Crss	Feedback capacitance	VDS=10V, VGS=0V, f=1MHz	−	1.5	−	pF
RDS(ON)	Drain to Source resistor	VDS=10mVrms(1kHz), VGS=0V, IDSS=5mA	−	250	−	Ω

* : It shows IDSS classification in right table.

ITEM	C	D	E
IDSS(mA)	1.0～3.0	2.5～6.0	5.0～12

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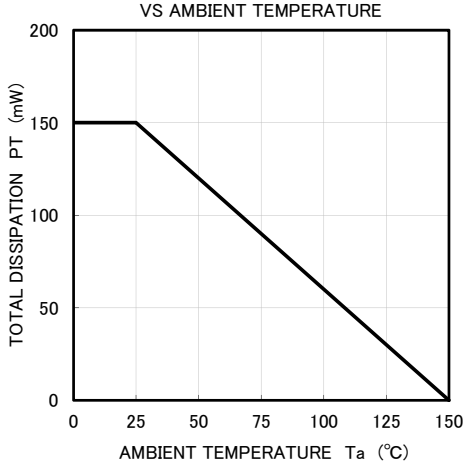
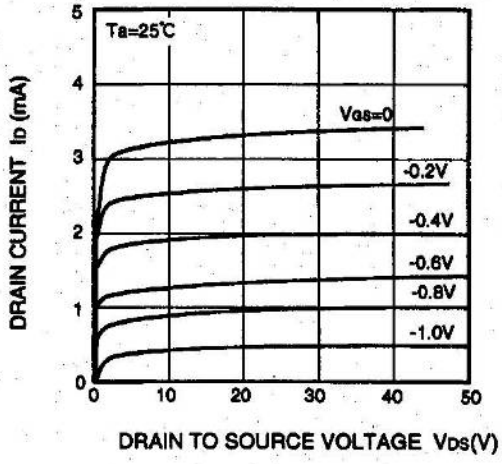
TYPICAL CHARACTERISTICS

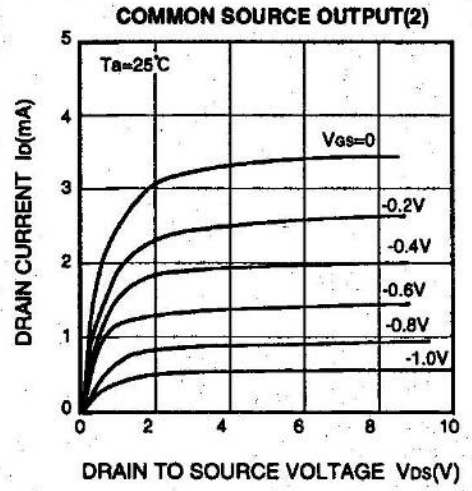
TOTAL DISSIPATION
VS AMBIENT TEMPERATURE



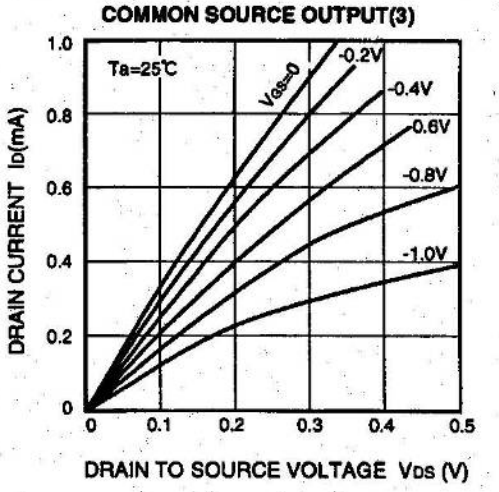
COMMON SOURCE OUTPUT(1)



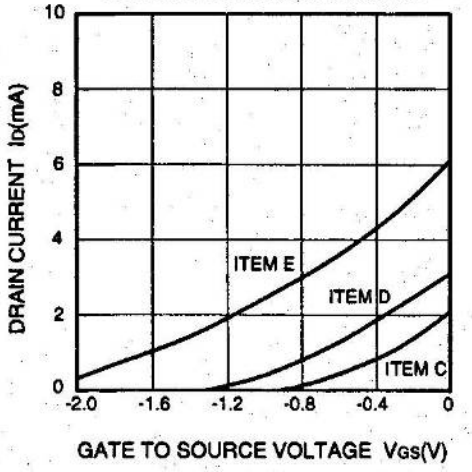
COMMON SOURCE OUTPUT(2)



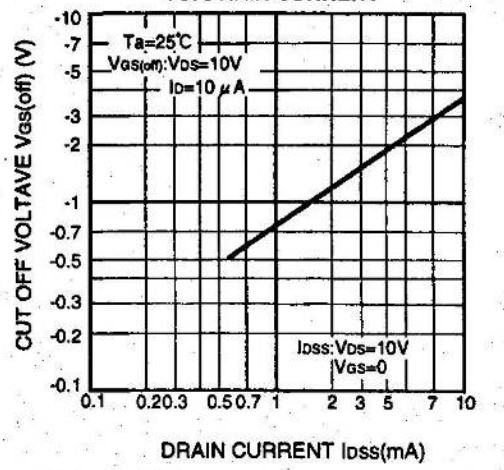
COMMON SOURCE OUTPUT(3)



COMMON SOURCE TRANSFER



CUT OFF VOLTAGE
VS. DRAIN CURRENT



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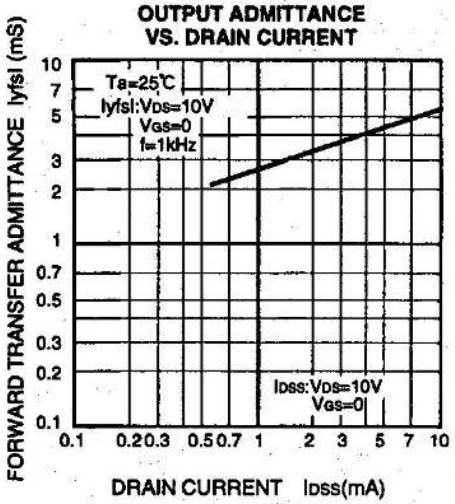
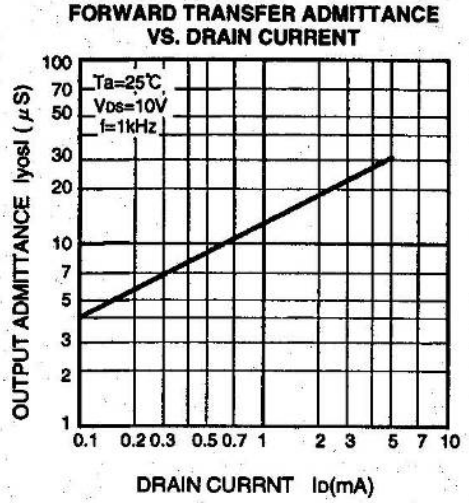
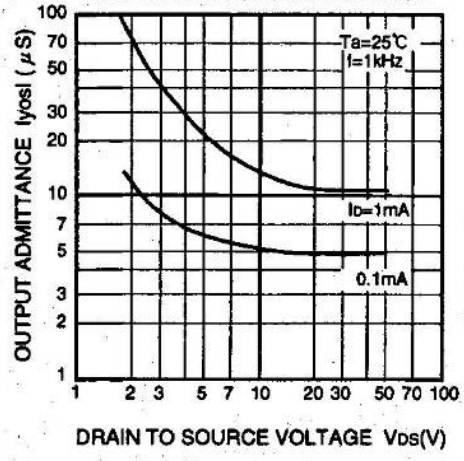
OUTPUT ADMITTANCE VS. DRAIN CURRENT



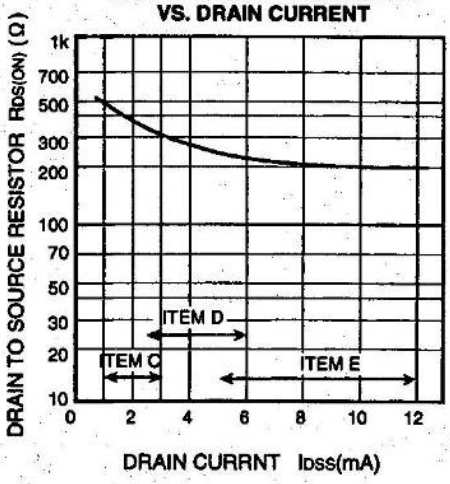
FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT



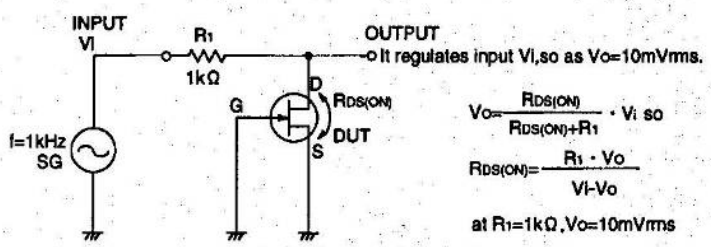
OUTPUT ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



DRAIN TO SOURCE RESISTOR VS. DRAIN CURRENT



DRAIN TO SOURCE RESISTOR RDS(ON) TEST CIRCUIT



$$V_O = \frac{R_{DS(ON)}}{R_{DS(ON)}+R_1} \cdot V_I \text{ so}$$

$$R_{DS(ON)} = \frac{R_1 \cdot V_O}{V_I - V_O}$$

at R_1=1kΩ, V_O=10mVrms

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