

DESCRIPTION

2SK433 is a super mini outline resin sealed silicon N channel junction type FET. It is designed for low frequency voltage amplify,application, analog switch application.

FEATURE

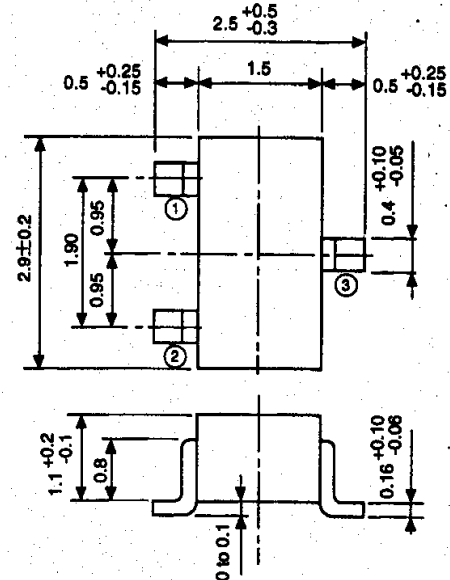
- Small type for mounting
- High $|y_{fs}|$ $|y_{fs}| = 4\text{mS}(\text{typ})$
- Low $R_{DS(ON)}$ $R_{DS(ON)} = 250\ \Omega$ typ

APPLICATION

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

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

- ① : SOURCE
- ② : DRAIN
- ③ : GATE

EIAJ : SC-59

JEDEC : TO-236 resemblance

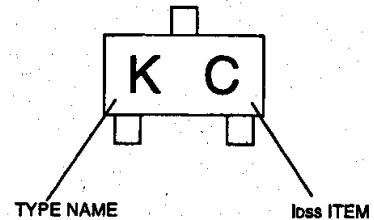
Note)

The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V _{GD0}	Gate to Drain voltage	-50	V
I _G	Gate current	10	mA
P _T	Total allowable dissipation(Ta=25°C)	150	mW
T _{ch}	Channel temperature	+125	°C
T _{stg}	Storage temperature	-55 to +125	°C

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

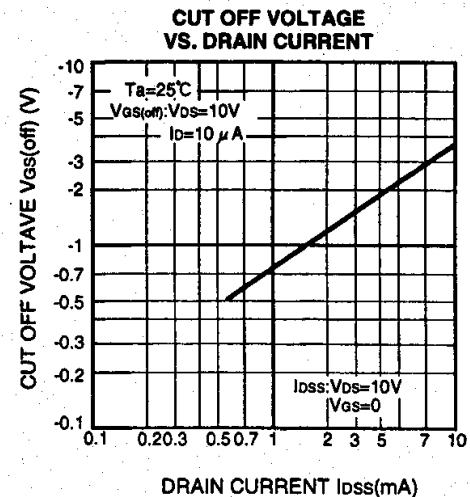
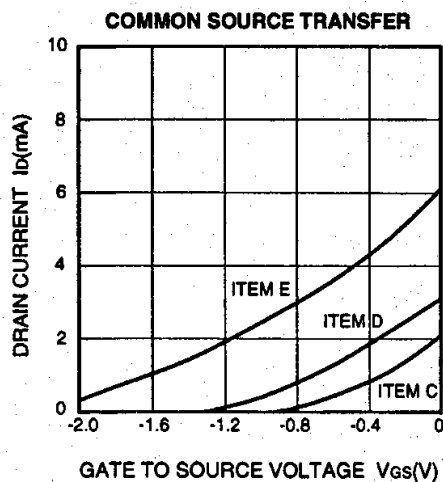
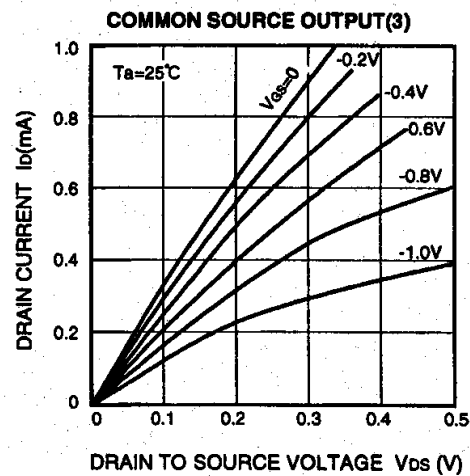
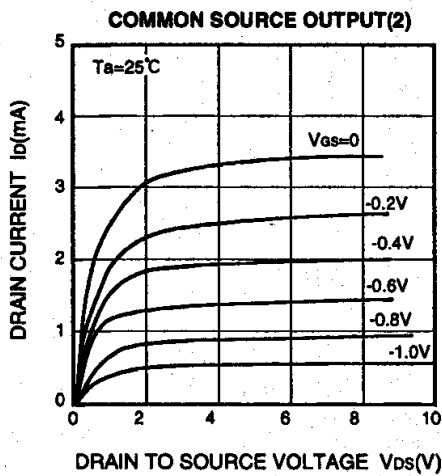
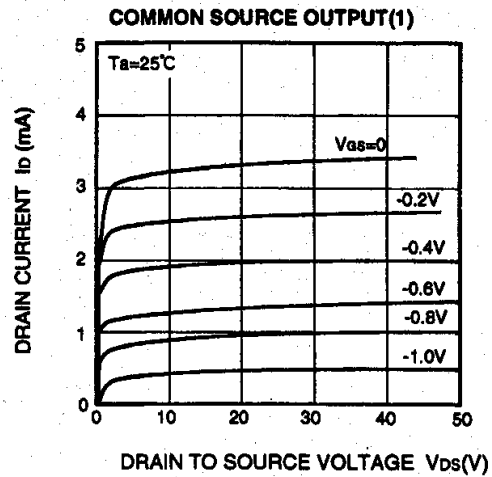
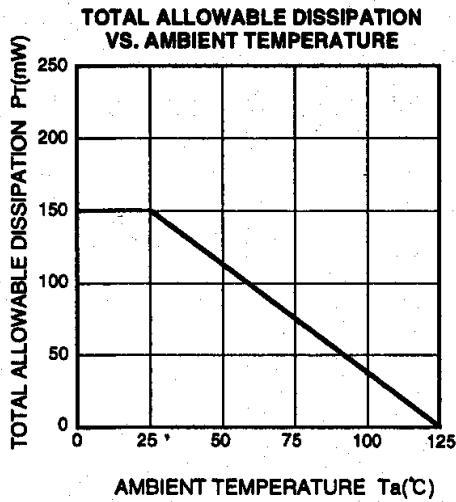
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V _{(BR)GDO}	G to D break down voltage	I _G =-10 μA, I _S =0	-50			V
I _{GSS}	Gate leakage current	V _{GS} =-30V, V _{DS} =0			-1	nA
I _{DSS} *	Drain current	V _{DS} =10V, V _{GS} =0	0.6		12	mA
V _{GS(off)}	Cut off voltage	V _{DS} =10V, I _D =10 μA	-0.3	-1.5	-6.0	V
y _{fs}	Forward transfer admittance	V _{DS} =10V, V _{GS} =0, f=1kHz	1.0	3.0		mS
y _{os}	Output admittance	V _{DS} =10V, V _{GS} =0, f=1kHz		10		μS
C _{iss}	Input capacitance	V _{DS} =10V, V _{GS} =0, f=1MHz		8		pF
C _{rss}	Feed back capacitance	V _{DS} =10V, V _{GS} =0, f=1MHz		1.5		pF
R _{DS(ON)}	Drain to source resistor	V _{DS} =10mVrms(1kHz), V _{GS} =0, I _{DSS} =5mA		250		Ω

* : It shows loss classification in right table.

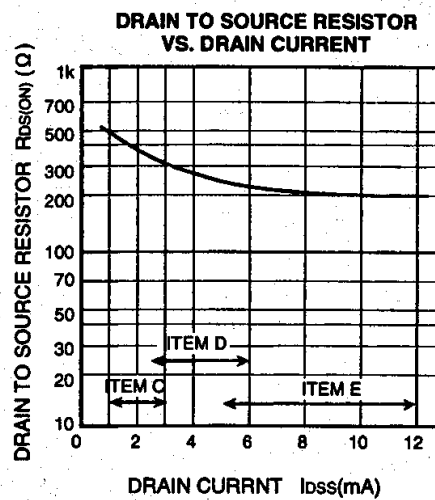
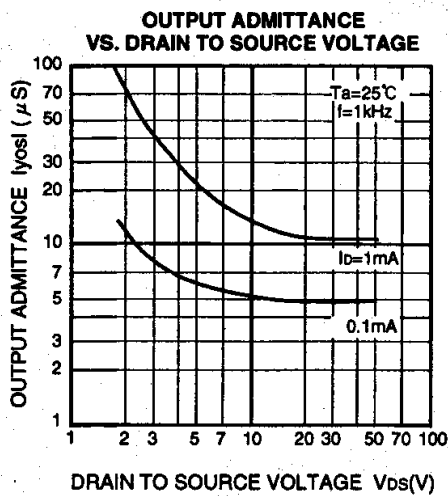
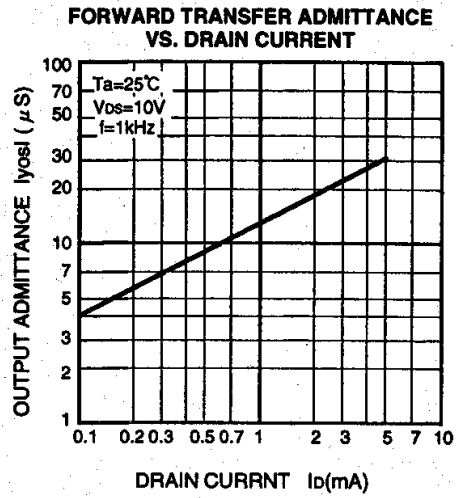
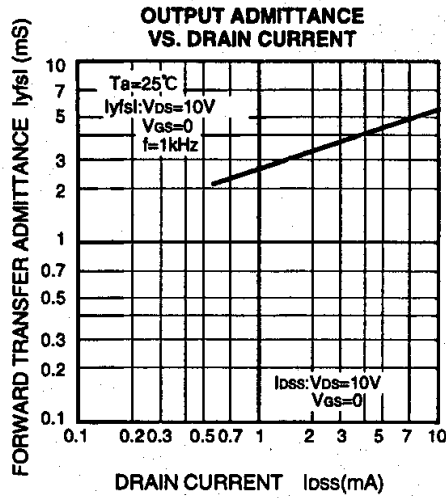
Item	B	C	D	E
loss	0.6 to 1.5	1.0 to 3.0	2.5 to 6.0	5.0 to 12

FOR LOW FREQUENCY AMPLIFY APPLICATION
N CHANNEL JUNCTION TYPE

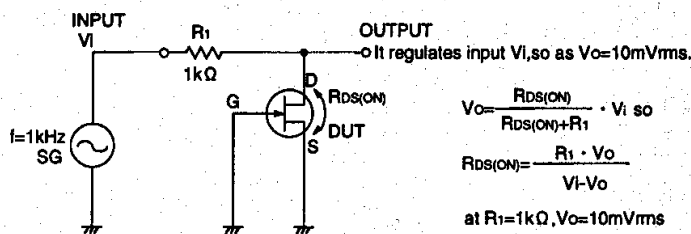
TYPICAL CHARACTERISTICS



FOR LOW FREQUENCY AMPLIFY APPLICATION
N CHANNEL JUNCTION TYPE



DRAIN TO SOURCE RESISTOR $R_{DS(ON)}$ 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 $R_1=1\text{k}\Omega$, $V_o=10\text{mVrms}$