

DESCRIPTION

2SJ145 is a small type resin sealed P channel junction type FET. It is especially designed for low frequency voltage amplify, analog switch application.

FEATURE

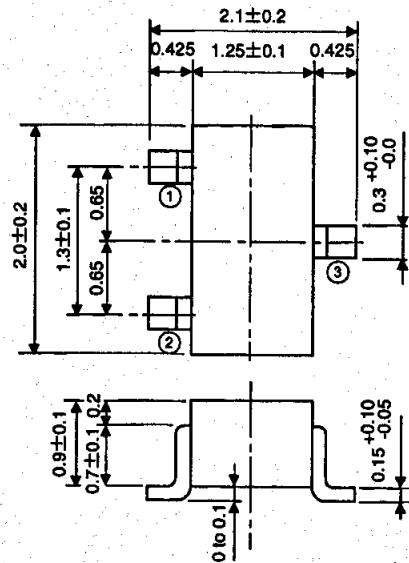
- Small type for mounting.
- High $|y_{fs}|$ $|y_{fs}| = 4\text{mS (typ)}$
- Low $R_{DS(ON)}$ $R_{DS(ON)} = 220\ \Omega$

APPLICATION

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

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

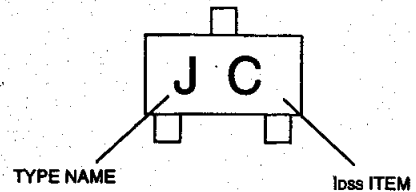
- ① : SOURCE
- ② : DRAIN
- ③ : GATE

EIAJ : SC-70

Note)

The dimension without tolerance represent central value.

MARKING



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

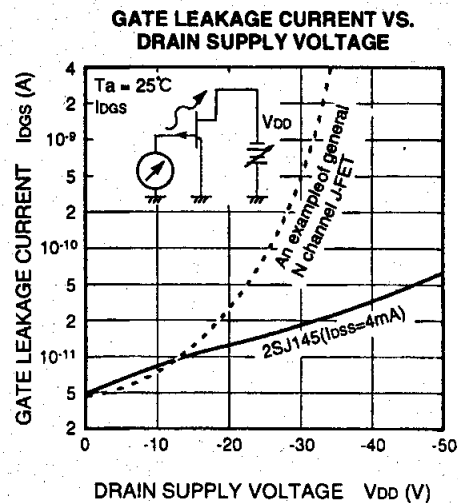
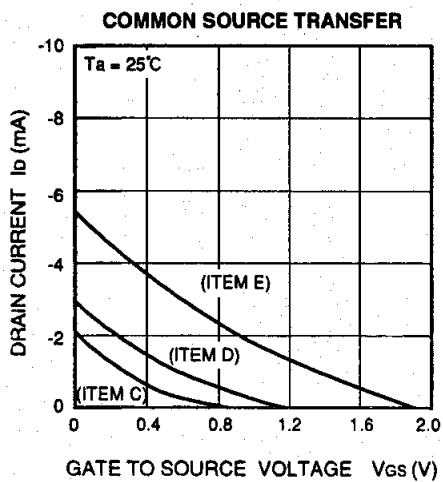
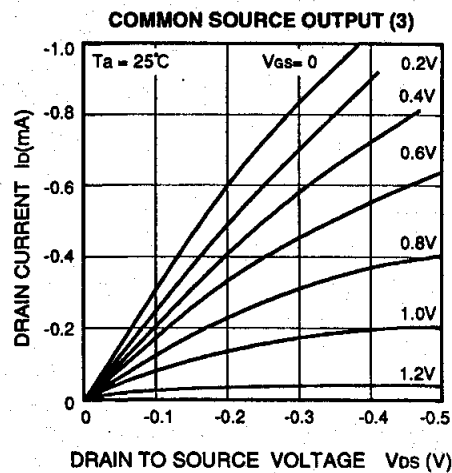
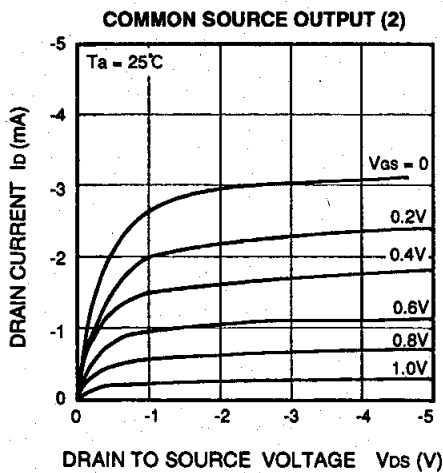
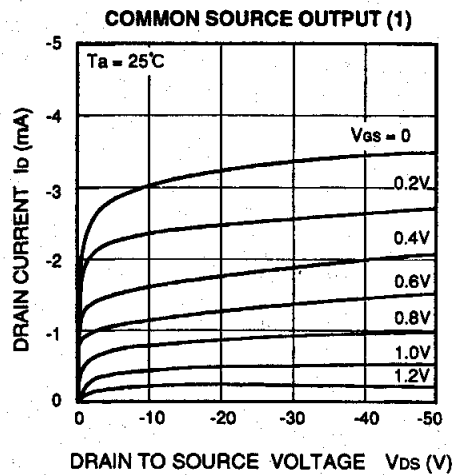
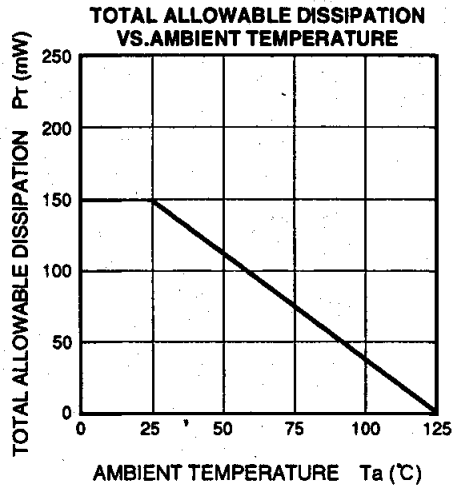
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	-1.0	-4.0	-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	1.5	4.0		mS
C _{iss}	Input capacitance	V _{DS} = -10V, V _{GS} = 0, f = 1MHz		18		pF
R _{DS(ON)}	Drain to source resistor	V _{DS} = 10mVrms(1kHz), V _{GS} = 0, I _{DSS} = 5mA		220		Ω

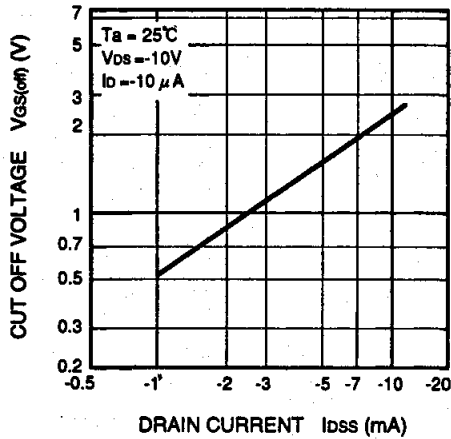
* : It shows I_{DSS} classification in right table.

Item	C	D	E
I _{DSS}	1.0 to 3.0	2.5 to 6.0	5.0 to 12

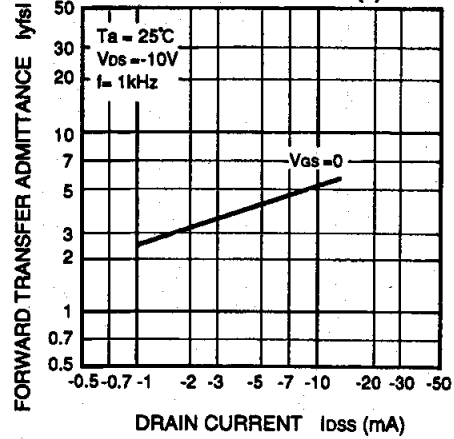
TYPICAL CHARACTERISTICS



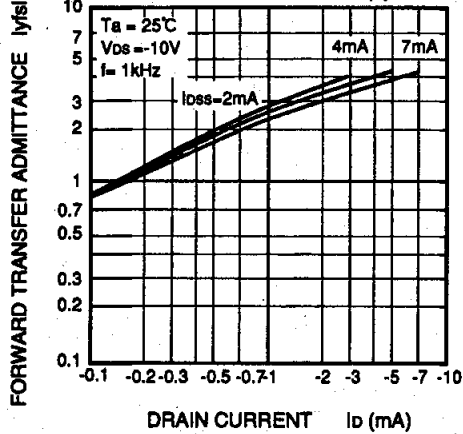
CUT OFF VOLTAGE VS. DRAIN CURRENT



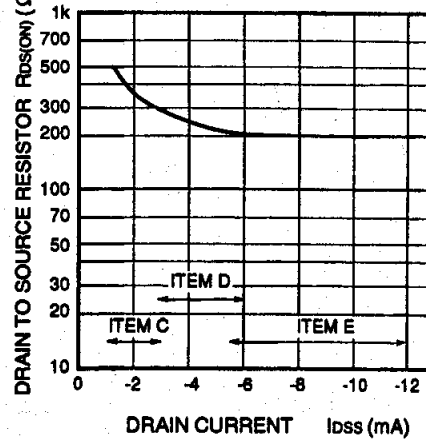
FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (1)



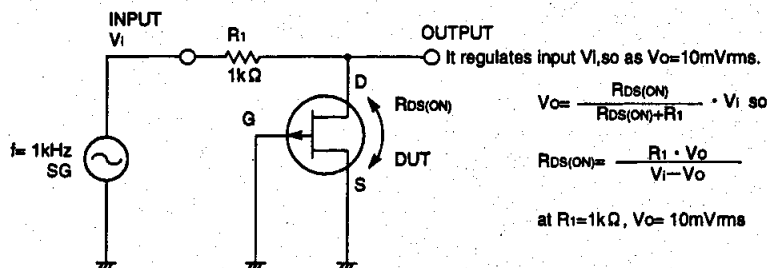
FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (2)



DRAIN TO SOURCE RESISTOR VS. DRAIN CURRENT



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 $R_1 = 1\text{k}\Omega$, $V_o = 10\text{mVrms}$

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