〈FIELD-EFFECT TRANSISTOR〉

# 2SJ145

FOR LOW FREQUENCY AMPLIFY APPLICATION
P CHANNEL JUNCTION TYPE

## 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.

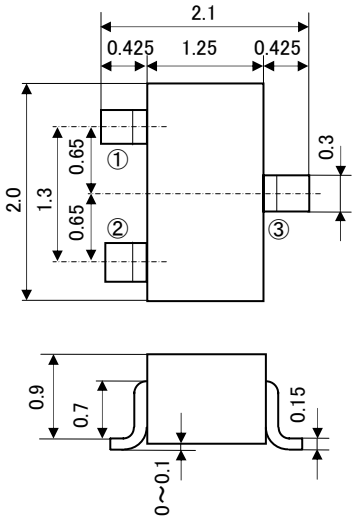
## FEATURE

- Small type for mounting.
- High |yfs| | yfs | =4mS(typ)
- Low RDS(ON) RDS(ON)=220Ω (typ)

## APPLYCATION

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

OUTLINE DRAWING Unit: mm



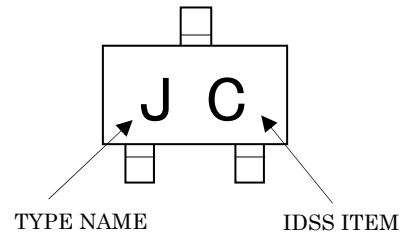

JEITA: SC-70
JEDEC: —

TERMINAL CONNECTOR
①: SOURCE
②: DRAIN
③: GATE

## MAXIMUN RATINGS(Ta=25℃)

| Symbol | Parameter | Ratings | Unit |
|---|---|---|---|
| $V_{GDO}$ | Gate to Drain voltage | 50 | V |
| $I_G$ | Gate current | −10 | mA |
| $P_T$ | 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, Is=0mA | 50 | − | − | V |
| IGSS | Gate leakage current | $V_{GS}$=30V, $V_{DS}$=0V | − | − | 1 | nA |
| IDSS * | Drain current | $V_{DS}$=−10V, $V_{GS}$=0V | −1.0 | −4.0 | −12 | mA |
| $V_{GS(OFF)}$ | Cut off voltage | $V_{DS}$=−10V, $I_D$=−10μA | 0.3 | 1.5 | 6.0 | V |
| \| yfs \| | Forward transfer admittance | $V_{DS}$=−10V, $V_{GS}$=0V, f=1kHz | 1.5 | 4.0 | − | mS |
| Ciss | Input capacitance | $V_{DS}$=−10V, $V_{GS}$=0V, f=1MHz | − | 18 | − | pF |
| RDS(ON) | Drain to Source resistor | $V_{DS}$=10mVrms(1kHz), $V_{GS}$=0V, $I_{DSS}$=5mA | − | 220 | − | Ω |

* : It shows IDSS classification in right table.

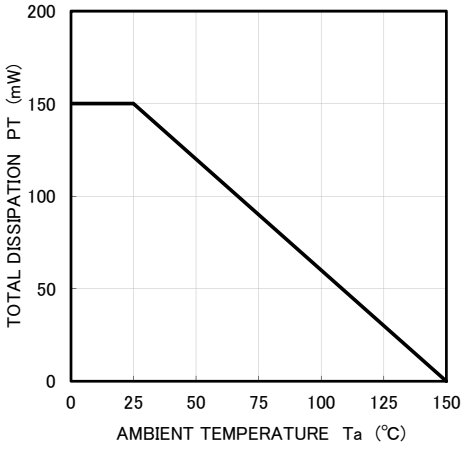
| ITEM | C | D | E |
|---|---|---|---|
| IDSS(mA) | 1.0～3.0 | 2.5～6.0 | 5.0～12 |

# 2SJ145

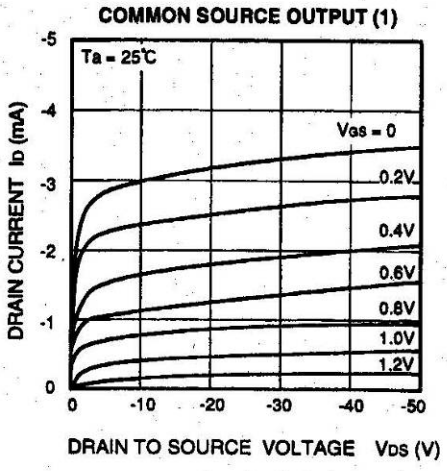
FOR LOW FREQUENCY AMPLIFY APPLICATION
P CHANNEL JUNCTION TYPE

## TYPICAL CHARACTERISTICS

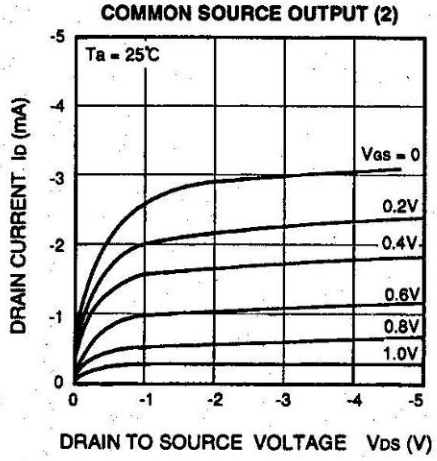
TOTAL DISSIPATION
VS AMBIENT TEMPERATURE



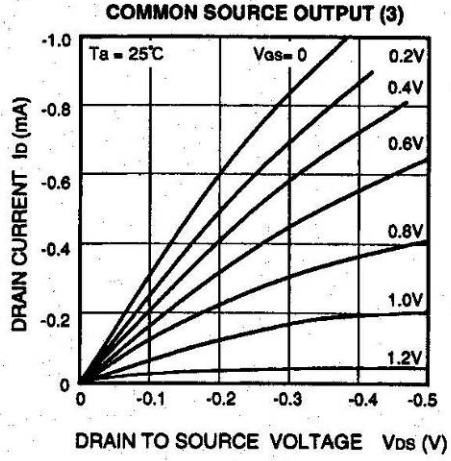

COMMON SOURCE OUTPUT (1)



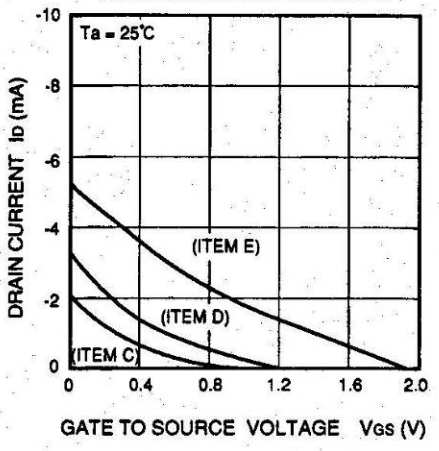

COMMON SOURCE OUTPUT (2)



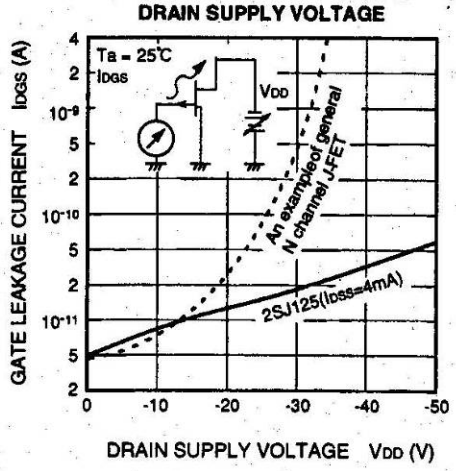

COMMON SOURCE OUTPUT (3)




COMMON SOURCE TRANSFER



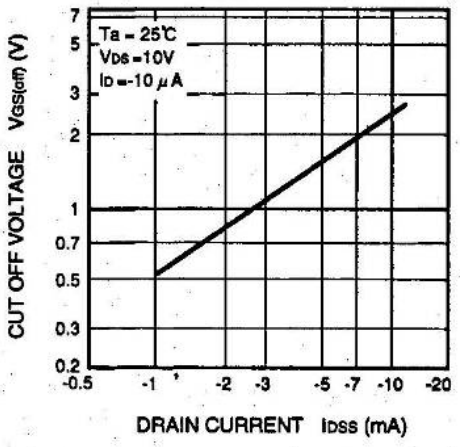

GATE LEAKAGE CURRENT VS.
DRAIN SUPPLY VOLTAGE



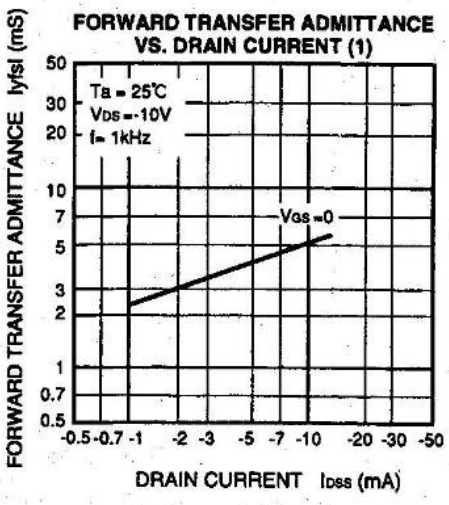
# 2SJ145

FOR LOW FREQUENCY AMPLIFY APPLICATION
P CHANNEL JUNCTION TYPE

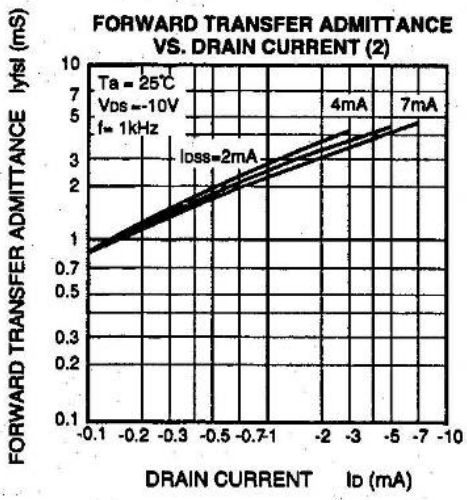
**CUT OFF VOLTAGE VS. DRAIN CURRENT**



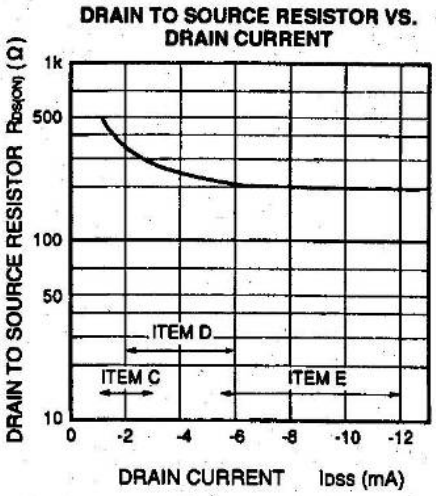

**FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (1)**



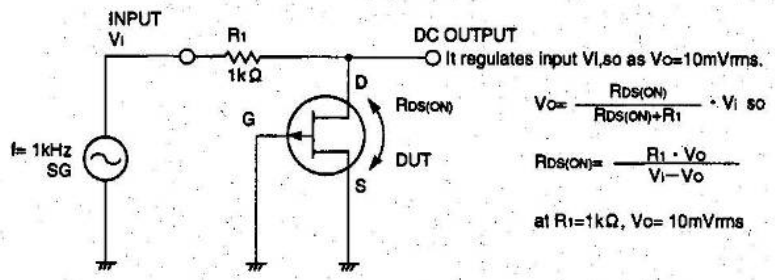

**FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (2)**




**DRAIN TO SOURCE RESISTOR VS. DRAIN CURRENT**




**DRAIN TO SOURCE RESISTOR $R_{DS(ON)}$ TEST CIRCUIT**



ISAHAYA ELECTRONICS CORPORATION

**Keep safety first in your circuit designs!**

·ISAHAYA Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary, (2) use of non-farmable material or (3) prevention against any malfunction or mishap.

**Notes regarding these materials**

·These materials are intended as a reference to our customers in the selection of the ISAHAYA products best suited to the customer’ s application; they don't convey any license under any intellectual property rights, or any other rights, belonging ISAHAYA or third party.

·ISAHAYA Electronics Corporation assumes no responsibility for any damage, or infringement of any third party's rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in these materials.

·All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by ISAHAYA Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor for the latest product information before purchasing product listed herein.

·ISAHAYA Electronics Corporation products are not designed or manufactured for use in a device or system that is used under circumstances in which human life is potentially at stake. Please contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor when considering the use of a product contained herein for any specific purposes, such as apparatus or systems for transportation, vehicular, medical, aerospace, nuclear, or undersea repeater use.

·The prior written approval of ISAHAYA Electronics Corporation is necessary to reprint or reproduce in whole or in part these materials.

·If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or re-export contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.

·Please contact ISAHAYA Electronics Corporation or authorized ISAHAYA products distributor for further details on these materials or the products contained therein.