

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

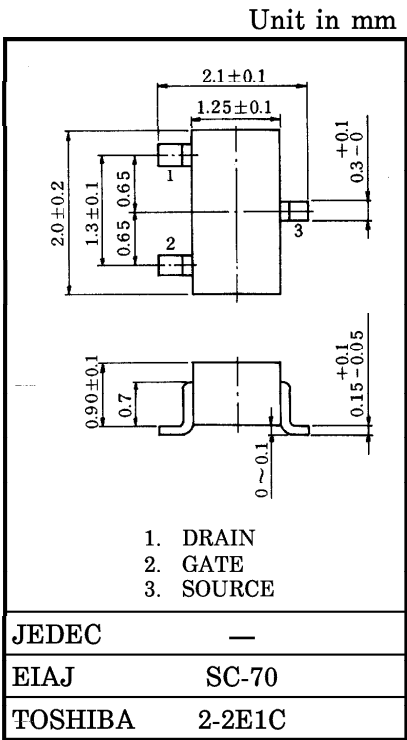
2SK881

FM TUNER APPLICATIONS.  
VHF BAND AMPLIFIER APPLICATIONS.

- Low Noise Figure : NF=2.5dB (Typ.) (f=100MHz)
- High Forward Transfer Admittance  
:  $|y_{fs}|=9\text{mS}$  (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC            | SYMBOL           | RATING  | UNIT |
|---------------------------|------------------|---------|------|
| Gate-Drain Voltage        | V <sub>GDO</sub> | −18     | V    |
| Gate Current              | I <sub>G</sub>   | 10      | mA   |
| Drain Power Dissipation   | P <sub>D</sub>   | 100     | mW   |
| Junction Temperature      | T <sub>j</sub>   | 125     | °C   |
| Storage Temperature Range | T <sub>stg</sub> | −55~125 | °C   |



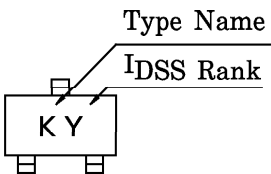
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 0.006g

| CHARACTERISTIC               | SYMBOL                     | TEST CONDITION                                       | MIN. | TYP. | MAX. | UNIT |
|------------------------------|----------------------------|------------------------------------------------------|------|------|------|------|
| Gate Leakage Current         | I <sub>GSS</sub>           | V <sub>GS</sub> = −0.5V, V <sub>DS</sub> = 0         | —    | —    | −10  | nA   |
| Gate-Drain Breakdown Voltage | V <sub>(BR)</sub> GDO      | I <sub>G</sub> = −10μA                               | −18  | —    | —    | V    |
| Drain Current                | I <sub>DSS</sub><br>(Note) | V <sub>GS</sub> = 0, V <sub>DS</sub> = 10V           | 1.0  | —    | 10   | mA   |
| Gate-Source Cut-off Voltage  | V <sub>GS(OFF)</sub>       | V <sub>DS</sub> = 10V, I <sub>D</sub> = 1μA          | −0.4 | —    | −4.0 | V    |
| Forward Transfer Admittance  | y <sub>fs</sub>            | V <sub>GS</sub> = 0, V <sub>DS</sub> = 10V, f = 1kHz | —    | 9    | —    | mS   |
| Input Capacitance            | C <sub>iss</sub>           | V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0, f = 1MHz | —    | 6.0  | —    | pF   |
| Reverse Transfer Capacitance | C <sub>rss</sub>           | V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0, f = 1MHz | —    | —    | 0.15 | pF   |
| Power Gain                   | G <sub>ps</sub>            | V <sub>DD</sub> = 10V, f = 100MHz (Fig.1)            | 10   | 18   | —    | dB   |
| Noise Figure                 | NF                         | V <sub>DD</sub> = 10V, f = 100MHz (Fig.1)            | —    | 2.5  | 3.5  | dB   |

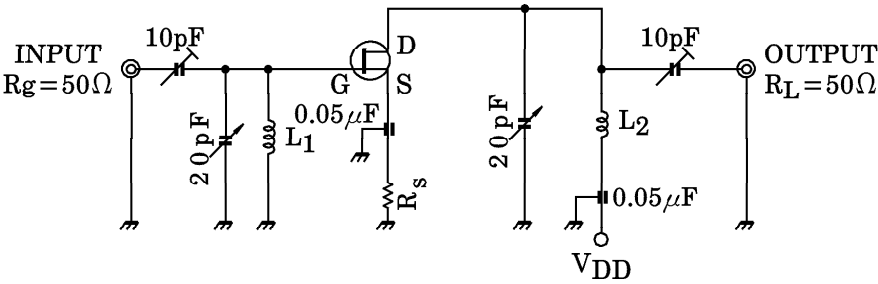
Note : I<sub>DSS</sub> Classification    O : 1.0~3.0,    Y : 2.5~6.0,    GR : 5.0~10.0

Marking



961001EAA2

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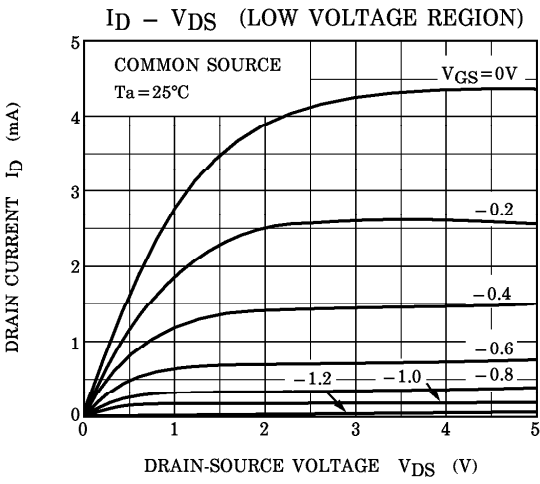
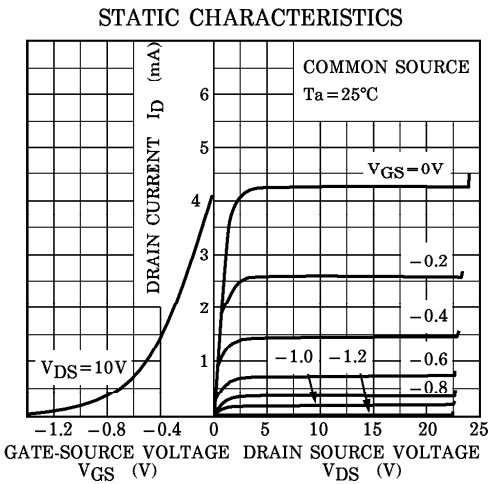


L<sub>1</sub> : 0.8mmφ Ag PLATED Cu WIRE, 3. TURNS, 10mm ID, 10mm LENGTH.  
L<sub>2</sub> : 0.8mmφ Ag PLATED Cu WIRE, 3.5 TURNS, 10mm ID, 10mm LENGTH.

Fig.1 100MHz GpS, NF TEST CIRCUIT

2SK881 is measured at each group by changing R<sub>S</sub>.

| GROUP     | R <sub>S</sub> (Ω) |
|-----------|--------------------|
| 2SK881-O  | 0                  |
| 2SK881-Y  | 18Ω±5%             |
| 2SK881-GR | 100Ω±5%            |



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