

TOSHIBA FIELD EFFECT TRANSISTOR GaAs N-CHANNEL DUAL GATE MES TYPE

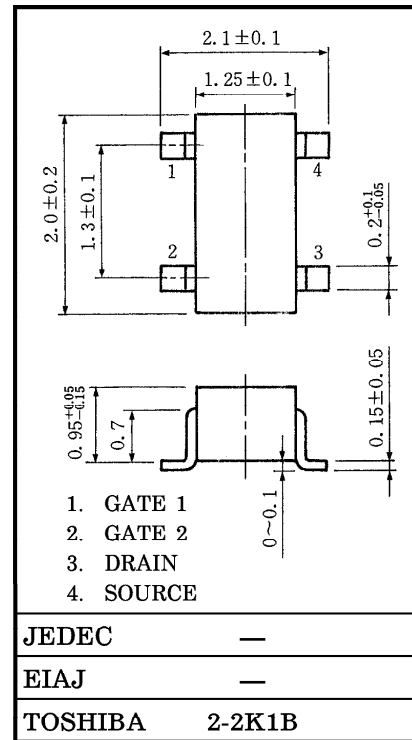
3SK274

TV TUNER, UHF RF AMPLIFIER APPLICATIONS.

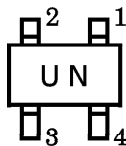
Unit in mm

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---------------------------|-------------------|---------|------|
| Gate1-Drain Voltage | V _{G1DO} | -9 | V |
| Gate2-Drain Voltage | V _{G2DO} | -9 | V |
| Gate1-Source Voltage | V _{G1S} | -4 | V |
| Gate2-Source Voltage | V _{G2S} | -4 | V |
| Gate1 Current | I _{G1} | 1 | mA |
| Gate2 Current | I _{G2} | 1 | mA |
| Power Dissipation | P _D | 100 | mW |
| Channel Temperature | T _{ch} | 125 | °C |
| Storage Temperature Range | T _{stg} | -55~125 | °C |



MARKING



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 0.006g

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|------------------------------|-----------------------|--|------|-------|-------|------|
| Gate1 Leakage Current | I _{G1SS} | V _{DS} =0, V _{G1S} =-3V, V _{G2S} =0 | — | — | -4 | μA |
| Gate2 Leakage Current | I _{G2SS} | V _{DS} =0, V _{G1S} =0, V _{G2S} =-3V | — | — | -4 | μA |
| Drain Current | I _{DSS} | V _{DS} =3V, V _{G1S} =0, V _{G2S} =0 | 6 | — | 20 | mA |
| Gate1-Source Cut-off Voltage | V _{G1S(OFF)} | V _{DS} =3V, V _{G2S} =0, I _D =100μA | -0.7 | — | -1.8 | V |
| Gate2-Source Cut-off Voltage | V _{G2S(OFF)} | V _{DS} =3V, V _{G1S} =0, I _D =100μA | -0.7 | — | -1.8 | V |
| Forward Transfer Admittance | Y _{fs} | V _{DS} =3V, V _{G2S} =1V I _D =5mA, f=1kHz | — | 19 | — | mS |
| Input Capacitance | C _{iss} | V _{DS} =3V, V _{G2S} =1V I _D =5mA, f=1MHz | — | 0.6 | 1.4 | pF |
| Reverse Transfer Capacitance | C _{rss} | | — | 0.013 | 0.030 | |
| Power Gain | G _{ps} | V _{DS} =3V, V _{G2S} =1V I _D =5mA, f=800MHz (Fig 1) | 17 | 20.5 | — | dB |
| Noise Figure | NF | | — | 1.0 | 2.0 | |

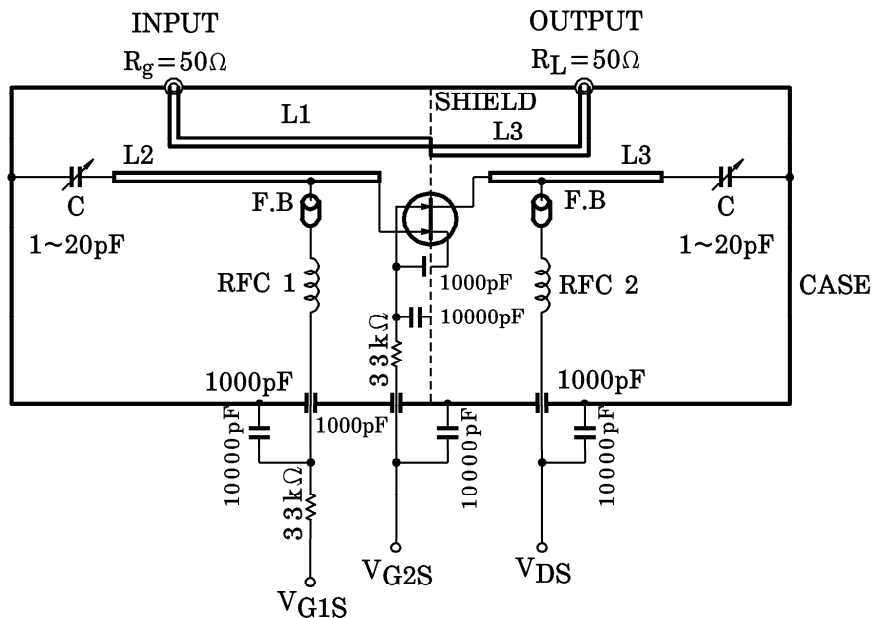
CAUTION

GaAs (Gallium Arsenide) is used in this product. The dust or vapor can be dangerous to humans. Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste.

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Fig.1 800MHz Gps, NF TEST CIRCUIT



- L1~L4 : φ0.8mm SILVER PLATED COPPER WIRE
- C : AIR TRIMMER TTA25A 200A (MURATA MFG. Co., LTD.)
- RFC 1 : φ0.35mm UEW 3mm ID, 7T
- RFC 2 : φ0.35mm UEW 3mm ID, 10T

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