

# JUNCTION FIELD EFFECT TRANSISTOR

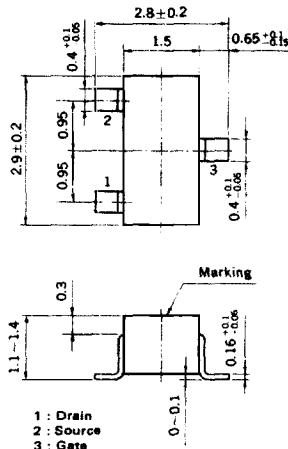
## 2SK425

### AUDIO FREQUENCY AMPLIFIER

### N-CHANNEL SILICON JUNCTION FIELD EFFECT TRANSISTOR

### MINI MOLD

#### PACKAGE DIMENSIONS in millimeters



#### FEATURES

- High Voltage  $V_{GDO} > -50$  V
- High  $|V_{TS1}|$   $|V_{TS2}| = 9$  mS TYP.

#### ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ( $T_a = 25^\circ\text{C}$ )

|                                              |           |     |    |
|----------------------------------------------|-----------|-----|----|
| Gate to Drain Voltage                        | $V_{GDO}$ | -50 | V  |
| Gate to Source Voltage                       | $V_{GSO}$ | -50 | V  |
| Drain to Source Voltage ( $V_{GS} = -2.0$ V) | $V_{DSX}$ | 50  | V  |
| Drain Current (DC)                           | $I_D$     | 30  | mA |
| Gate Current (DC)                            |           | 10  | mA |

#### Maximum Power Dissipation

|                                                                      |       |     |    |
|----------------------------------------------------------------------|-------|-----|----|
| Total Power Dissipation<br>at $25^\circ\text{C}$ Ambient Temperature | $P_T$ | 200 | mW |
|----------------------------------------------------------------------|-------|-----|----|

#### Maximum Temperatures

|                           |           |             |                  |
|---------------------------|-----------|-------------|------------------|
| Junction Temperature      | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

#### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

| CHARACTERISTIC                  | SYMBOL        | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS                                |
|---------------------------------|---------------|------|------|------|------|------------------------------------------------|
| Gate Cutoff Current             | $I_{GSS}$     |      |      | -1.0 | nA   | $V_{GS} = -20$ V, $V_{DS} = 0$                 |
| Zero-Gate Voltage Drain Current | $I_{DSS}$     | 1.0  | 8.0  | 18   | mA   | $V_{DS} = 10$ V, $V_{GS} = 0$                  |
| Gate to Source Cutoff Voltage   | $V_{GS(off)}$ | -0.2 | -0.5 | -1.2 | V    | $V_{DS} = 10$ V, $I_D = 10$ $\mu\text{A}$      |
| Forward Transfer Admittance     | $ Y_{TS1} $   | 7.0  | 9.0  |      | mS   | $V_{DS} = 10$ V, $I_D = 1.0$ mA, $f = 1.0$ kHz |
| Forward Transfer Admittance     | $ Y_{TS2} $   | 7.0  |      |      | mS   | $V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1.0$ kHz  |
| Input Capacitance               | $C_{iss}$     |      | 13   |      | pF   | $V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1.0$ MHz  |
| Feedback Capacitance            | $C_{rss}$     |      | 3.2  |      | pF   | $V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1.0$ MHz  |

#### $I_{DSS}$ Classification

| Marking              | X11        | X12        | X13        | X14       | X15       | X16      | X17      | X18      |
|----------------------|------------|------------|------------|-----------|-----------|----------|----------|----------|
| $I_{DSS}(\text{mA})$ | 1.0 to 4.0 | 3.0 to 6.0 | 5.0 to 8.0 | 7.0 to 10 | 9.0 to 12 | 11 to 14 | 13 to 16 | 15 to 18 |

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )