

KEC

# SEMICONDUCTOR TECHNICAL DATA

KTK596

N CHANNEL JUNCTION FIELD  
EFFECT TRANSISTOR

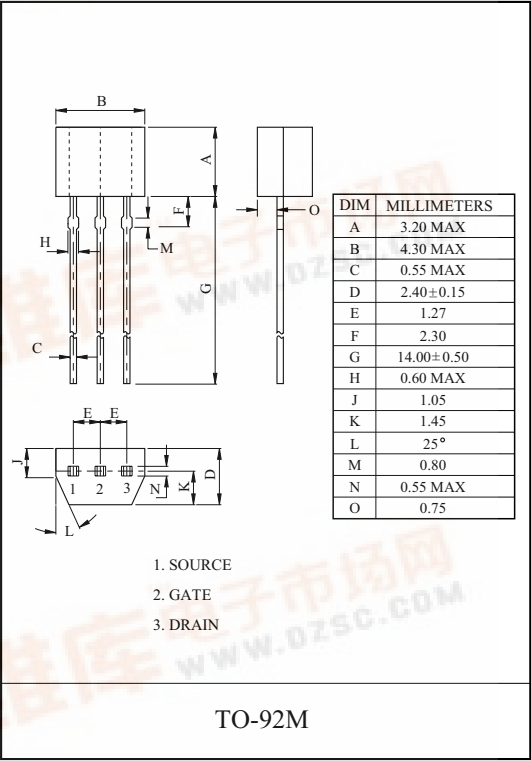
CONDENSER MICROPHONE APPLICATION.

## FEATURES

- Especially Suited for Use in Audio, Telephone.
- Capacitor Microphones.
- Excellent Voltage Characteristics.
- Excellent Transient Characteristics.

## MAXIMUM RATING (Ta=25℃)

| CHARACTERISTIC            | SYMBOL    | RATING    | UNIT |
|---------------------------|-----------|-----------|------|
| Gate-Drain Voltage        | $V_{GDO}$ | -20       | V    |
| Gate Current              | $I_G$     | 10        | mA   |
| Drain Current             | $I_D$     | 1         | mA   |
| Drain Power Dissipation   | $P_D$     | 400       | mW   |
| Junction Temperature      | $T_j$     | 150       | ℃    |
| Storage Temperature Range | $T_{stg}$ | -55 ~ 150 | ℃    |



## ELECTRICAL CHARACTERISTICS (Ta=25℃)

| CHARACTERISTIC               | SYMBOL           | TEST CONDITION                      | MIN. | TYP. | MAX. | UNIT    |
|------------------------------|------------------|-------------------------------------|------|------|------|---------|
| Gate-Drain Breakdown Voltage | $V_{(BR)GDO}$    | $I_G = -100 \mu A$                  | -20  | -    | -    | V       |
| Gate-Source Cut-off Voltage  | $V_{GS(OFF)}$    | $V_{DS} = 5V, I_D = 1 \mu A$        | -    | -0.6 | -1.5 | V       |
| Drain Current                | $I_{DSS} (Note)$ | $V_{DS} = 5V, V_{GS} = 0$           | 100  | -    | 480  | $\mu A$ |
| Foward Transfer Admittance   | $ y_{fs} $       | $V_{DS} = 5V, V_{GS} = 0, f = 1kHz$ | 0.4  | 1.2  | -    | mS      |
| Input Capacitance            | $C_{iss}$        | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$ | -    | 3.5  | -    | pF      |
| Reverse Transfer Capacitance | $C_{rss}$        | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$ | -    | 0.65 | -    | pF      |

Note :  $I_{DSS}$  Classification    A:100 ~ 170, B:150 ~ 240, C:210 ~ 350, C1:210~310, C2:290~350, D:320 ~ 480



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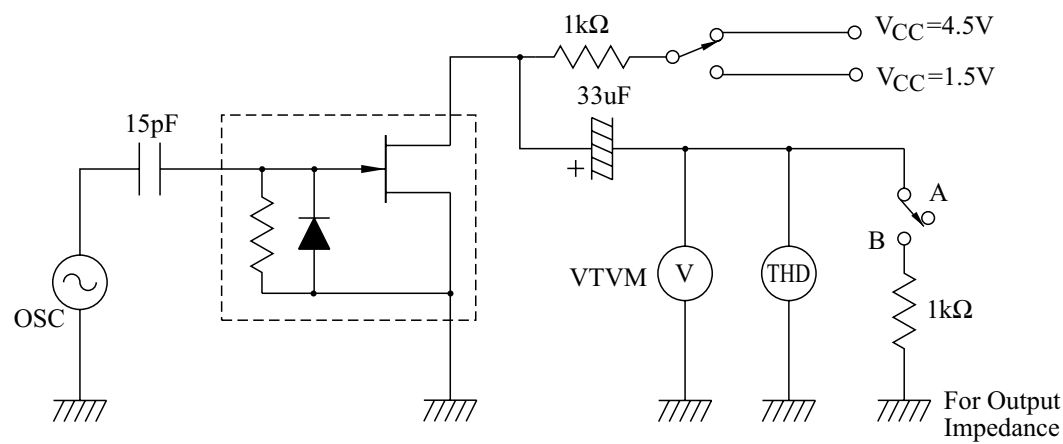
## ELECTRICAL CHARACTERISTICS

(Ta=25℃, V<sub>CC</sub>=4.5V, R<sub>L</sub>=1kΩ, C<sub>in</sub>=15pF, See Specified Test Circuit.)

| CHARACTERISTIC                 | SYMBOL           | TEST CONDITION                                           | MIN. | TYP. | MAX. | UNIT |
|--------------------------------|------------------|----------------------------------------------------------|------|------|------|------|
| Voltage Gain                   | G <sub>V</sub>   | V <sub>in</sub> =10mV, f=1kHz                            | -    | -3.0 | -    | dB   |
| Reduced Voltage Characteristic | ∠G <sub>VV</sub> | V <sub>in</sub> =10mV, f=1kHz V <sub>CC</sub> =4.5V→1.5V | -    | -1.2 | -4.0 | dB   |
| Frequency Characteristic       | ∠G <sub>VF</sub> | f=1kHz ~110Hz                                            | -    | -    | -1.0 | dB   |
| Input Resistance               | Z <sub>in</sub>  | f=1kHz                                                   | 25   | -    | -    | MΩ   |
| Output Resistance              | Z <sub>O</sub>   | f=1kHz                                                   | -    | -    | 700  | Ω    |
| Total Harmonic Distortion      | THD              | V <sub>in</sub> =30mV, f=1kHz                            | -    | 1.0  |      | %    |
| Output Noise Voltage           | V <sub>NO</sub>  | V <sub>in</sub> =0, A curve                              | -    | -    | -110 | dB   |

## SPECIFIED TEST CIRCUIT

- Voltage gain.
- Frequency Characteristic.
- Distortion.
- Reduced Voltage Characteristic.



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