

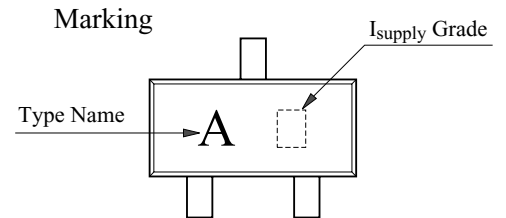
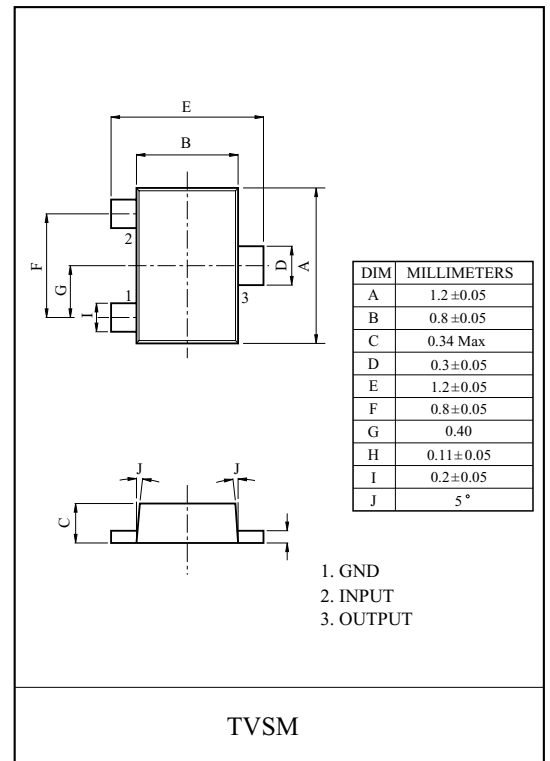
CONDENSER MICROPHONE APPLICATION

FEATURES

- Specially Suited for Use in Audio and Telephone Electret Capacitor Microphones(ECM)
- High Voltage Gain
- High ESD Voltage
- Ultra-Small and Thin Size Package

MAXIMUM RATING (Ta=25 °C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|----------------------|--------------|-----------|------|
| Supply Voltage | V_{SUPPLY} | 6 | V |
| Supply Current | I_{SUPPLY} | 10 | mA |
| Input Current | I_{INPUT} | 1 | mA |
| Power Dissipation | P_D | 100 | mW |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55 ~ 150 | °C |



KTK697TV

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|----------------|--|------|------|------|-----------|
| Supply Voltage | V_{SUPPLY}^* | | 1.4 | - | 5.0 | V |
| Supply Current | I_{SUPPLY}^* | $V_{SUPPLY}=2.0V$ | 70 | - | 250 | μA |
| Input Capacitance | C_{INPUT} | $f=1MHz$ | - | 2 | - | pF |
| Voltage Gain | G_V | $f=1kHz, V_{SUPPLY}=2.0V$ | 6.5 | - | 9.5 | dB |
| Gain Reduction with Frequency | ΔG_V | $f=1kHz\sim 100Hz, V_{SUPPLY}=2.0V$ | - | - | -1.0 | dB |
| Input Impedance | Z_{INPUT} | $f=1kHz, V_{SUPPLY}=2.0V$ | 30 | - | - | $M\Omega$ |
| Output Impedance | Z_{OUTPUT} | $f=1kHz, V_{SUPPLY}=2.0V$ | - | - | 2.2 | $k\Omega$ |
| Total Harmonic Distortion | THD | $f=1kHz, V_{SUPPLY}=2.0V, V_{IN}=20mV$ | - | 0.5 | - | % |
| Output Noise | e_n | A-Weighted, $V_{SUPPLY}=3.0V$ | - | -100 | - | dB |

[Ta=25 °C , $R_L = 2.2 k\Omega$, $C_{IN}=5pF$, $V_{SIGNAL} = 28mV_{pp}$, See Specified AC Test Circuit]

Note1 : Absolute Maximum Ratings indicate limits beyond which damage to the device may occur.

Note2 : ESD Test Condition is IEC 61000-4-2 Standard which is 330 Ω in series with 150pF

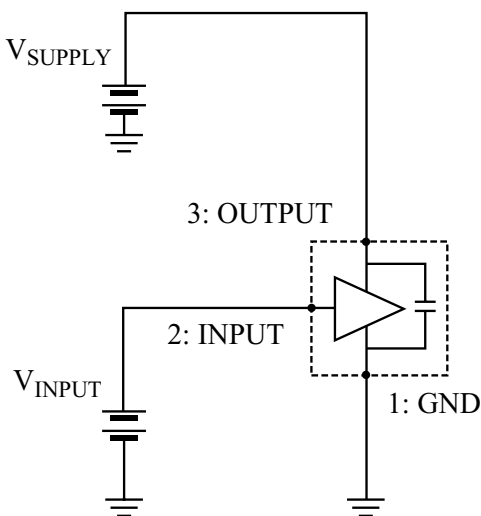
Note3 : Supply Voltage indicates conditions for which the device is intended to be functional, but specific performance is not guaranteed.

For guaranteed specifications and the conditions, see the Electrical Characteristics.

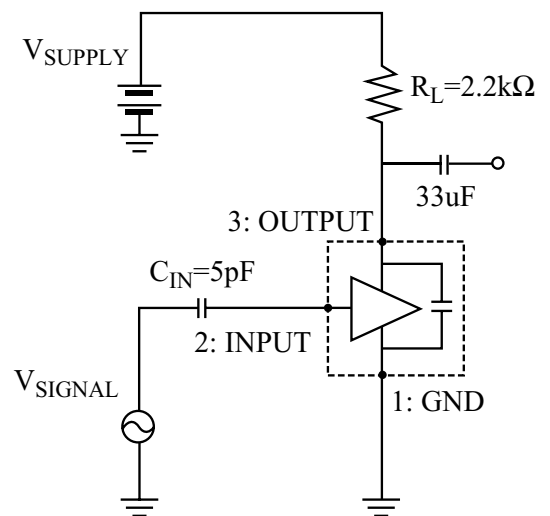
* I_{SUPPLY} and V_{SUPPLY} Classification

| Classification | Y (1) | GR (2) |
|---------------------|---------|---------|
| $I_{SUPPLY}(\mu A)$ | 70~180 | 130~250 |
| $V_{SUPPLY}(V)$ | 1.4~5.0 | 1.7~5.0 |

DC Parameter Test Circuit



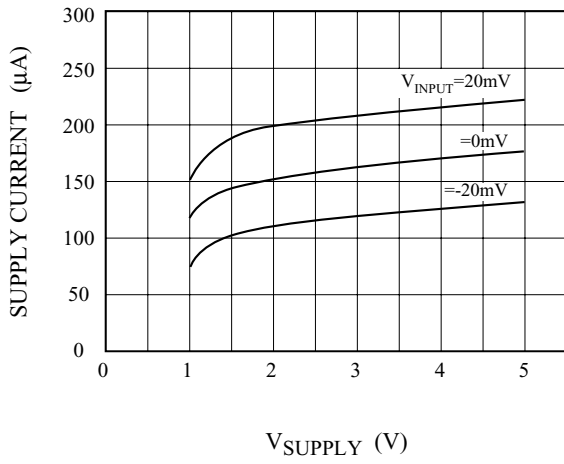
AC Parameter Test Circuit



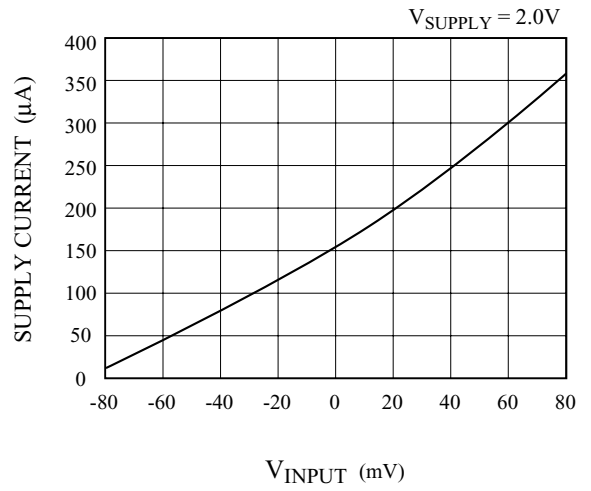
KTK697TV

TYPICAL CHARACTERISTICS

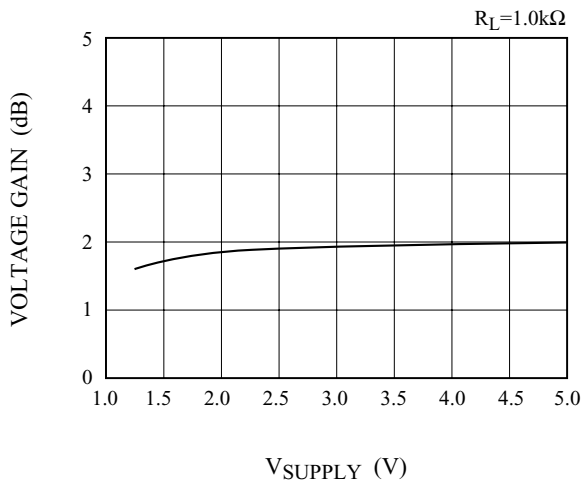
$I_{SUPPLY} - V_{SUPPLY}$



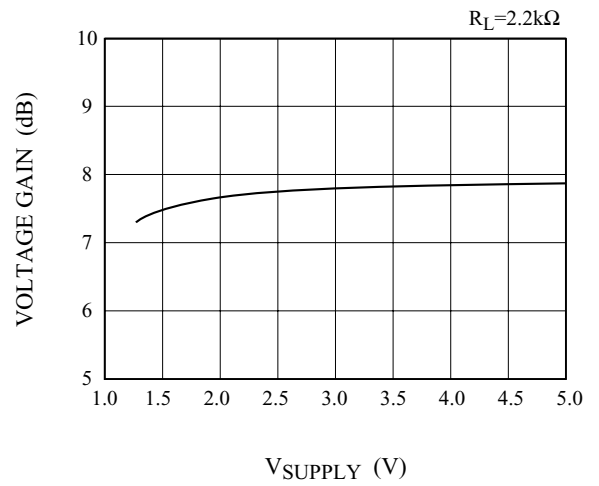
$I_{SUPPLY} - V_{INPUT}$



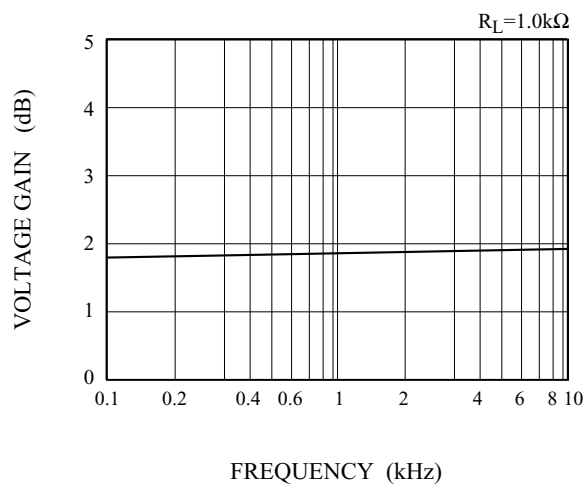
$G_V - V_{SUPPLY}$



$G_V - V_{SUPPLY}$



$G_V - Frequency$



$G_V - Frequency$

