

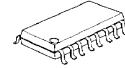
4 INPUT / 1 OUTPUT STEREO AUDIO SELECTOR

■ GENERAL DESCRIPTION

The NJM2750 is 4 Input / 1 Output Stereo Audio Selector. Based on the internal Switch OP-AMP technology, the NJM2750 has lower Output Noise, lower Distortion and higher Channel Separation than the ordinary Multiplexers or Analogue Switches.

The NJM2750 is suitable for any kinds of audio equipments, such as TV, Car Stereo, Mini-Compo and so on.

■ PACKAGE OUTLINE

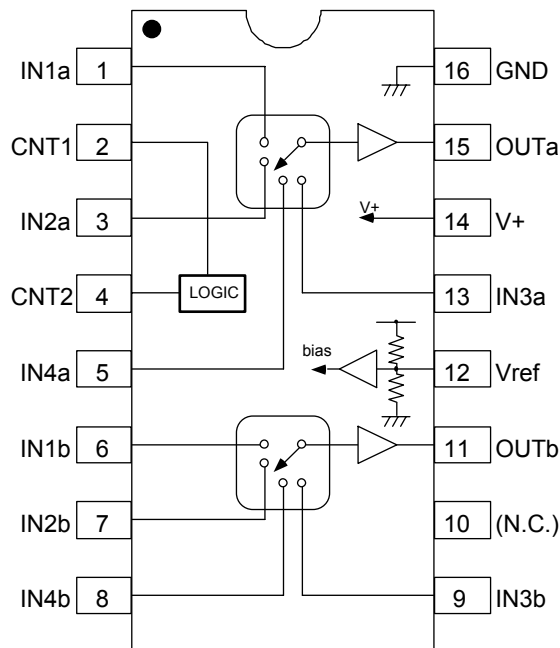


NJM2750M

■ FEATURES

- Operating Voltage (4.7 to 13V)
- 4 Input / 1 Output Audio Selectors
- Dual Channel for Stereo Use
- Low Output Noise (-110dBV typ.)
- Low Distortion (0.005% typ.)
- Bipolar Technology
- Package Outline (DMP16)

■ BLOCK DIAGRAM



■ PIN CONFIGURATION

| PIN No. | SYMBOL | FUNCTION |
|---------|--------|----------------------|
| 1 | IN1a | Ach INPUT SELECTOR |
| 2 | CNT1 | CONTROL 1 |
| 3 | IN2a | Ach INPUT SELECTOR 2 |
| 4 | CNT2 | CONTROL 2 |
| 5 | IN4a | Ach INPUT SELECTOR 4 |
| 6 | IN1b | Bch INPUT SELECTOR 1 |
| 7 | IN2b | Bch INPUT SELECTOR 2 |
| 8 | IN4b | Bch INPUT SELECTOR 4 |
| 9 | IN3b | Bch INPUT SELECTOR 3 |
| 10 | (N.C.) | NO CONNECT |
| 11 | OUTb | Bch OUTPUT |
| 12 | Vref | REFERENCE VOLTAGE |
| 13 | IN3a | Ach INPUT SELECTOR 3 |
| 14 | V+ | POWER SUPPLY |
| 15 | OUTa | Ach OUTPUT |
| 16 | GND | GROUND |

NJM2750

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| PARAMETER | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|-------------|------|
| Supply Voltage | V ⁺ | 15 | V |
| Power Dissipation | P _D | 300 | mW |
| Operating Temperature Range | T _{OPR} | -40 to +85 | °C |
| Storage Temperature Range | T _{STR} | -40 to +125 | °C |

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V⁺=9V)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------|------------------|----------------------------------|------------|-------------|--------------|----------------|
| Operating Voltage | V ⁺ | | 4.7 | 9.0 | 13.0 | V |
| Supply Current | I _{CC} | No Signal | - | 10 | 20 | mA |
| Reference Voltage | V _{REF} | | - | 4.5 | - | V |
| Voltage Gain | G _V | Vin=1Vrms, f=1kHz | -1 | 0 | 1 | dB |
| Total Harmonic Distortion | THD+N | Vin=1Vrms, f=1kHz | - | 0.005 | 0.05 | % |
| Output Noise Voltage | V _{NO} | A-Weighted | - | -110 (3) | -100 (10) | dBV (μVrms) |
| Maximum Output Voltage | V _{OM} | f=1KHz, THD=1% | 6 (2.0) | 8 (2.5) | - | dBV (Vrms) |
| Cross Talk | CT | Vin=1Vrms, f=1kHz, A-Weighted | 70 | 90 | - | dB |
| Channel Separation | CS | Vin=1Vrms, f=1kHz, A-Weighted | 70 | 90 | - | dB |
| Switch-ON Voltage Level | V _{CH} | | 2.4 | - | - | V |
| Switch-OFF Voltage Level | V _{CL} | | - | - | 0.8 | V |

■ SWITCH CONTROL LOGIC

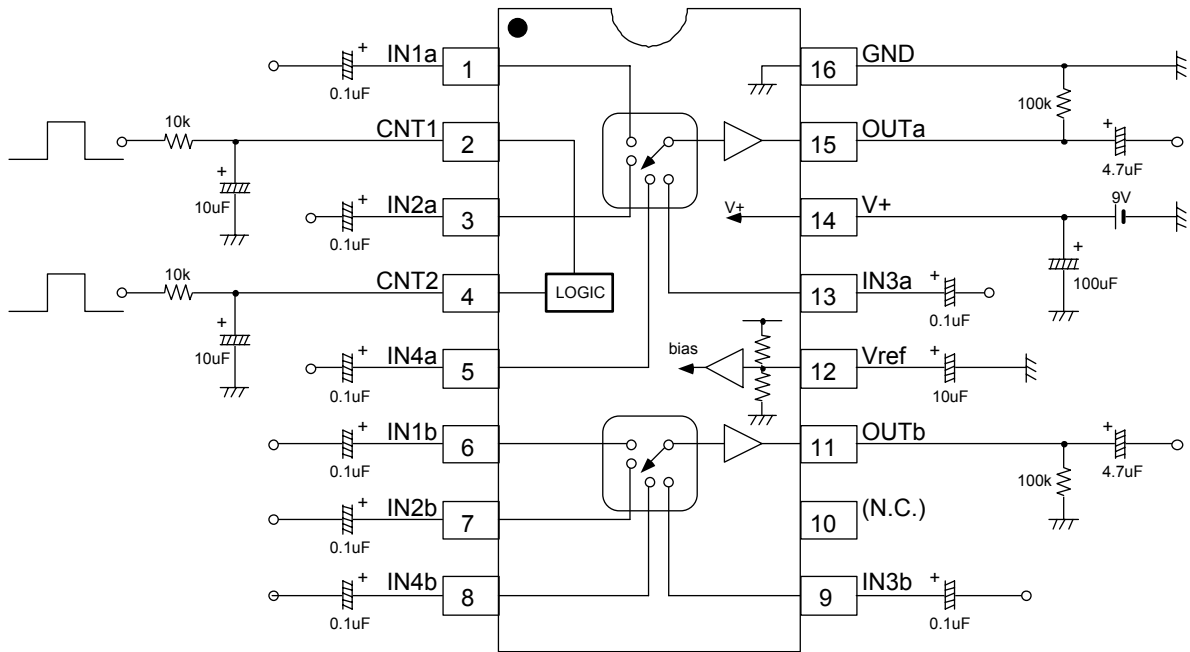
| CNT2 | CNT1 | INPUT SELECTOR Ach / Bch |
|------|------|--------------------------|
| L | L | 1 |
| L | H | 2 |
| H | L | 3 |
| H | H | 4 |

■ TERMINAL DESCRIPTION

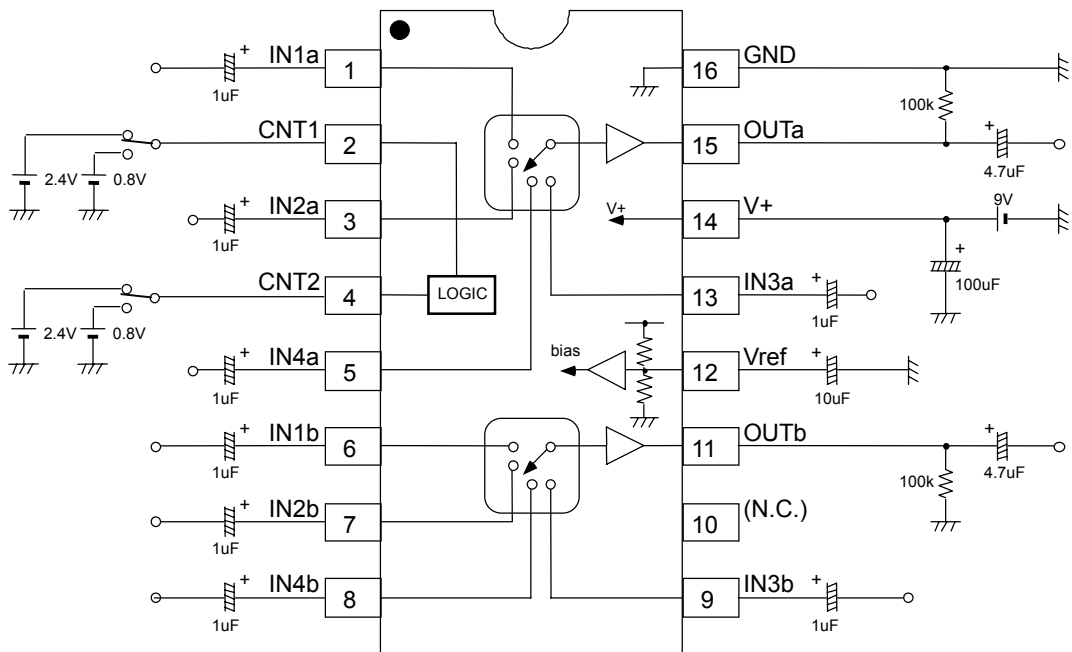
| PIN No. | SYMBLE | EQUIVALENT CIRCUIT | VOLTAGE | NOTE |
|---------------------------------------|--|--------------------|------------|------|
| 1 3 5 6 7 8 9 13 | IN1a IN2a IN4a IN1b IN2b IN4b IN3b IN3a | | $V+/2$ | |
| 2 4 | CNT1 CNT2 | | 0V (GND) | |
| 11 15 | OUTb OUTa | | $V+/2$ | |
| 12 | Vref | | $V+/2$ | |
| 14 16 | V+ GND | | $V+$ 0V | |

NJM2750

APPLICATION CIRCUIT

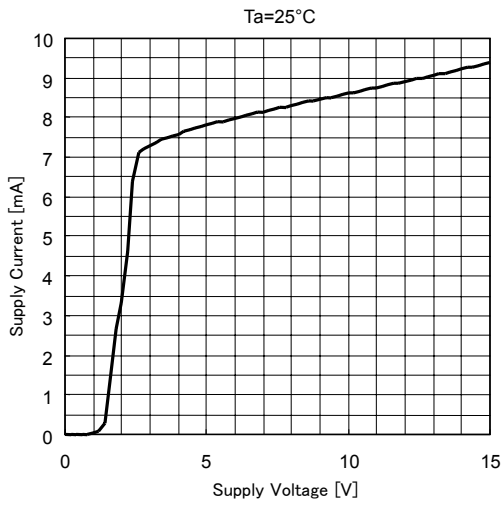


MEASUREMENT CIRCUIT

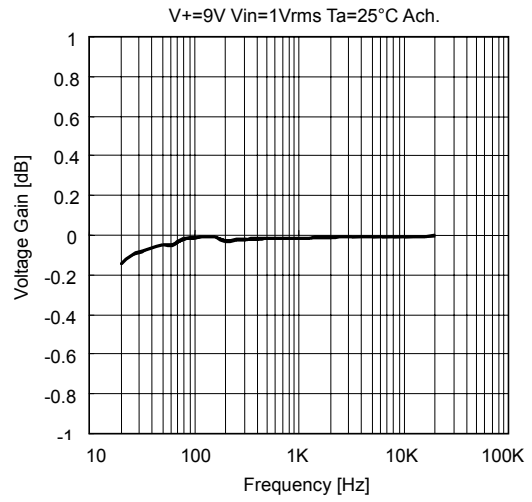


■ TYPICAL CHARACTERISTICS

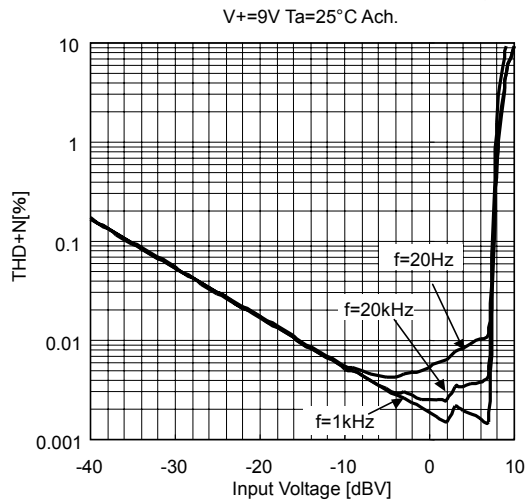
Supply Current vs Supply Voltage



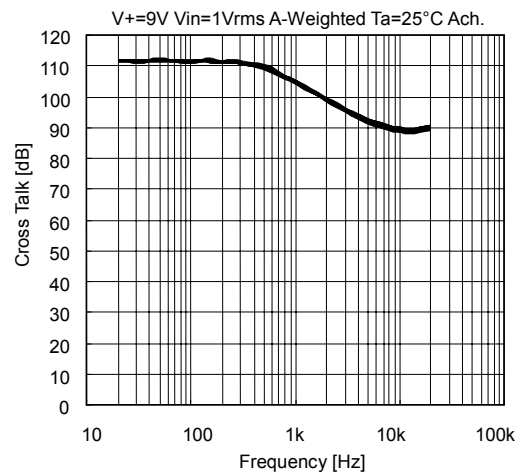
Voltage Gain vs Frequency Response



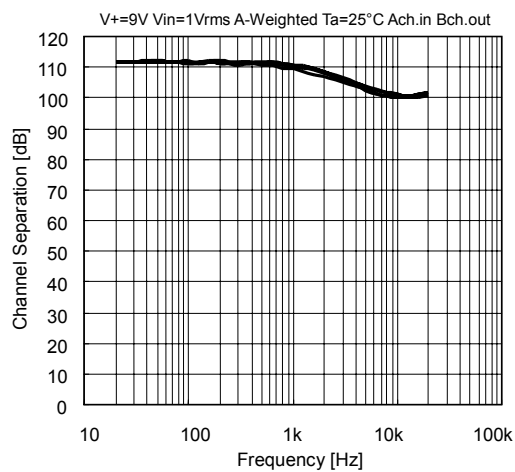
Total Harmonic Distortion vs Input Voltage



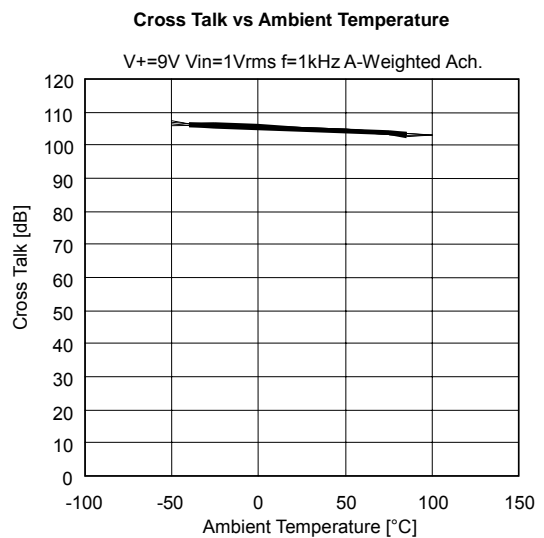
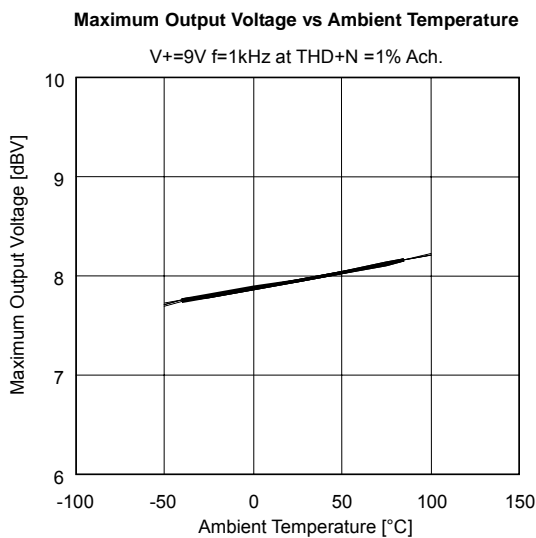
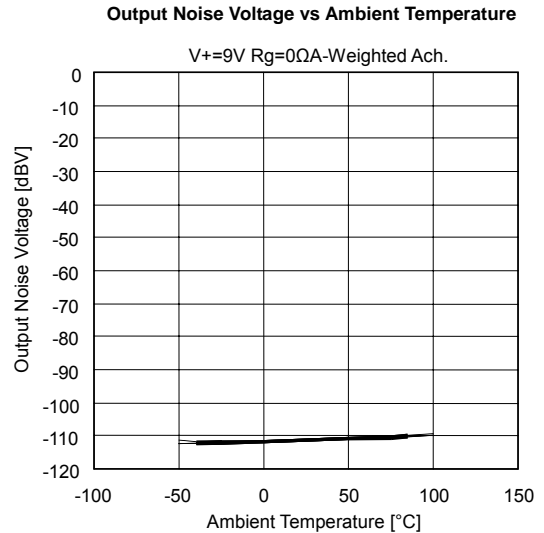
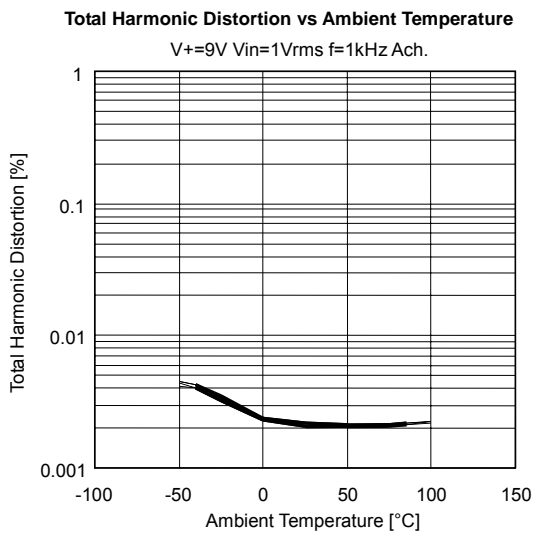
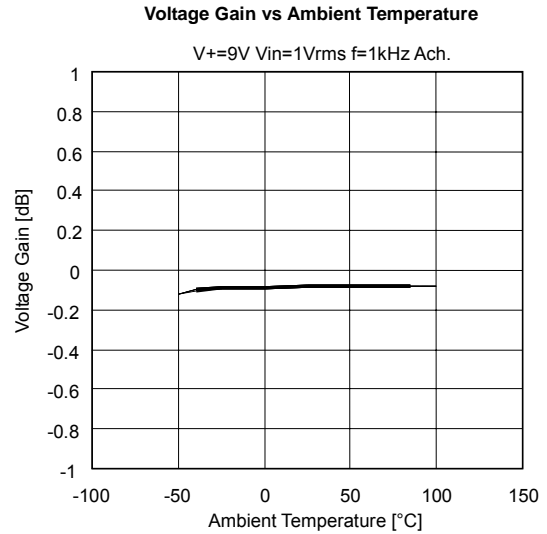
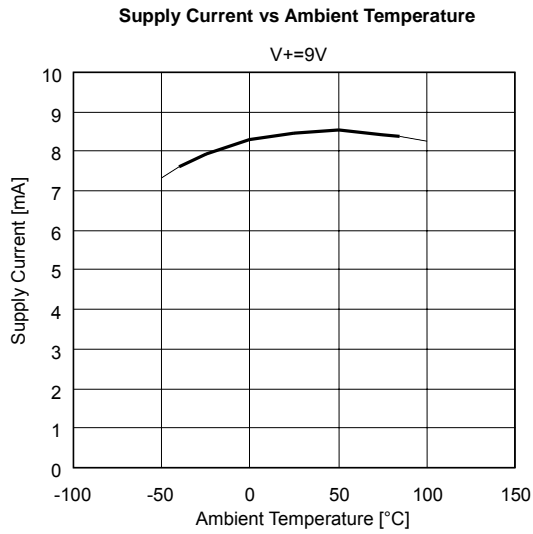
Cross Talk vs Frequency Response



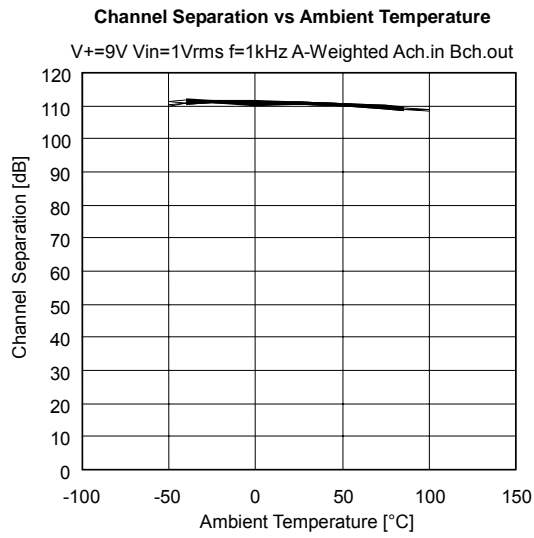
Channel Separation vs Frequency Response



■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS





[CAUTION]

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