

## NTE722 Integrated Circuit FM Stereo Multiplex Decoder

### **Description:**

The NTE722 is a monolithic FM Stereo Multiplex Decoder System in a 14-Lead DIP type package. This integrated circuit demodulated a stereo multiplex signal into the right and left audio channels while inherently suppressing SCA frequency components. Internal provision is made for driving an external stereo mode indicator lamp. The excellent performance and wide supply range requirement make the NTE722 suitable for all line-operated and automotive FM stereo multiplex applications.

### **Features:**

- 45dB Channel Separation
- 55dB Storcast Rejection without SCA Filters
- High Current Stereo Indicator Lamp Driver
- Operation with 8V to 14V Supplies

### **Absolute Maximum Ratings:**

Supply Voltage (Note 1), V+	15V
Voltage at Stereo Lamp Driver Terminal	22V
Current into Stereo Lamp Driver Terminal (Note 2)	100mA
Internal Power Dissipation, P <sub>D</sub>	670mW
Operating Temperature Range, T <sub>opr</sub>	0° to +70°C
Storage Temperature Range, T <sub>stg</sub>	-55° to +125°C
Lead Temperature (During Soldering, 10sec max), T <sub>L</sub>	+260°C

Note 1. Power supply transients up to 22V are permissible for periods of 15 seconds. However, extended operation at voltages greater than 15V should be avoided as the maximum allowable internal power dissipation for this device may be exceeded.

Note 2. Rating applies to steady state current. Maximum permissible surge current during turn-on of the Stereo Indicator Lamp is 500mA.

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$   $V_+ = 12\text{V}$ ,  $200\text{mV}_{\text{RMS}}$  standard stereo multiplex signal applied to input, Note 3 unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
Supply Current		–	12	18	mA
Input Resistance		12	20	–	k $\Omega$
Stereo Separation	$f = 100\text{Hz}$	–	40	–	dB
	$f = 1\text{kHz}$	30	45	–	dB
	$f = 10\text{kHz}$	20	40	–	dB
Channel Balance (Monaural Input)		–	0.2	–	dB
Total Harmonic Distortion		–	0.5	1.0	%
Voltage Gain		–	1.0	–	V/V
67kHz Storecast Rejection	Note 4	–	55	–	dB
19kHz Pilot Level Required at Input	Stereo Indicator Lamp ON	–	12	22	$\text{mV}_{\text{RMS}}$
	Stereo Indicator Lamp OFF	4.0	8.0	–	$\text{mV}_{\text{RMS}}$
High Frequency Audio Components in Left and Right Outputs (dB Below 1kHz Output)	19kHz	–	30	–	dB
	38kHz	–	25	–	dB

Note 3. “Standard Stereo Multiplex Signal” here refers to a  $200\text{mV}_{\text{RMS}}$  ( $0.56\text{V}_{\text{P-P}}$ ) composite stereo signal including 10% pilot with  $L = 1$  and  $R = 1$  as described in the FCC Rules of FM Broadcasting.

Note 4. Measured with a stereo composite signal consisting of 80% stereo, 10% pilot and 10% SCA as defined in the FCC Rules on FM Broadcasting.

