MC1335P

TUNING INDICATOR

FM RADIO OR COLOR TV TUNING INDICATOR

. . . a monolithic circuit designed to function as a tuning indicator for FM radios and a fine tuning indicator for color TV sets.

TYPICAL FEATURES INCLUDE:

- Very sharp positive tuning to eliminate error
- Cost and space saving over conventional tuning meters
- Low standby current – 5.5 mA typical

FM RADIO OR COLOR TV TUNING INDICATOR

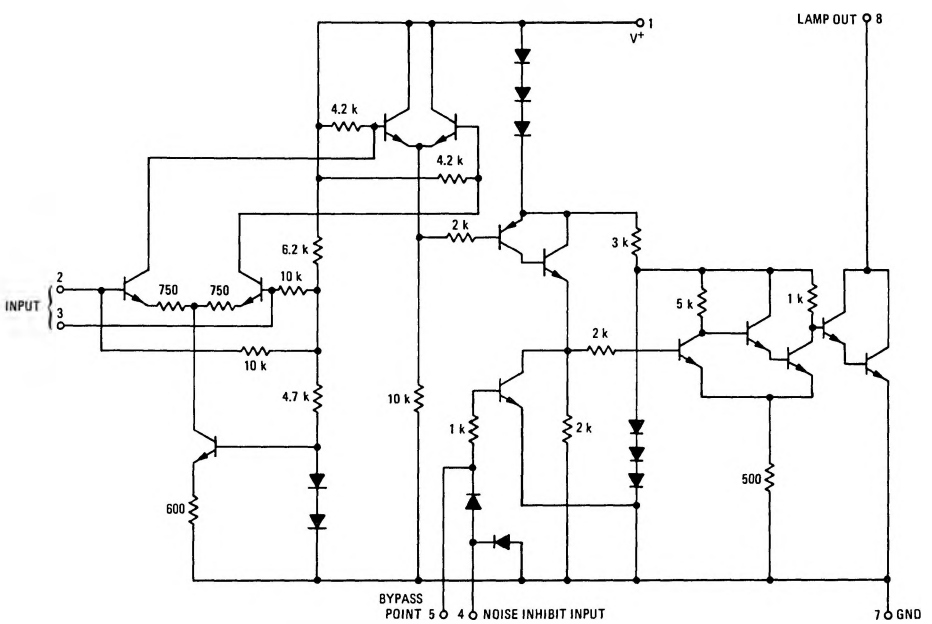
MONOLITHIC SILICON EPITAXIAL PASSIVATED

PLASTIC PACKAGE
CASE 626

MAXIMUM RATINGS (T_A = +25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Power Supply Voltage	V^+	20	Vdc
Maximum Current to Pin 8	$I_{8(max)}$	40	mA
Power Dissipation (Package Limitation)	P_D	625	mW
Derate above T_A = +25°C	$1/\theta_{JA}$	5.0	mW/°C
Operating Temperature Range	T_A	0 to +75	°C

FIGURE 1 – CIRCUIT SCHEMATIC



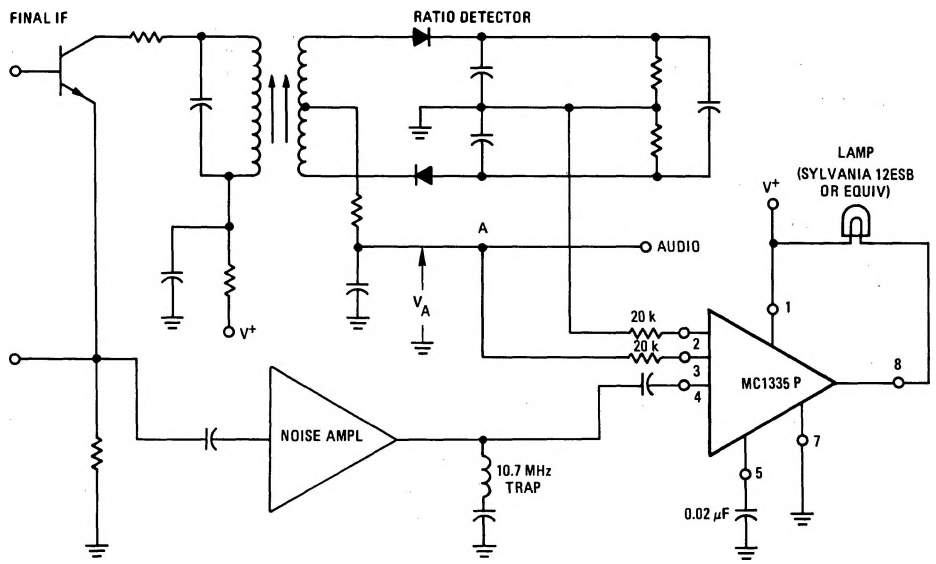
See Packaging Information Section for outline dimensions.

ELECTRICAL CHARACTERISTICS (T_A = +25°C unless otherwise noted, V^+ = 12 V)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain Current (Lamp Off)	I_D	4.0	5.5	8.0	mA
Saturation Voltage	V_{sat}	–	0.85	1.3	Vdc
Noise Inhibit (Lamp Off*)	NI	1.7	1.9	–	Vdc
Threshold (See Figure 2) Lamp On Lamp Off	V_A	 ≥ 5.8 ≤ 5.1	 – –	 ≤ 6.2 ≥ 6.9	Vdc

*Applied to pin 4

FIGURE 2 – TYPICAL FM RADIO TUNING INDICATOR APPLICATION



APPLICATIONS INFORMATION

The MC1335P is used to light a lamp when an FM receiver is correctly tuned. The three conditions of receiver operation that determine the response of the MC1335P indicator lamp are:

1. Lamp "ON" – The voltage developed at the input (Pins 2 and 3) is equal when the receiver is correctly tuned to the center of the incoming station.
2. Lamp "OFF" – Unequal voltages are present at the input (Pins 2 and 3); the receiver is not tuned correctly to the center of the incoming signal.
3. Lamp "EXTINGUISHED" – Noise voltage is supplied from the IF amplifier to the noise inhibitor (Pin 4) when the receiver is not tuned to a station and only noise is present at the receiver output.

Note: Voltages to satisfy conditions 1 and 2 are normally available from discriminator and ratio detector circuits. To satisfy condition 3, a noise amplifier normally is used, (See Figure 2).