NTE1518
Integrated Circuit
AM RF/IF Detector, AGC

Description:

The NTE1518 is an integrated circuit for AM tuners. It is suitable for use in automotive radio receivers, where compact mounting is required. Internally, RF amplifier, mixer, IF amplifier, detector and two types of AGC circuit are included.

Features:

- Reduction of adjustment time and mounting area for IF transformer
- Balanced at all frequencies
- Good S/N and Tweet Characteristic
- Protection Against Electrostatic Damage at the Antenna Terminal
- No Clicks When Power Switch is Turned On
- Wide AGC Range is Provided by two AGC Circuits Employed in the IF and RF Stages
- Can Withstand Large Input and High S/N

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage, V_{CC} 18V

Input Voltage, V_i 7Vp–p

Power Dissipation (T_A = 75°C), P_D 430mW

Operating Temperature Range, T_{opr} .... −30° to +75°C

Storage Temperature Range, T_{stg} .... −40° to +125°C

Electrical Characteristics: (T_A = +25°C, V_{CC} = 13V, f = 1MHz, f_{mod} = 400Hz, MOD = 20%, R_L = 10kΩ)

Parameter	Test Conditions		Rating	Unit
Max. Sensitivity	Input Voltage at which Det Output Voltage = 40mV_{rms}		13	dBμV
Useable Sensitivity	Input Voltage ar which S/N is 20dB		23	dBμV
Detector Output	v_i = 74dBμV		110	mVrms
Detector Distortion			0.4	%
Signal–to–Noise Ratio			54	dB
Overload Distortion	v_i = 126dBμV		0.4	%
IF Rejection	f = 1MHz, v_o = 40mVrms, IF–450kHz		72	dB
Image Rejection	f = 1MHz, v_o = 40mVrms, f + 2IF		74	dB
Selectivity	f = 1MHz, Δf = ±10kHz		45	dB
Tweet	v_i = 74dBμV	2IF = 900kHz	45	dB
		3IF = 1350kHz	50	dB

Pin Connection Diagram

Pin	Name
19	V_{CC}
18	AGC Detector Input
17	Bypass
16	Bypass
15	Detector Output
14	Detector Input
13	Bypass
12	IF Output
11	IF Input
10	GND
9	GND
8	Local OSC
7	Mixer Output
6	Mixer Input
5	Bypass
4	RF Output
3	Bypass
2	Bypass
1	RF Input

1.100 (27.9) Max

.110 (2.79)

.335 (8.5)

.402 (10.2)

.543 (13.8)

.100 (2.54)

.900 (22.8)

0.39 (1.0)

.100 (2.54)

0.39 (1.0)