



MOTOROLA
Semiconductors

查询 MC1309 供应商

MC1309

Advance Information

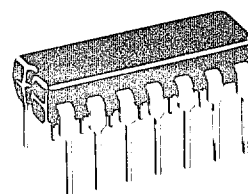
PHASE LOCK LOOP FM STEREO DEMODULATOR

... a monolithic device using I²L and ION Implant technology for use in solid-state stereo receivers.

- Requires No Inductors
- Low External Part Count
- Excellent Channel Separation Without Adjustment
- Only Single Potentiometer Oscillator Frequency Adjustment Necessary
- 50 mA Lamp or LED Driving Capability With Current Limiting
- Automatic, Transient-Free Stereo/Mono Switching
- Wide Dynamic Range: 0.25-1.7 V(p-p) Composite Input Signal
- Wide Supply Range: 4.5-16 Vdc
- Low Distortion: Typically 0.1% at 850 mV(p-p) Composite Input Signal
- Excellent SCA Rejection
- Gain Adjustable By Changing Load Resistors

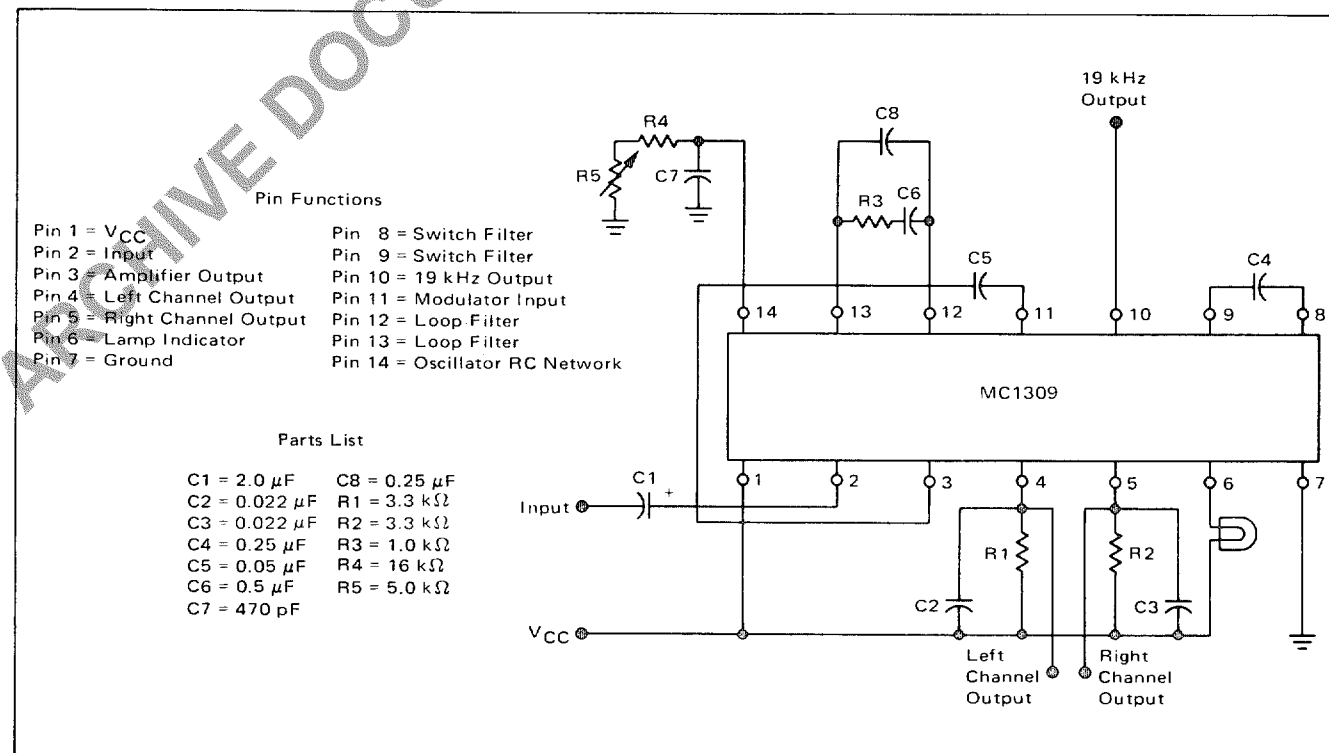
PHASE LOCK LOOP FM STEREO DEMODULATOR

SILICON MONOLITHIC
INTEGRATED CIRCUIT



P SUFFIX
PLASTIC PACKAGE
CASE 646

FIGURE 1 - TYPICAL APPLICATION AND TEST CIRCUIT



MAXIMUM RATINGS ($T_A = +25^\circ$ unless otherwise noted.)

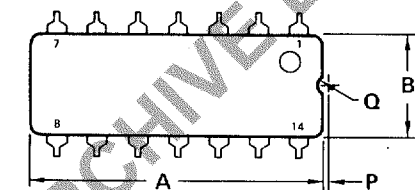
| Rating | Value | Unit |
|---------------------------------------|-------------|------------------|
| Power Supply Voltage | 16 | Volts |
| Supply Current | 50 | mA |
| Junction Temperature | 150 | $^\circ\text{C}$ |
| Operating Temperature Range (Ambient) | -20 to +75 | $^\circ\text{C}$ |
| Storage Temperature Range | -65 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS Unless otherwise noted; $V_{CC} = +9\text{ Vdc}$, $T_A = +25^\circ\text{C}$, 1.7 V(p-p) standard multiplex composite signal with L or R channel only modulated at 1.0 kHz and with 10% pilot level for stereo tests; 1.7 V(p-p) 1 kHz input signal for monaural tests; using circuit in Figure 1.

| Characteristic | Min | Typ | Max | Unit |
|---|--------------|----------------|-------------|------------------|
| Current Drain | — | 11 | — | mA _{dc} |
| Maximum Standard Composite Input Signal (0.5% THD)* ($V_{CC} = 9.0\text{ V}$) ($V_{CC} = 6.0\text{ V}$) | 1.7 0.85 | 2.2 1.9 | — — | V(p-p) |
| Maximum Monaural Input Signal (1.0% THD)* ($V_{CC} = 9.0\text{ V}$) ($V_{CC} = 6.0\text{ V}$) | 1.7 0.85 | 2.2 2.1 | — — | V(p-p) |
| Channel Balance | — | 0 | 1.0 | dB |
| Stereo THD ($V_{in} = 0.85\text{ V(p-p)}$) | — | 0.1 | — | % |
| Monaural THD ($V_{in} = 0.85\text{ V(p-p)}$) | — | 0.1 | — | % |
| Channel Separation ($f = 100\text{ Hz}$) ($f = 1.0\text{ kHz}$) ($f = 10\text{ kHz}$) | — 30 — | 38 46 44 | — — — | dB |
| Monaural Gain | 0.6 | 0.8 | — | V/V |
| Input Impedance | 15 | 30 | — | k Ω |
| Ultrasonic Frequency Rejection 19 kHz 38 kHz | — — | 32 42 | — — | dB |
| SCA Rejection | — | 71 | — | dB |
| Stereo Switch Level Lamp "On" Lamp "Off" | — 2.0 | 9.2 5.0 | 12 — | mV |
| Mono/Stereo Switching Transient — No Lamp | — | 5.7 | — | mV |
| Capture Range (Pilot = 60 mV [RMS]) | — | ± 8.9 | — | % |

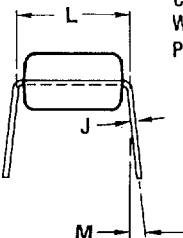
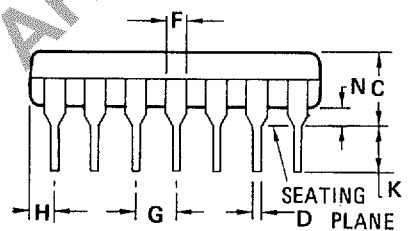
*THD and Channel Separation are measured after a Bandpass Filter (200 Hz-10 kHz), unless otherwise specified.

OUTLINE DIMENSIONS



NOTES:

- LEADS WITHIN 0.13 mm (0.005) RADIUS OF TRUE POSITION AT SEATING PLANE AT MAXIMUM MATERIAL CONDITION.
- DIMENSION "L" TO CENTER OF LEADS WHEN FORMED PARALLEL



PLASTIC PACKAGE
CASE 646
 $R_{\theta JA} = 100^\circ\text{C}$

| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|-------------|-----------|-------------|
| | MIN | MAX | MIN | MAX |
| A | 18.16 | 18.80 | 0.715 | 0.740 |
| B | 6.10 | 6.60 | 0.240 | 0.260 |
| C | 4.06 | 4.57 | 0.160 | 0.180 |
| D | 0.38 | 0.51 | 0.015 | 0.020 |
| F | 1.02 | 1.52 | 0.040 | 0.060 |
| G | 2.54 BSC | | 0.100 BSC | |
| H | 1.32 | 1.83 | 0.052 | 0.072 |
| J | 0.20 | 0.30 | 0.008 | 0.012 |
| K | 2.92 | 3.43 | 0.115 | 0.135 |
| L | 7.37 | 7.87 | 0.290 | 0.310 |
| M | — | 10 $^\circ$ | — | 10 $^\circ$ |
| N | 0.51 | 1.02 | 0.020 | 0.040 |
| P | 0.13 | 0.38 | 0.005 | 0.015 |
| Q | 0.51 | 0.76 | 0.020 | 0.030 |



MOTOROLA Semiconductor Products Inc.