

Operational Amplifiers

SINGLE OPERATIONAL AMPLIFIERS INTERNALLY COMPENSATED

| Device | Description | I _B μA max | V _{IO} mV max | TCV _{IO} μV/°C typ | I _{IO} nA max | A _{vol} V/V min | BW (A _v =1) MHz typ | SR (A _v =1) V/μs typ | Supply V min/typ | Voltage V max/typ | Packages |
|------------------------------------------------------|--------------------------------------|-----------------------------|------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------------|---------------------------------------|------------------------|-------------------------|-----------------------------|
| Military Temperature Range (-55°C to +125°C) | | | | | | | | | | | |
| MC1536 | High Voltage Op Amp | .02 | 5 | 10 | 3 | 100 K | 1 | 2.0 | ±15 | ±40 | 601 |
| MC1556 | High Performance Op Amp | .015 | 4 | 10 | 2 | 100 K | 1 | 2.5 | ±3 | ±22 | 601, 632 |
| MC1733 | Differential Wideband Video Amp | 20 | — | — | 3000 | 90 | 90 | — | ±4 | ±8 | 603, 632 |
| MC1741 | General Purpose Op Amp | .5 | 5 | 15 | 200 | 50 K | 1 | .5 | ±3 | ±22 | 601, 606 632, 693 |
| MC1741S | High Slew Rate Op Amp | .5 | 5 | 15 | 200 | 50 K | 1 | 10 | ±3 | ±22 | 601, 632 693 |
| MC1741N | Low Noise Op Amp | .5 | 5 | 15 | 200 | 50 K | 1 | .5 | ±3 | ±22 | 601, 606 632, 693 |
| MC1776 | μPower Programmable Op Amp | .0075 | 5 | 15 | 3 | 200 K | 1 | .2 | ±1.5 | ±18 | 601, 632 |
| MC3572 | Low Drift, Low Noise Op Amp | 1 | 1 | .5 | 50 | 50 K | 1 | 1 | ±3 | ±22 | 601, 693* |
| MLM107 | General Purpose Op Amp | .075 | 2 | 10 | 10 | 50 K | 1 | .5 | ±3 | ±22 | 601, 693 |
| MLM110 | Unity Gain Op Amp | .003 | 4 | 12 | — | Unity | 20 | 30 | ±3 | ±18 | 601 |
| MLF155A | FET Input Op Amp | 50 pA | 2 | 3 | 10 pA | 50 K | 1 | 5 | ±5 | ±22 | 601 * |
| MLF155 | FET Input Op Amp | 100 pA | 5 | 5 | 20 pA | 50 K | 1 | 5 | ±5 | ±22 | 601 * |
| MLF156A | FET Input Op Amp | 50 pA | 2 | 3 | 10 pA | 50 K | 2 | 15 | ±5 | ±22 | 601 * |
| MLF156 | FET Input Op Amp | 50 pA | 5 | 5 | 20 pA | 50 K | 2 | 15 | ±5 | ±22 | 601 * |
| MLF157A | Wideband FET Input Op Amp | 50 pA | 2 | 3 | 10 pA | 50 K | 3 | 75 | ±5 | ±22 | 601 * |
| MLF157 | Wideband FET Input Op Amp | 100 pA | 5 | 5 | 20 pA | 50 K | 3 | 75 | ±5 | ±22 | 601 * |
| Industrial Temperature Range (-25°C to +85°C) | | | | | | | | | | | |
| MLM207 | General Purpose Op Amp | .075 | 2 | 10 | 10 | 50 K | 1 | .5 | ±3 | ±22 | 601, 693 |
| MLM210 | Unity Gain Op Amp | .003 | 4 | 12 | — | Unity | 20 | 30 | ±3 | ±18 | 601 |
| Industrial Temperature Range (0°C to 70°C) | | | | | | | | | | | |
| MC1436 | High Voltage Op Amp | .04 | 10 | 12 | 10 | 70 K | 1.0 | 2.0 | ±15 | ±34 | 601 |
| MC1456 | High Performance Op Amp | .03 | 10 | 12 | 10 | 70 K | 1.0 | 2.5 | ±3 | ±18 | 601, 632 |
| MC1733C | Differential Wideband Video Amp | 30 | — | — | 5000 | 80 | 90 | — | ±4 | ±8 | 601, 632 |
| MC1741C | General Purpose Op Amp | .5 | 6 | 15 | 200 | 20 K | 1.0 | .5 | ±3 | ±18 | 601, 632 626, 646 693 |
| MC1741SC | High Slew Rate Op Amp | .5 | 6 | 15 | 200 | 20 K | 1.0 | 10 | ±3 | ±18 | 601, 632 626, 646 693 |
| MC1741NC | Lo Noise Op Amp | .5 | 6 | 15 | 200 | 20 K | 1.0 | .5 | ±3 | ±18 | 601, 632 626, 646 693 |
| MC1776C | μPower, Programmable Op Amp | .003 | 6 | 15 | 3 | 100 K | 1.0 | .2 | ±1.5 | ±18 | 601 |
| MC3476 | Low Cost μPower, Programmable Op Amp | .05 | 6 | 15 | 25 | 50 K | 1.0 | .2 | ±1.5 | ±18 | 601, 626 |
| MLM307 | General Purpose Op Amp | .25 | 7.5 | 10 | 50 | 25 K | 1.0 | .5 | ±3 | ±18 | 601, 626 693 |
| MLM310 | Unity Gain Op Amp | .007 | 7.5 | 12 | — | Unity | 20.0 | 30 | ±3 | ±18 | 601 |
| MLF355A | FET Input Op Amp | 50 pA | 2 | 1 | 10 pA | 50 K | 1.0 | 5 | ±5 | ±18 | 601 * |
| MLF355 | FET Input Op Amp | 200 pA | 10 | 5 | 50 pA | 50 K | 1.0 | 5 | ±5 | ±18 | 601 * |
| MLF356A | FET Input Op Amp | 50 pA | 2 | 1 | 10 pA | 50 K | 2.0 | 15 | ±5 | ±18 | 601 * |
| MLF356 | FET Input Op Amp | 200 pA | 10 | 5 | 50 pA | 50 K | 2.0 | 15 | ±5 | ±18 | 601 * |
| MLF357A | Wideband FET Input Op Amp | 50 pA | 2 | 1 | 10 pA | 50 K | 3.0 | 75 | ±5 | ±18 | 601 * |
| MLF357 | Wideband FET Input Op Amp | 200 pA | 10 | 5 | 50 pA | 50 K | 3.0 | 75 | ±5 | ±18 | 601 * |

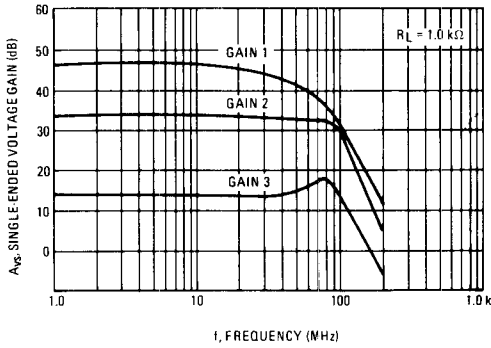
* This circuit to be introduced.

NON-AGC AMPLIFIERS

MC1733/MC1733C – Utility Amplifier

Differential input and output amplifier provides three fixed gain options with bandwidth to 120 MHz. External resistor permits any gain setting from 10 to 400 V/V. Extremely fast rise time (2.5 ns typ) and propagation delay time (3.6 ns typ) makes this unit particularly useful as pulse amplifier in tape, drum, or disc memory read applications.

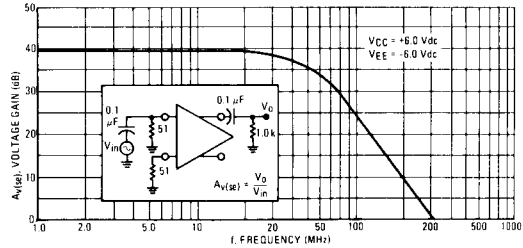
GAIN versus FREQUENCY



MC1510/MC1410 – General-Purpose Amplifier

Differential amplifier with flat response to 40 MHz. Provides excellent performance and simple design for most video and communications purposes.

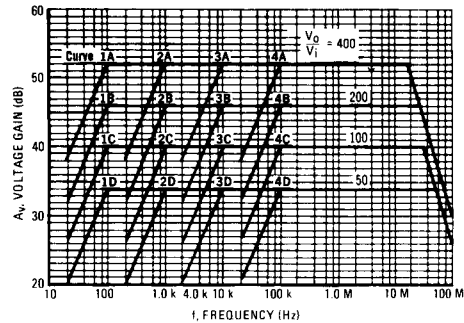
VOLTAGE GAIN versus FREQUENCY



MC1552/MC1553 – Low Distortion Amplifier

Extremely high performance amplifier with internal series feedback for stable voltage gain and low distortion. Temperature compensation stabilizes operating point. Has selectable gain option and well characterized data that permits accurate response shaping (see graph). Useful for critical applications such as wideband linear amplifiers or fast-rise pulse amplifiers.

FREQUENCY RESPONSE



NON-AGC AMPLIFIERS ELECTRICAL SPECIFICATIONS

| Operating Temperature Range | | Av dB | Bandwidth MHz | VCC/VEE Vdc | Case | Special Features |
|-----------------------------|------------|----------------|-------------------|----------------|----------|----------------------------------------------------------------------------------------------|
| -55 to +125°C | 0 to +75°C | | | | | |
| MC1733 | MC1733C | 52 40 20 | @ 40 90 120 | +6/-6 | 603, 632 | 3-Fixed Gain Options. Fast Rise Time and Propagation |
| MC1510 | MC1410 | 40 | 40 | +6/-6 | 601 | |
| MC1553 | - | 46 52 | @ 35 15 | +6/-6 | 602B | High and Low Gain Versions of precision amplifier with distortion as low as 0.2% at 200 KHz. |
| MC1552 | - | 34 | @ 40 | +6/-6 | 602B | |
| | | 40 | @ 35 | | | |