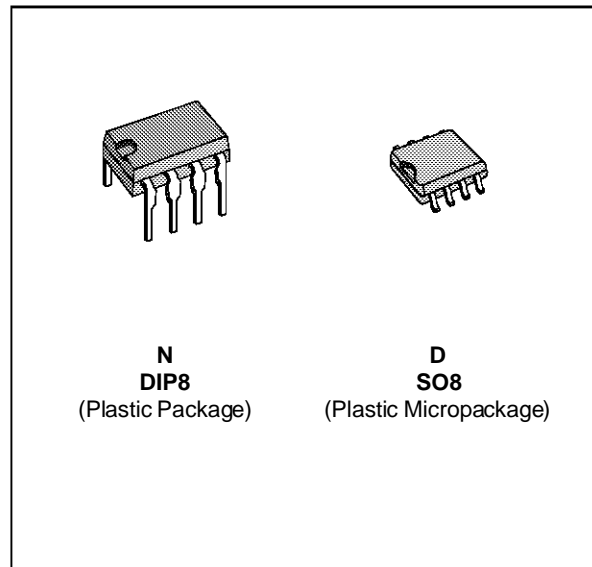


WIDE BANDWIDTH DUAL BIPOLAR OPERATIONAL AMPLIFIERS

- INTERNALLY COMPENSATED
- SHORT-CIRCUIT PROTECTION
- GAIN AND PHASE MATCH BETWEEN AMPLIFIERS
- LOW POWER CONSUMPTION
- PIN TO PIN COMPATIBLE WITH MC1458/LM358
- GAIN BANDWIDTH PRODUCT (at 100kHz) 5.5MHz



DESCRIPTION

The MC4558 is a high performance monolithic dual operational amplifier.

The circuit combines all the outstanding features of the MC1458 and, in addition, possesses three times the unity gain bandwidth of the industry standard.

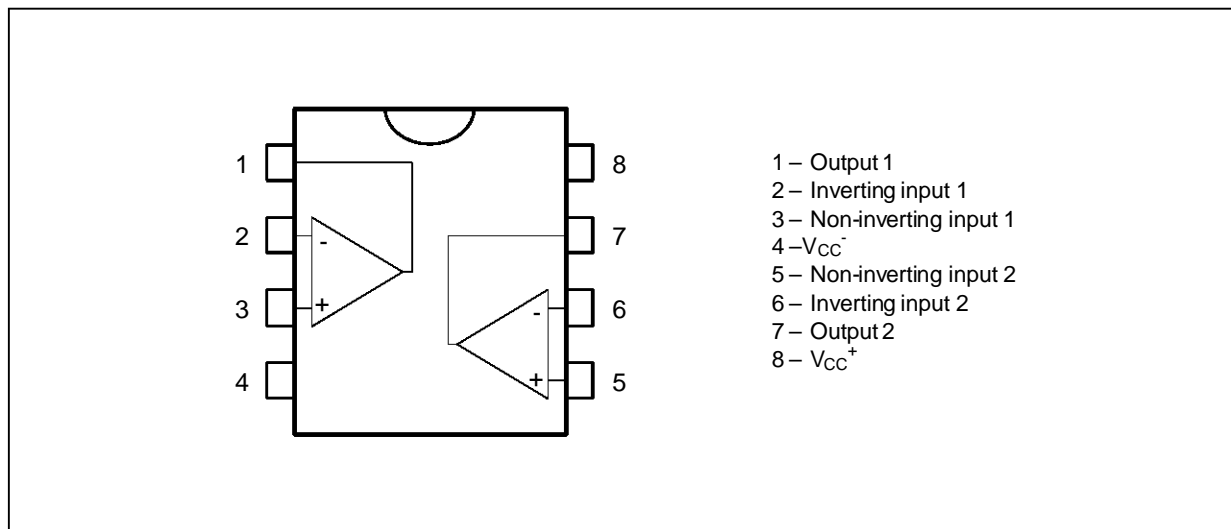
ORDER CODES

| Part Number | Temperature Range | Package | |
|-------------|-------------------|---------|---|
| | | N | D |
| MC4558C | 0°C, +70°C | • | • |
| MC4558I | -40°C, +105°C | • | • |

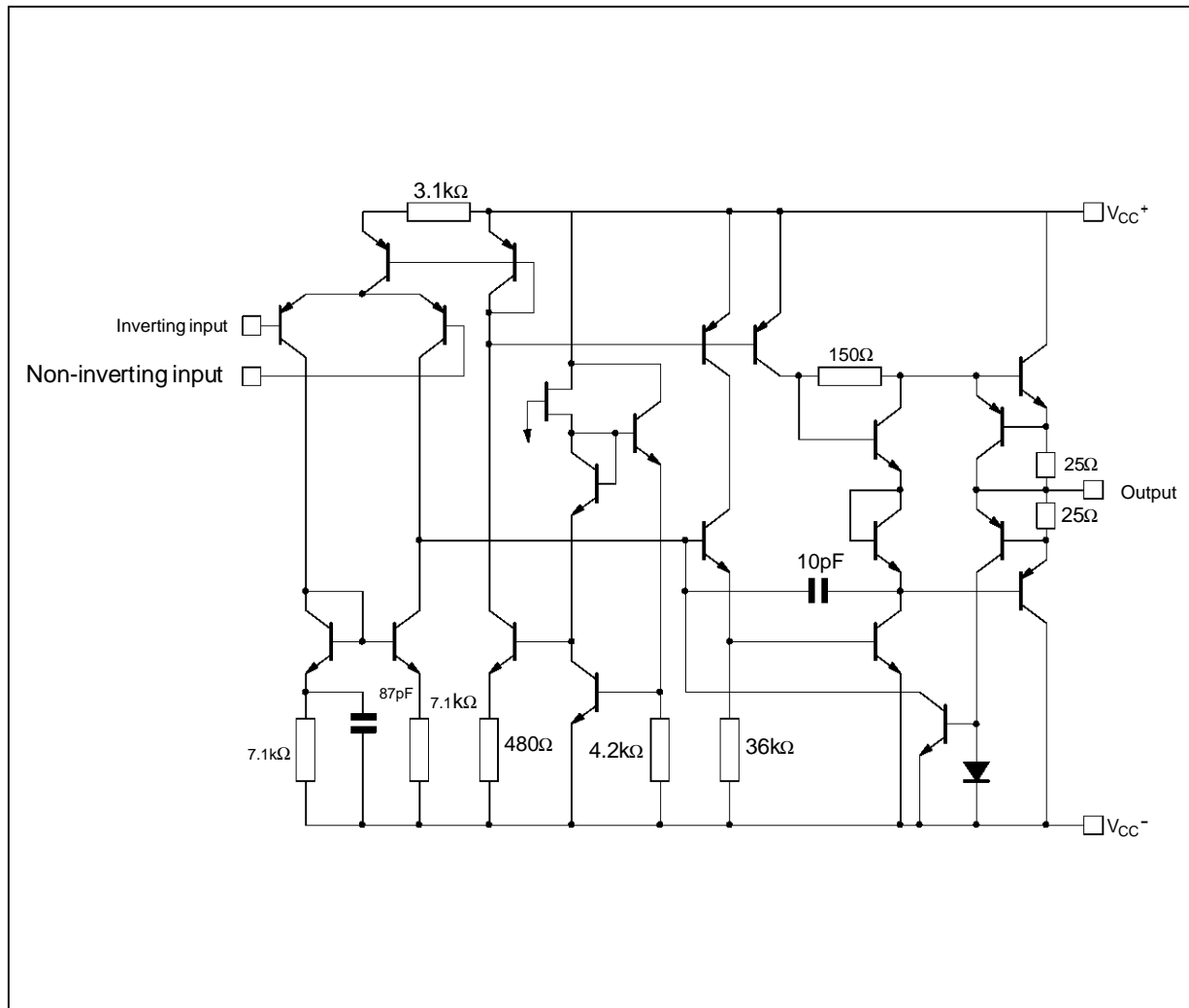
Example : MC4558CN

4558-01.TBL

PIN CONNECTIONS (top view)



SCHMATIC DIAGRAM (1/2 MC4558)



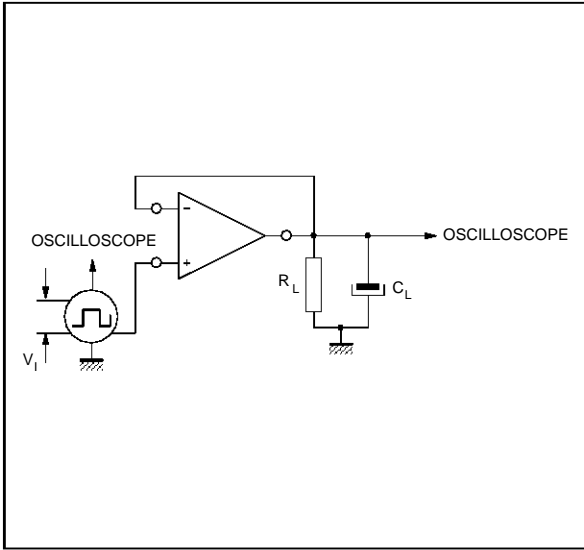
4558-03.EPS

ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | MC4558I | MC4558C | Unit |
|------------|--------------------------------------|-------------|-------------|------|
| V_{CC} | Supply Voltage | ± 22 | ± 22 | V |
| V_i | Input Voltage | ± 15 | ± 15 | V |
| V_{id} | Differential Input Voltage | ± 30 | ± 30 | V |
| P_{tot} | Power Dissipation | 680 | 680 | mW |
| | Output Short-circuit Duration | Infinite | | |
| T_{oper} | Operating Free-air Temperature Range | -40 to +105 | 0 to +70 | °C |
| T_{stg} | Storage Temperature Range | -65 to +150 | -65 to +150 | °C |

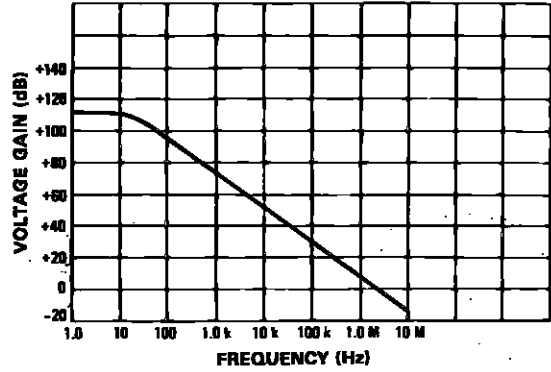
4558-02.TBL

TRANSIENT RESPONSE TEST CIRCUIT



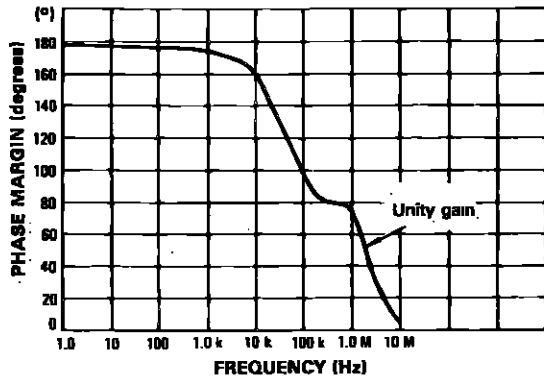
4558-04.EPS

OPEN LOOP FREQUENCY RESPONSE



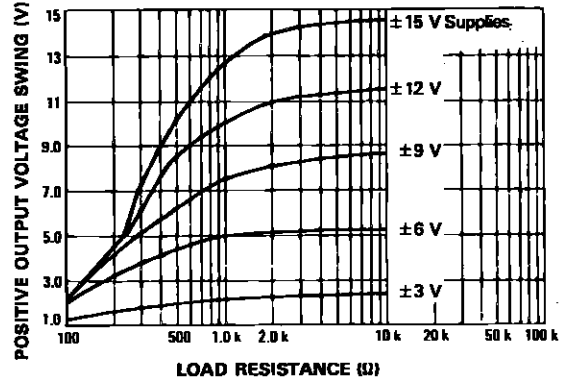
4558-05.EPS

PHASE MARGIN VERSUS FREQUENCY



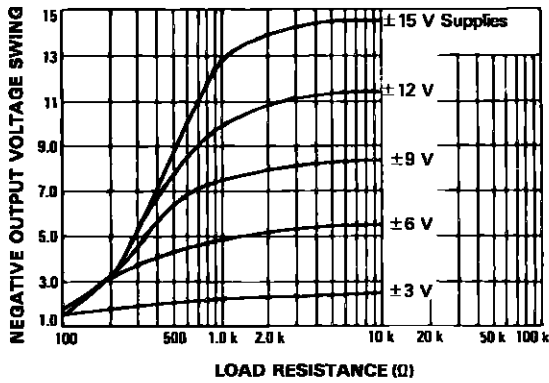
4558-06.EPS

POSITIVE OUTPUT VOLTAGE SWING VERSUS LOAD RESISTANCE



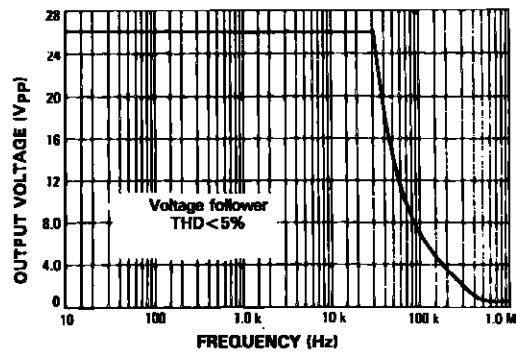
4558-07.EPS

NEGATIVE OUTPUT VOLTAGE SWING VERSUS LOAD RESISTANCE



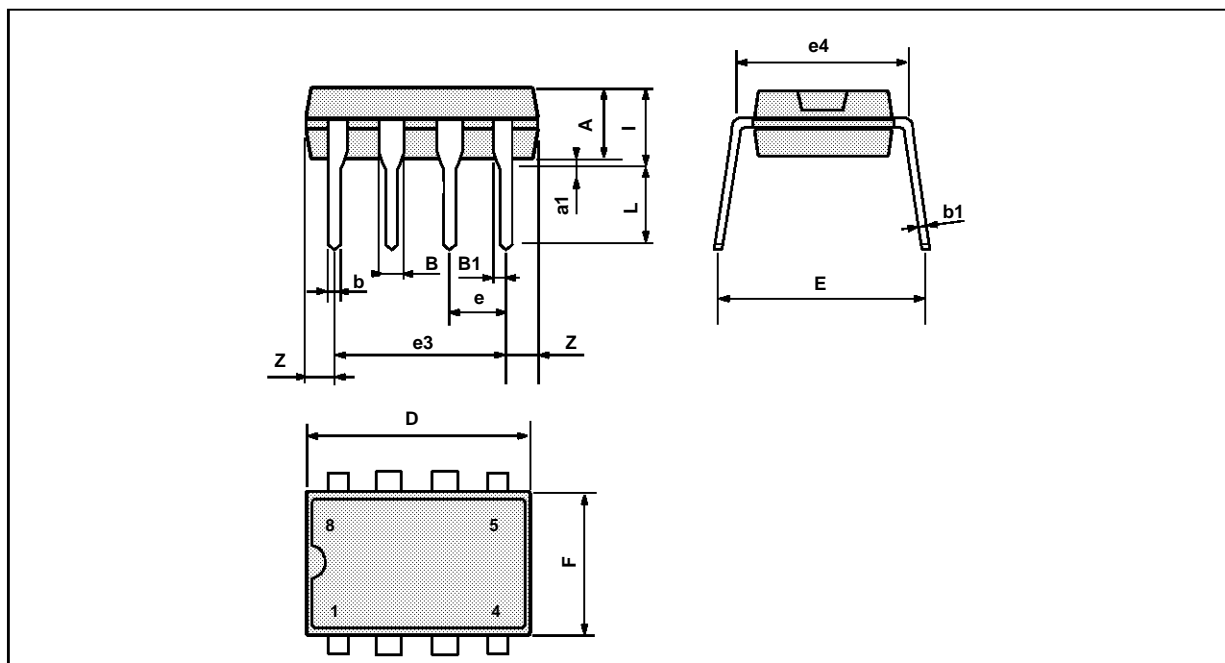
4558-08.EPS

POWER BANDWIDTH (Large signal swing versus frequency)



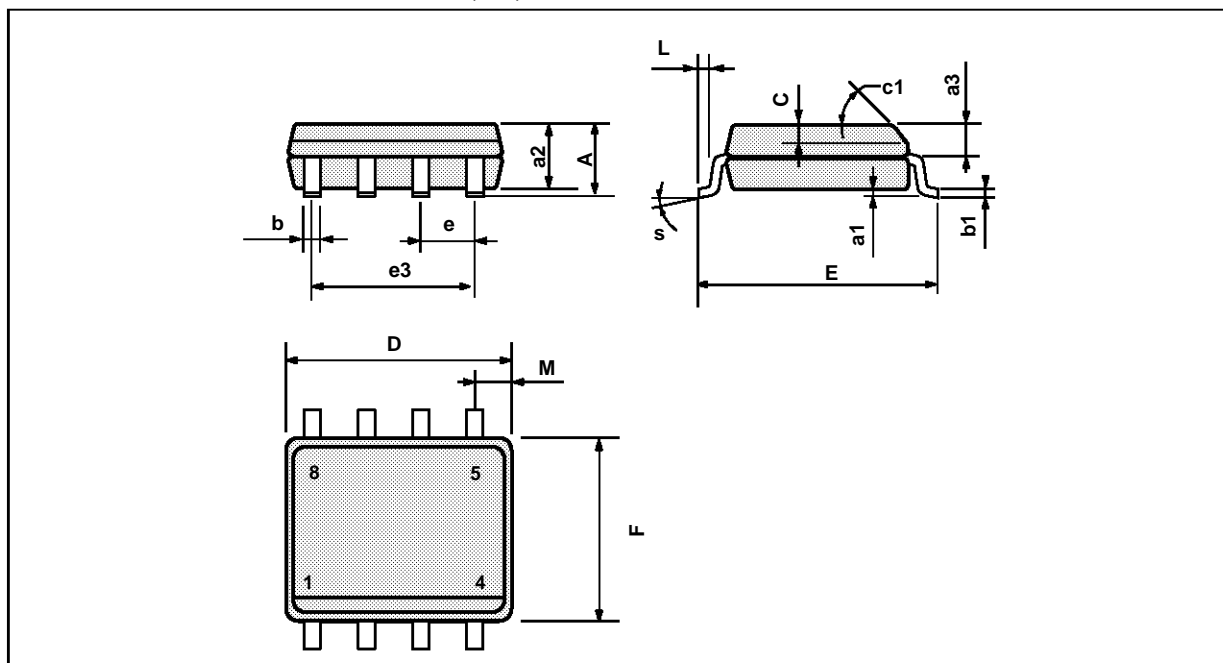
4558-09.EPS

PACKAGE MECHANICAL DATA
8 PINS – PLASTIC DIP OR CERDIP



| Dimensions | Millimeters | | | Inches | | |
|------------|-------------|------|-------|--------|-------|-------|
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | | 3.32 | | | 0.131 | |
| a1 | 0.51 | | | 0.020 | | |
| B | 1.15 | | 1.65 | 0.045 | | 0.065 |
| b | 0.356 | | 0.55 | 0.014 | | 0.022 |
| b1 | 0.204 | | 0.304 | 0.008 | | 0.012 |
| D | | | 10.92 | | | 0.430 |
| E | 7.95 | | 9.75 | 0.313 | | 0.384 |
| e | | 2.54 | | | 0.100 | |
| e3 | | 7.62 | | | 0.300 | |
| e4 | | 7.62 | | | 0.300 | |
| F | | | 6.6 | | | 0.260 |
| i | | | 5.08 | | | 0.200 |
| L | 3.18 | | 3.81 | 0.125 | | 0.150 |
| Z | | | 1.52 | | | 0.060 |

PACKAGE MECHANICAL DATA
8 PINS – PLASTIC MICROPACKAGE (SO)



PM-S08.EPS

| Dimensions | Millimeters | | | Inches | | |
|------------|-------------|------|------|--------|-------|-------|
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | | | 1.75 | | | 0.069 |
| a1 | 0.1 | | 0.25 | 0.004 | | 0.010 |
| a2 | | | 1.65 | | | 0.065 |
| a3 | 0.65 | | 0.85 | 0.026 | | 0.033 |
| b | 0.35 | | 0.48 | 0.014 | | 0.019 |
| b1 | 0.19 | | 0.25 | 0.007 | | 0.010 |
| C | 0.25 | | 0.5 | 0.010 | | 0.020 |
| c1 | 45° (typ.) | | | | | |
| D | 4.8 | | 5.0 | 0.189 | | 0.197 |
| E | 5.8 | | 6.2 | 0.228 | | 0.244 |
| e | | 1.27 | | | 0.050 | |
| e3 | | 3.81 | | | 0.150 | |
| F | 3.8 | | 4.0 | 0.150 | | 0.157 |
| L | 0.4 | | 1.27 | 0.016 | | 0.050 |
| M | | | 0.6 | | | 0.024 |
| S | 8° (max.) | | | | | |

S08.TBL

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