



MC1458
MC1458C

LINEAR INTEGRATED CIRCUITS

PRELIMINARY DATA

DUAL OPERATIONAL AMPLIFIERS

- INTERNALLY COMPENSATED
- SHORT-CIRCUIT PROTECTED
- LOW POWER CONSUMPTION
- WIDE COMMON-MODE AND DIFFERENTIAL VOLTAGE RANGES
- NO LATCH-UP

The MC 1458 is a dual operational amplifier with frequency and phase compensation built into the chip, available in 8-lead minidip package and in 8-lead micropackage. It is intended for a wide range of applications where space and cost saving are the main goals. In spite of that, the MC 1458 offers good performance and absence of latch-up makes the device ideal for use as voltage follower, integrator, summing amplifier and general feedback applications.

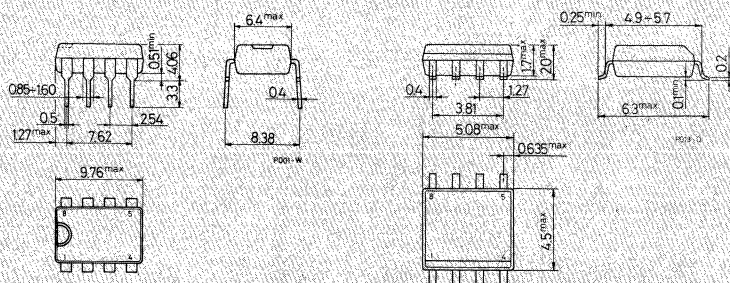
ABSOLUTE MAXIMUM RATINGS

V_s	Supply voltage	± 18	V
V_i	Input voltage (*)	± 15	V
V_i	Differential input voltage	± 30	V
P_{tot}	Power dissipation at $T_{amb} = 70^\circ\text{C}$	665	mW
		400	mW
T_{op}	Operating temperature	0 to 70	$^\circ\text{C}$
T_{stg}	Storage temperature	-55 to 150	$^\circ\text{C}$

(*) For V_s lower than $\pm 15\text{V}$, the absolute maximum input voltage is equal to the supply voltage.

MECHANICAL DATA

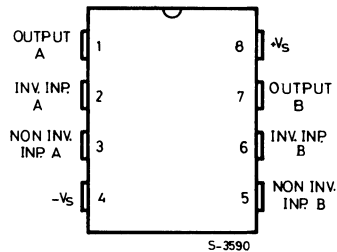
Dimensions in mm



Minidip

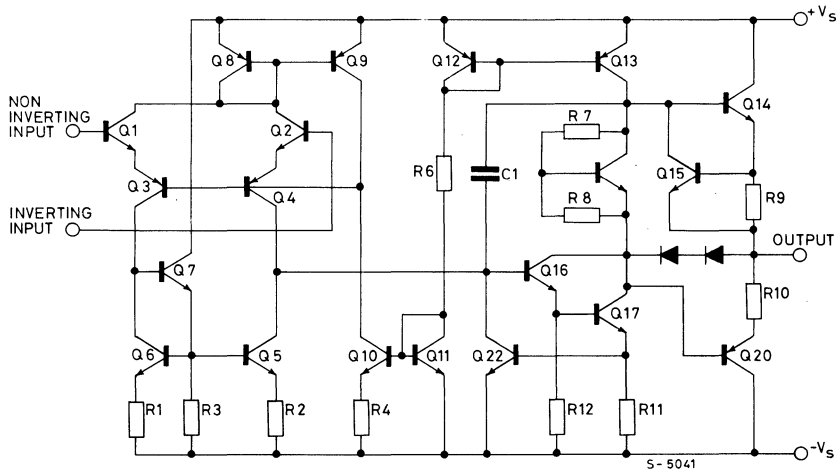
SO-8

CONNECTION DIAGRAM AND ORDERING NUMBERS
(top view)



Type	Minidip	SO-8
MC 1458	MC 1458 P1	MC 1458 M
MC 1458C	MC 1458 CP1	MC 1458 CM

SCHEMATIC DIAGRAM (one section)



THERMAL DATA			Minidip	SO-8
R_{th} j-amb	Thermal resistance junction-ambient	max	120 °C/W	200* °C/W

* Measured with the device mounted on a ceramic substrate (25 x 16 x 0.6 mm.).



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ELECTRICAL CHARACTERISTICS ($V_s = \pm 15V$, $T_{amb} = 25^\circ C$, unless otherwise specified)

Parameter	Test conditions	MC 1458			MC 1458C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
I_s Supply current (both amplifiers)				5.6			8	mA
I_b Input bias current				0.5			0.7	μA
	$0^\circ C < T_{op} < 70^\circ C$			0.8			1	
V_{os} Input offset voltage	$R_g \leq 10 K\Omega$		2	6		2	10	mV
	$R_g \leq 10 K\Omega$ $0^\circ C < T_{op} < 70^\circ C$			7.5			12	
$\frac{\Delta V_{os}}{\Delta T}$ Input offset voltage drift	$R_g = 10 K\Omega$ $0^\circ C < T_{op} < 70^\circ C$		6			6		$\mu V/^\circ C$
I_{os} Input offset current			20	200		20	300	nA
	$0^\circ C < T_{op} < 70^\circ C$			300			400	
$\frac{\Delta I_{os}}{\Delta T}$ Input offset current drift	$0^\circ C < T_{op} < 70^\circ C$		0.5			0.5		nA/°C
I_{sc} Output short circuit current			20			20		mA
G_v Large signal open loop voltage gain	$R_L = 2K\Omega$	$T_{amb} = 0 \text{ to } 70^\circ C$	83					dB
			86	106				
	$R_L = 10K\Omega$	$T_{amb} = 0 \text{ to } 70^\circ C$			83			dB
					86	106		
B Unity gain bandwidth			0.8			0.8		MHz
e_N Input noise voltage	B= 10Hz to 10 KHz	$R_g = 1 K\Omega$		3		3		μV
		$R_g = 500 K\Omega$		25		25		
V_o Output voltage swing	$R_L = 2 K\Omega$	± 10	± 13		± 9	± 13		V
	$R_L = 10 K\Omega$	± 12	± 14		± 11	± 14		
SR Slew Rate		0.3			0.3			V/ μs
CMR Common mode rejection		70	90		60	90		dB
SVR Supply voltage rejection		76	90			90		dB
Common mode input voltage range		± 12	± 13		± 11	± 13		V