



TJM4558

WIDE BANDWIDTH DUAL BIPOLAR OPERATIONAL AMPLIFIERS

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

DESCRIPTION

The TJM4558 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 CODE

Part Number	Temperature Range	Package		
		N	D	P
TJM4558C	0°C, +70°C	•	•	•
TJM4558I	-40°C, +105°C	•	•	•

Example : TJM4558CN

N = Dual in Line Package (DIP)

D = Small Outline Package (SO) - also available in Tape & Reel (DT)

P = Thin Shrink Small Outline Package (TSSOP) - only available in Tape & Reel (PT)



N
DIP8
(Plastic Package)

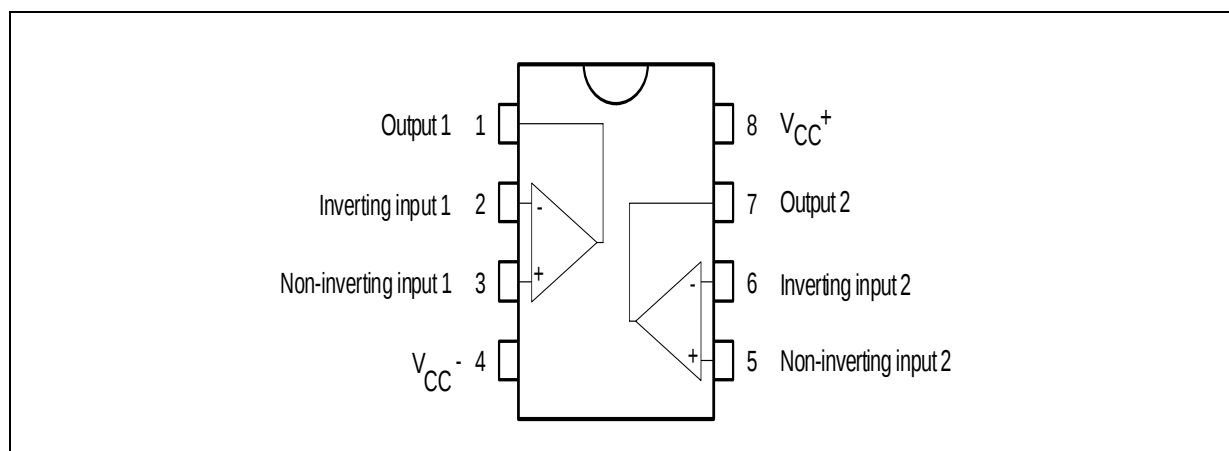


D
SO8
(Plastic Micropackage)



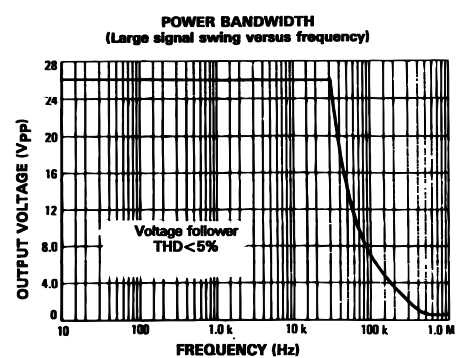
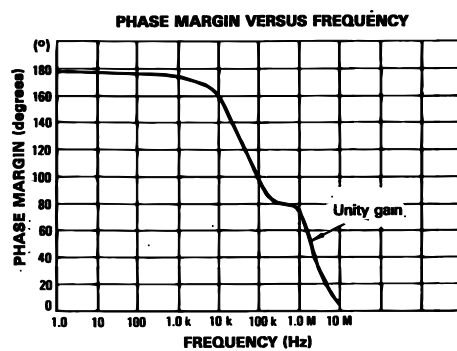
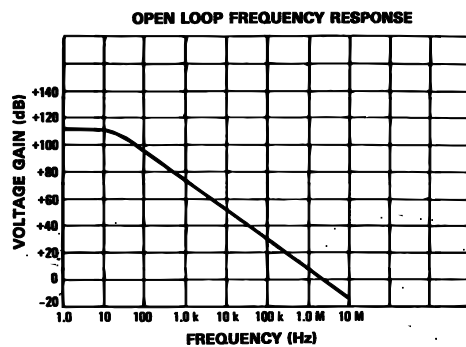
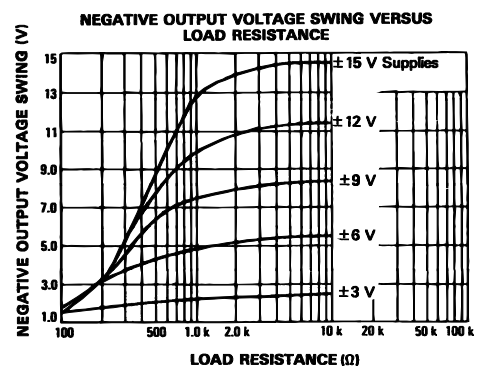
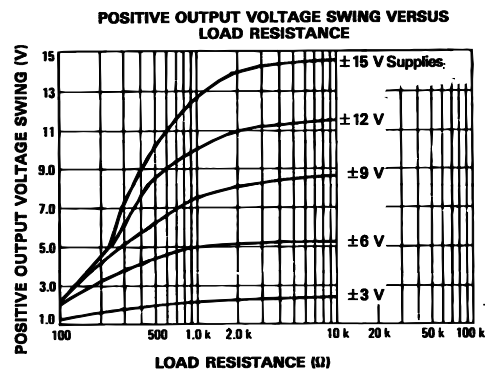
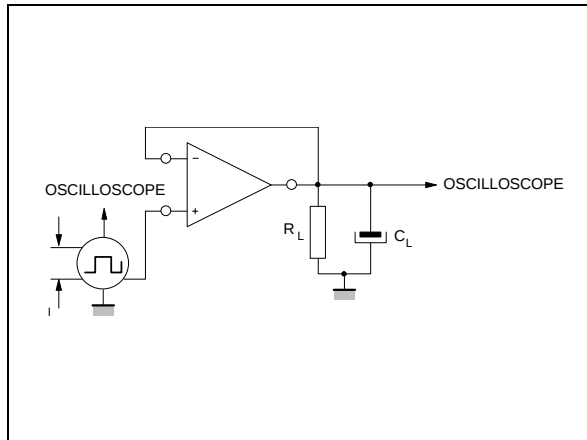
P
TSSOP8
(Thin Shrink Small Outline Package)

PIN CONNECTIONS (top view)



Symbol	Parameter	Min.	Typ.	Max.	Unit
SVR	Supply Voltage Rejection Ratio ($R_S \leq 10k\Omega$) $T_{amb} = +25^\circ C$ $T_{min} \leq T_{amb} \leq T_{max}$		90 77		dB
I_{CC}	Supply Current, all amplifiers, no load $T_{amb} = +25^\circ C$ $T_{min} \leq T_{amb} \leq T_{max}$		2.3 4	4.5	mA
V_{icm}	Input Common Mode Voltage Range $T_{amb} = +25^\circ C$ $T_{min} \leq T_{amb} \leq T_{max}$	± 12 ± 12			V
CMR	Common-mode Rejection Ratio ($R_S \leq 10k\Omega$) $T_{amb} = +25^\circ C$ $T_{min} \leq T_{amb} \leq T_{max}$		90 70		dB
I_{OS}	Output Short Circuit Current	10	20		mA
V_O	Output Voltage Swing $T_{amb} = +25^\circ C$ $T_{min} \leq T_{amb} \leq T_{max}$ $R_L = 10k\Omega$ $R_L = 2k\Omega$ $R_L = 10k\Omega$ $R_L = 2k\Omega$	± 12 ± 10 ± 12 ± 10	± 14 ± 13		V
SR	Slew Rate ($V_i = \pm 10$, $R_L = 2k\Omega$, $C_L = 100pF$, $T_{amb} = 25^\circ C$, unity gain)		2.2		V/ μs
t_r	Rise Time ($V_i = \pm 20mV$, $R_L = 2k\Omega$, $C_L = 100pF$, $T_{amb} = 25^\circ C$, unity gain)		0.3		μs
K_{OV}	Overshoot ($V_i = \pm 20mV$, $R_L = 2k\Omega$, $C_L = 100pF$, $T_{amb} = 25^\circ C$, unity gain)		15		%
R_i	Input Resistance	0.3	2		M Ω
C_i	Input Capacitance		1.4		pF
R_o	Output Resistance		75		Ω
B	Unity Gain Bandwidth		2.8		MHz
GBP	Gain Bandwidth Product ($V_i = 10mV$, $R_L = 2k\Omega$, $C_L = 100pF$, $f = 100kHz$, $T_{amb} = 25^\circ C$)		5.5		MHz
THD	Total Harmonic Distortion ($f = 1kHz$, $A_v = 20dB$, $R_L = 2k\Omega$, $V_o = 2V_{pp}$, $C_L = 100pF$, $T_{amb} = 25^\circ C$)		0.008		%
e_n	Equivalent Input Noise Voltage ($R_S = 100\Omega$, $f = 1kHz$)		12		$\frac{nV}{\sqrt{Hz}}$
V_{O1}/V_{O2}	Channel Separation		120		dB

TRANSIENT RESPONSE TEST CIRCUIT

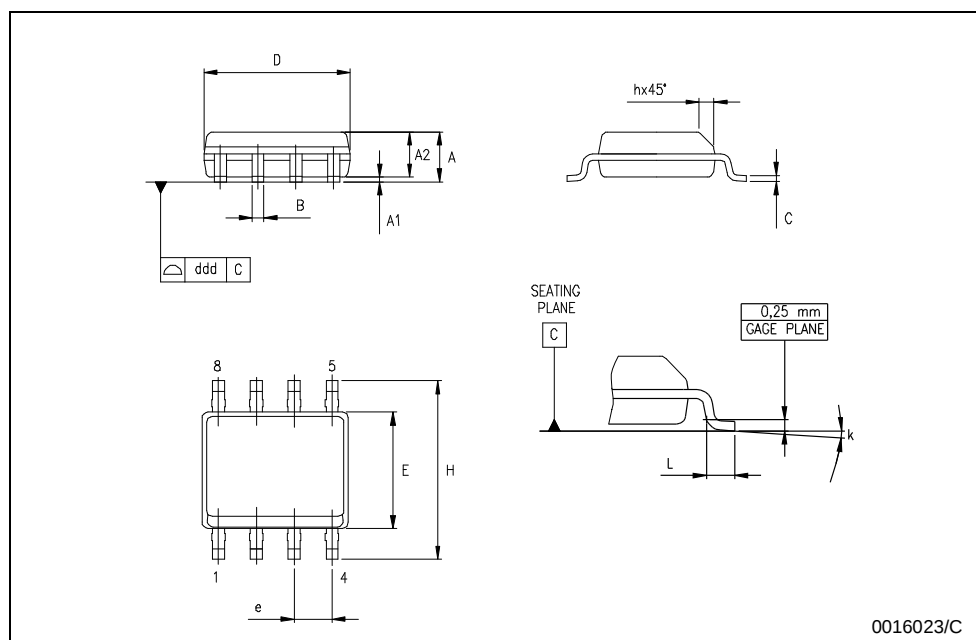


PACKAGE MECHANICAL DATA

Plastic DIP-8 MECHANICAL DATA						
DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A		3.3			0.130	
a1	0.7			0.028		
B	1.39		1.65	0.055		0.065
B1	0.91		1.04	0.036		0.041
b		0.5			0.020	
b1	0.38		0.5	0.015		0.020
D			9.8			0.386
E		8.8			0.346	
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			7.1			0.280
I			4.8			0.189
L		3.3			0.130	
Z	0.44		1.6	0.017		0.063

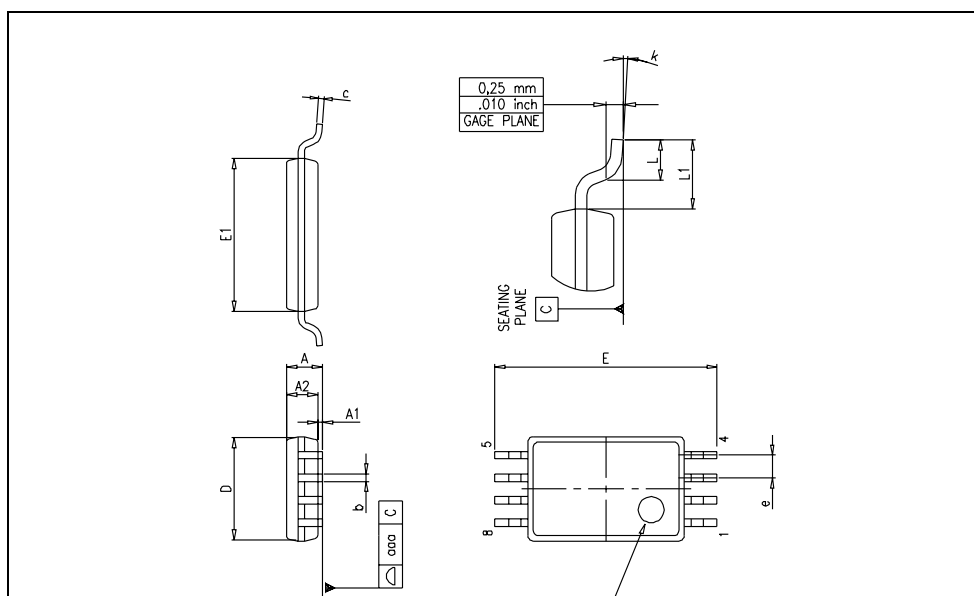
The diagram illustrates the mechanical specifications of a Plastic DIP-8 package. It includes three views: a top view, a side view, and a pin detail view. The top view shows the package body with pins 1 through 8 labeled. Dimensions include D (total width), L (body length), and Z (pin thickness). The side view shows the package height A, pin height a1, body height B, pin height B1, body width b, pin width b1, and overall width E. The pin detail view shows the pin diameter e and the distance between pins e3 and e4. The label P001F is located in the bottom right corner of the diagram area.

DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	1.35		1.75	0.053		0.069
A1	0.10		0.25	0.04		0.010
A2	1.10		1.65	0.043		0.065
B	0.33		0.51	0.013		0.020
C	0.19		0.25	0.007		0.010
D	4.80		5.00	0.189		0.197
E	3.80		4.00	0.150		0.157
e		1.27			0.050	
H	5.80		6.20	0.228		0.244
h	0.25		0.50	0.010		0.020
L	0.40		1.27	0.016		0.050
k	g° (max.)					
ddd			0.1			0.04



PACKAGE MECHANICAL DATA

TSSOP8 MECHANICAL DATA						
DIM.	mm.			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.2			0.047
A1	0.05		0.15	0.002		0.006
A2	0.80	1.00	1.05	0.031	0.039	0.041
b	0.19		0.30	0.007		0.012
c	0.09		0.20	0.004		0.008
D	2.90	3.00	3.10	0.114	0.118	0.122
E	6.20	6.40	6.60	0.244	0.252	0.260
E1	4.30	4.40	4.50	0.169	0.173	0.177
e		0.65			0.0256	
K	0°		8°	0°		8°
L	0.45	0.60	0.75	0.018	0.024	0.030
L1		1			0.039	



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