

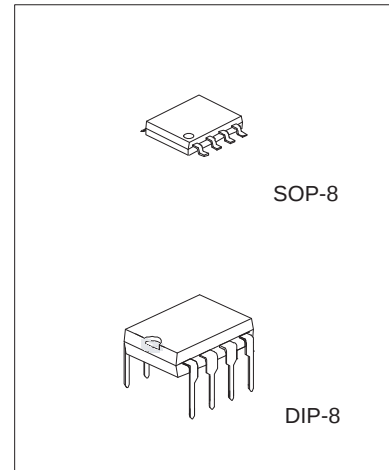
Dual Operational Amplifier

DESCRIPTION

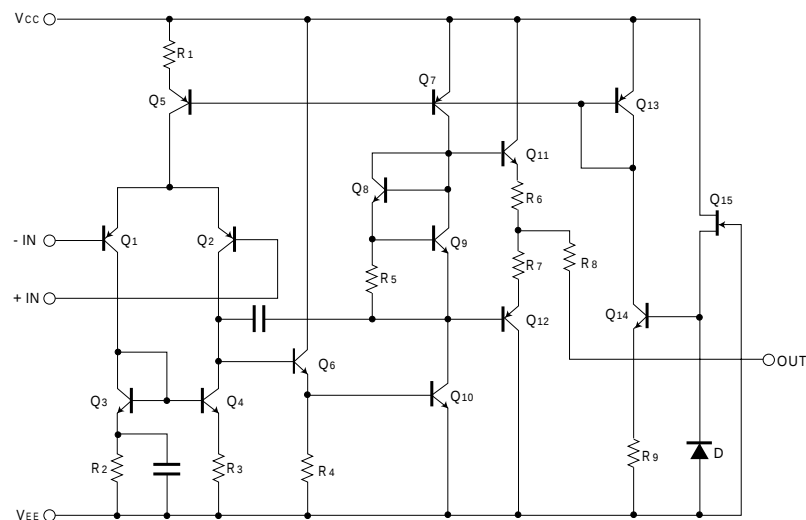
The TA4558 is a high performance monolithic dual operational amplifier

FEATURES

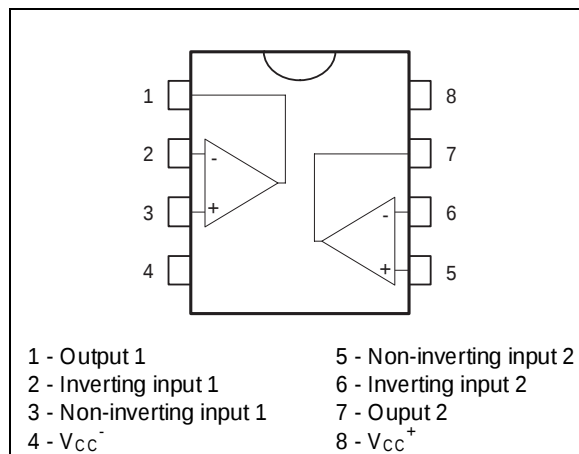
- No frequency compensation required
- No latch -up
- Large common mode and differential voltage range
- Parameter tracking over temperature range
- Gain and phase match between amplifiers
- Internally frequency compensated
- Low noise input transistors
- Pin to pin compatible with MC1458 / LM358



BLOCK DIAGRAM (ONE SECTION ONLY)



PIN CONFIGURATION



ORDERING INFORMATION

Device	Operating Temperature Range	Package
TA4558	$T_A = 0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$	PDIP-8
TA4558	$T_A = 0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$	SOP-8

MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	± 22	V
Differential Input Voltage	$V_I(\text{DIFF})$	± 18	V
Input Voltage	V_I	± 15	V
Operating Temperature	TOPR	$0 \sim +70$	$^{\circ}\text{C}$
Power Dissipation P-DIP 8 SOP 8	P_D	600 400	mW
Storage Temperature Range	TSTG	$-65 \sim +150$	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($V_{CC}=15.0\text{V}$, $V_{EE}= -15\text{V}$, $T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	I_{CC}			2.3	4.5	mA
Input offset voltage	V_{IO}	$R_S < 10\text{k}\Omega$		2	6	mV
Input offset current	I_{IO}			5	200	nA
Input bias current	I_{BIAS}			30	500	nA
Large signal voltage gain	G_v	$V_O(\text{p-p}) = \pm 10\text{V}$, $R_L \geq 2\text{k}\Omega$	20	200		V/mV
Common Mode Input Voltage Range	$V_{I(R)}$		± 12	± 13		V
Common Mode Rejection Ratio	CMRR	$R_S \geq 10\text{k}\Omega$	70	90		dB
Supply Voltage Rejection Ratio	PSRR	$R_S \geq 10\text{k}\Omega$	76	90		dB
Output Voltage swing	$V_O(\text{p-p})$	$R_L \geq 10\text{k}\Omega$		± 12	± 14	V
Power Consumption	P_C			70	170	mW
Slew Rate	SR	$V_i = \pm 10\text{V}$, $R_L \geq 2\text{k}\Omega$, $C_L \leq 100\text{pF}$	1.2	2.2		V/nS
Rise Time	T_{RIS}	$V_i = \pm 20\text{mV}$, $R_L \geq 2\text{k}\Omega$, $C_L \leq 100\text{pF}$		0.3		nS
Overshoot	OS	$V_i = \pm 20\text{mV}$, $R_L \geq 2\text{k}\Omega$, $C_L \leq 100\text{pF}$		15		%
Input Resistance	R_i		0.3	2		MW
Output Resistance	R_o			75		W
Total Harmonic Distortion	THD	$f=1\text{kHz}$, $A_v=20\text{dB}$, $R_L=2\text{k}\Omega$, $V_o=2\text{Vpp}$, $C_L=100\text{pF}$		0.008		%
Channel Separation	V_{O1}/V_{O2}			120		dB

FREQUENCY CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, $V_{CC}=15\text{V}$, $V_{EE}=-15\text{V}$)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Unity Gain Bandwidth	BW		2.0	2.8		MHz

TYPICAL PERFORMANCE CHARACTERISTICS

