

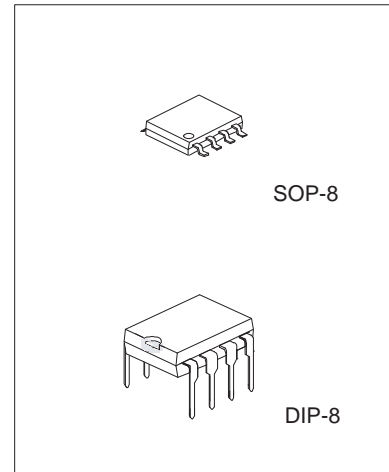
### Dual Operational Amplifier

#### DESCRIPTION

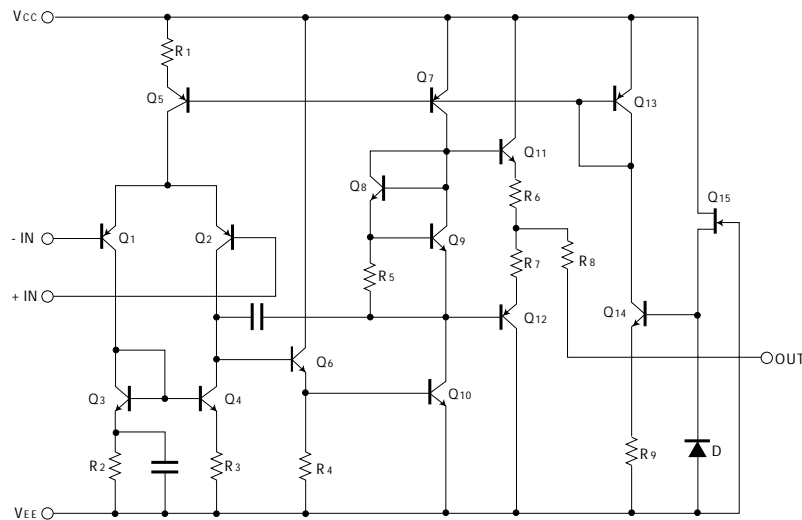
The TA4558 is a high performance monolithic dual operational amplifier

#### 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

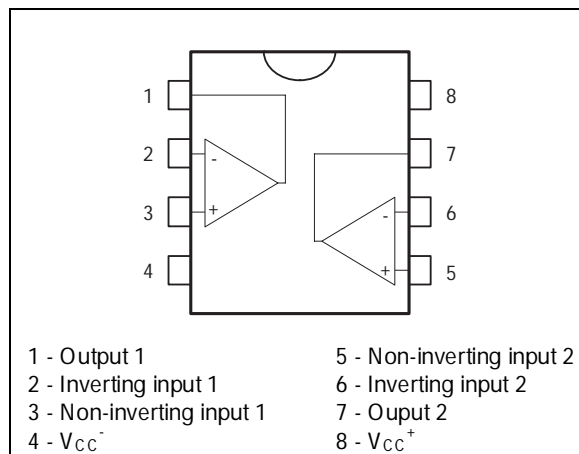


#### BLOCK DIAGRAM (ONE SECTION ONLY)



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#### PIN CONFIGURATION



# TA4558

## 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	$V_{CC}$	$\pm 22$	V
Differential Input Voltage	$V_I(\text{DIFF})$	$\pm 18$	V
Input Voltage	$V_I$	$\pm 15$	V
Operating Temperature	TOPR	0 ~ +70	$^\circ\text{C}$
Power Dissipation	$P_D$	600 400	mW
Storage Temperature Range	TSTG	-65 ~ +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)

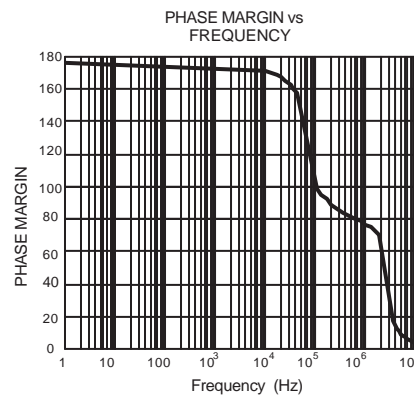
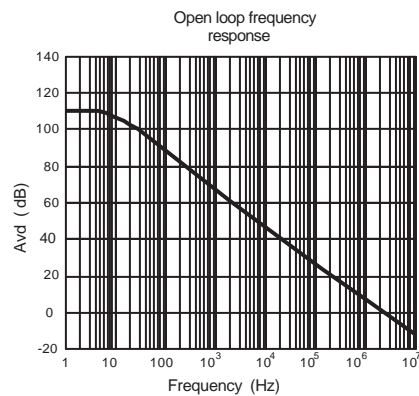
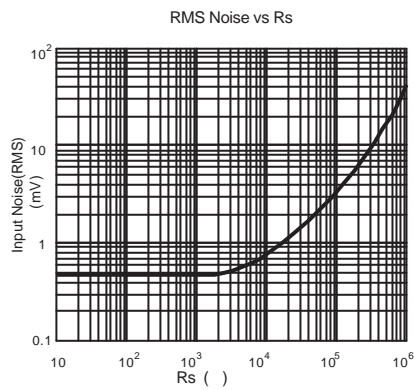
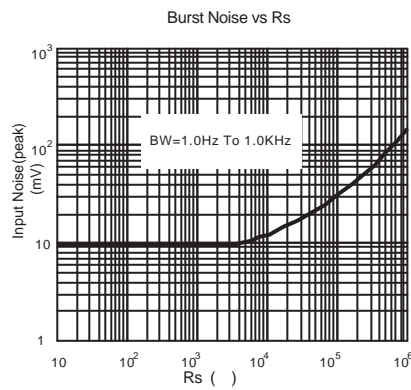
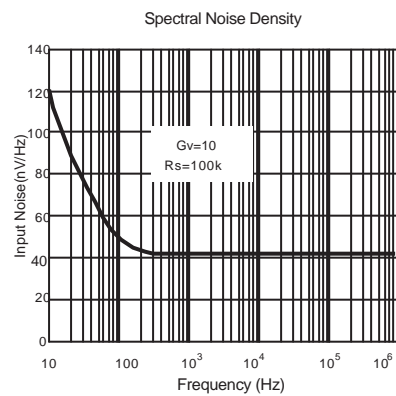
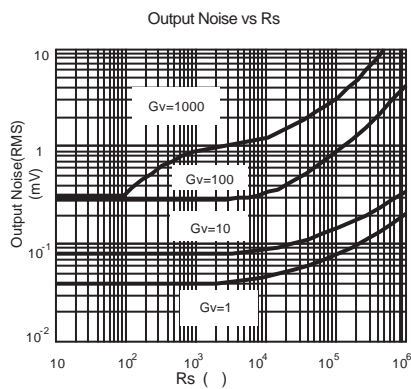
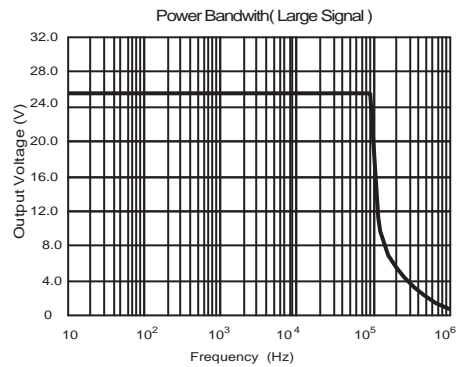
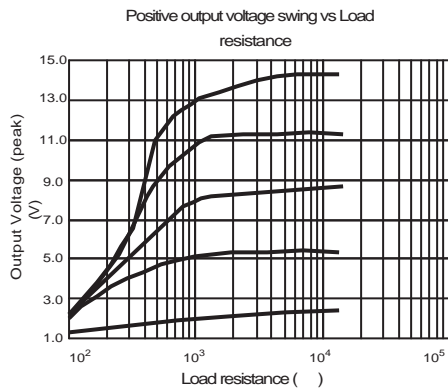
PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	$I_{CC}$			2.3	4.5	mA
Input offset voltage	$V_{IO}$	$R_s < 10\text{k}$		2	6	mV
Input offset current	$I_{IO}$			5	200	nA
Input bias current	$I_{BIAS}$			30	500	nA
Large signal voltage gain	$G_v$	$V_o(p-p) = \pm 10\text{V},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

# TA4558

## TYPICAL PERFORMANCE CHARACTERISTICS



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