

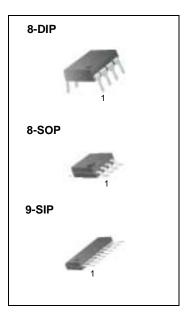
KA1458 Dual Operational Amplifier

Features

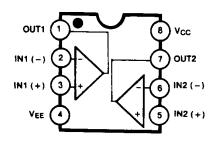
- Internal frequency compensation
- Short circuit protecion
- Large common mode and differential voltage range
- No latch up
- Low power consumption

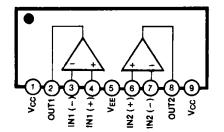
Description

The KA1458 series are dual general purpose operational amplifiers, having short circuits protected and require no external components for frequency compensation. High common mode voltage range and absence of "latch up" make the KA1458 ideal for use as voltage followers. The high gain and wide range of operating voltage provides superior performance in integrator, summing amplifier and general feedback applications.

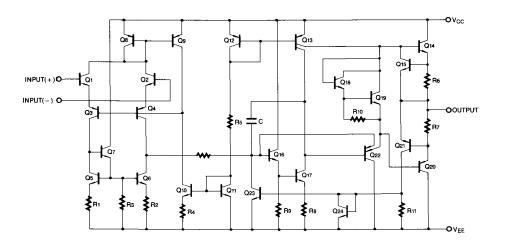


Internal Block Diagram





Schematic Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Power Supply Voltage	Vcc	±18	V
Input Differential Voltage	VI(DIFF)	30	V
Input Voltage	VI	±15	V
Operating Temperature Range KA1458	TOPR	0 ~ + 70	°C
Storage Temperature Range	TSTG	- 65 ~ + 150	٥C

Electrical Characteristics

(VCC = + 15V, VEE = - 15V, TA = 25 °C unless otherwise specified)

Parameter	Symbol	Conditions	KA1458			11
Farameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Input Offset Voltage	Vio	Rs≤10KΩ	-	2.0	10	mV
Input Offset Current	lio	-	-	20	300	nA
Input Bias Current	IBIAS	-	-	80	700	nA
Large Signal Voltage Gain	Gv	$V_{O(P-P)} = \pm 10V, R_L \ge 2.0 K\Omega$	20	200	-	V/mV
Input Voltage Range	VI(R)	-	± 11	± 13	-	V
Input Resistance	RI	-	0.3	1.0	-	MΩ
Common Mode Rejection Ratio	CMRR	-	60	90	-	dB
Power Supply Rejection Ratio	PSRR	-	77	90	-	dB
Supply Current (Both Amplifier)	ICC	-	-	2.3	8.0	mA
		Rs≤10KΩ	± 11	± 14	-	V
Output Voltage Swing	VO(PP)	Rs≤2KΩ	± 9	± 13	-	v
Output Short Circuit Current	Isc	-	-	20	-	mA
Power Consumption	PC	Vo = 0V		70	240	mW
Transient Response (Unity Gain)						
Rise Time Overshoot	T _R OS	$V_I = 20mV, R_L \ge 2K\Omega, C_L \le 100pF$ $V_I = 20mV, R_L \ge 2K\Omega, C_L \le 100pF$		0.3 15	-	μs %
Slew Rate	SR	$V_I = 10V, R_L \ge 2K\Omega, C_L \le 100pF$		0.5		V/µs

Electrical Characteristics

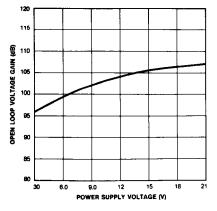
(V_{CC} = +15V, V_{EE} = -15V, Note1 unless otherwise specified)

Parameter	Symbol	Conditions	KA1458			Unit
		Conditions	Min.	Тур.	Max.	Unit
Input Offset Voltage	Vio	Rs≤10KΩ	-	-	12	mV
Input Offset Current	lio	-	-	-	400	nA
Input Bias Current	IBIAS	-	-	-	1000	nA
Large Signal Voltage Gain	Gv	VO(P-P)= ± 10V, RL≤2.0KΩ	15	-	-	V/mV
Common Mode Rejection Ratio	CMRR	Rs≥10KΩ	70	90	-	dB
Power Supply Rejection Ratio	PSRR	Rs≥10KΩ	77	90	-	dB
Output Voltage Swing	VO(P.P)	RL = 10KΩ	± 11	± 14	-	V
		RL = 2KΩ	± 9	± 13	-	
Input Voltage Range	VI(R)	-	± 12	-	-	V

Note:

1. KA1458 : $0^{\circ}C \leq T_A \leq 70^{\circ}C$







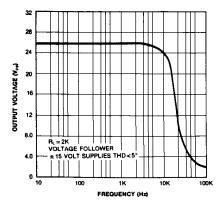


Figure 3. Power Bandwidth (Large Signal Output Swing vs Frequency)

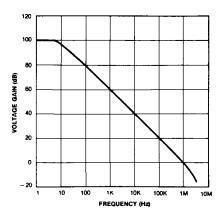


Figure 2. Open-Loop Frequency Response

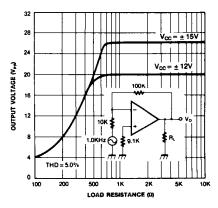
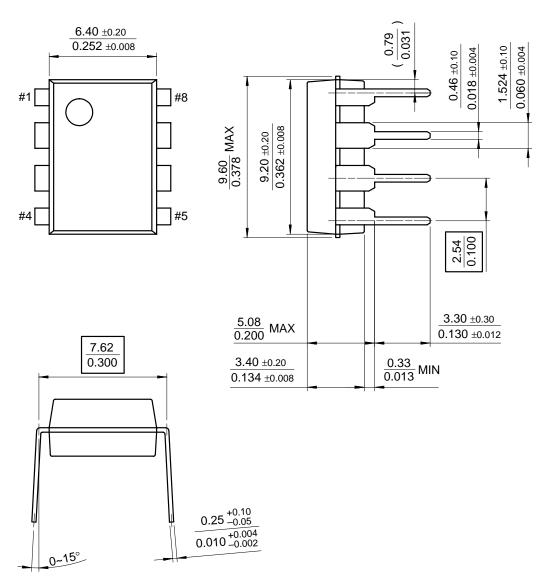


Figure 4. Output Voltage Swing vs Load Resistance

Mechanical Dimensions

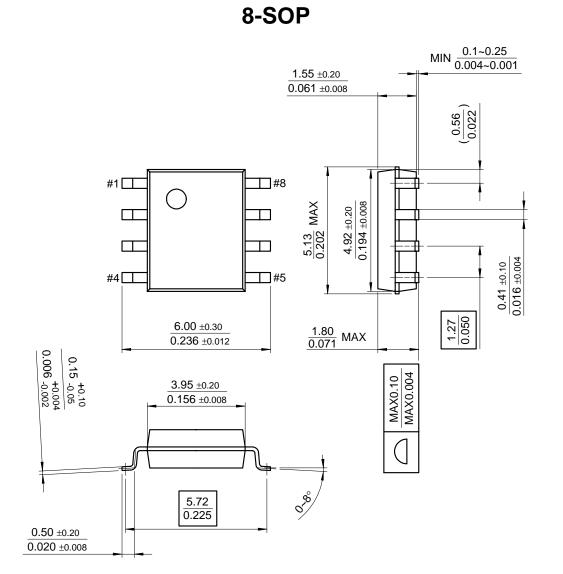
Package



8-DIP

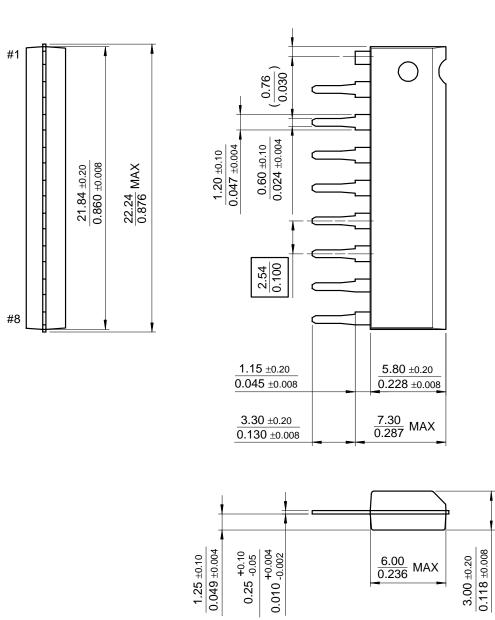
Mechanical Dimensions (Continued)

Package



Mechanical Dimensions (Continued)

Package



9-SIP

Ordering Information

Product Number	Package	Operating Temperature
KA1458	8-DIP	
KA1458D	8-SOP	0 ~ + 70°C
KA1458S	9-SIP	

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