

Dual Operational Comparator

LM358Q8

Description

The LM358Q8 consists of two independent high gain, internally frequency compensated operational amplifier. It can be operated from a single power supply and also split power supplies.

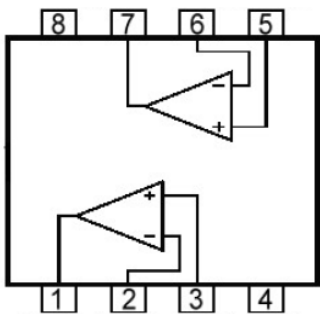
Features

- Internally frequency compensated for unity gain
- Single supply operation: 3V to 32V
- Input common-mode voltage range includes ground
- Large DC voltage gain

Applications

- General purpose amplifier
- Transducer amplifier

Pin Configurations

	Pin1: OUTPUT 1	Pin5: INPUT 2 (+)
	Pin2: INPUT 1 (-)	Pin6: INPUT 2 (-)
	Pin3: INPUT 1 (+)	Pin7: OUTPUT 2
	Pin4: Gnd/VEE	Pin8: VCC



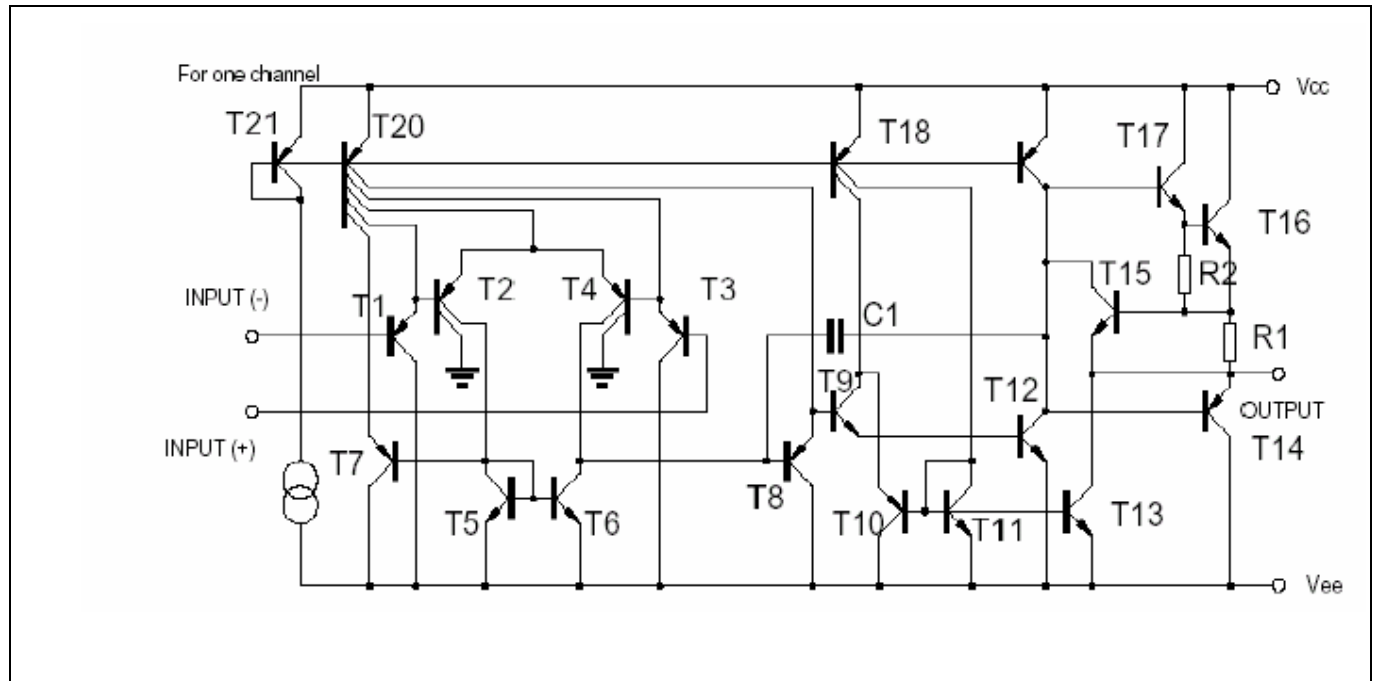
Absolute Maximum Rating(Ta=25°C)

Parameter	Symbol	Value	Unit
Power Supply Voltages Single Supply Split Supplies	V _{CC} V _{CC} , V _{EE}	32 ±16	V
Input Differential Voltage Range	V _{IDR}	±32	V
Input Common Mode Voltage Range	V _{ICR}	-0.3 ~ +32	V
Output Short Circuit Duration	t _{SC}	Continuous	
Operating Temperature	T _{opr}	0 ~ +70	°C
Storage Temperature	T _{stg}	-65 ~ +150	°C

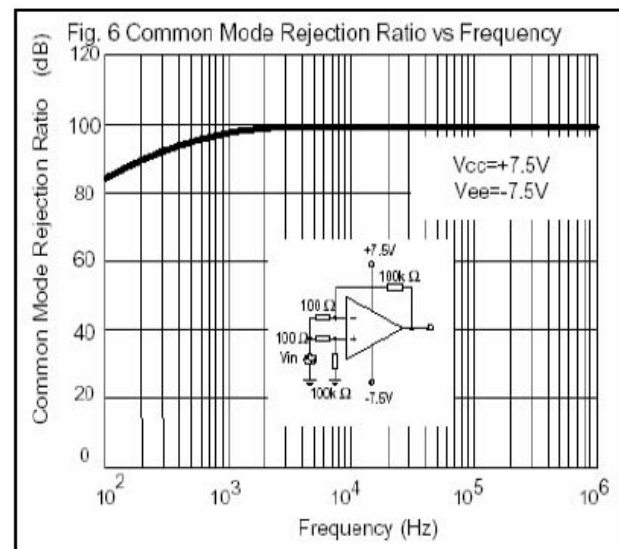
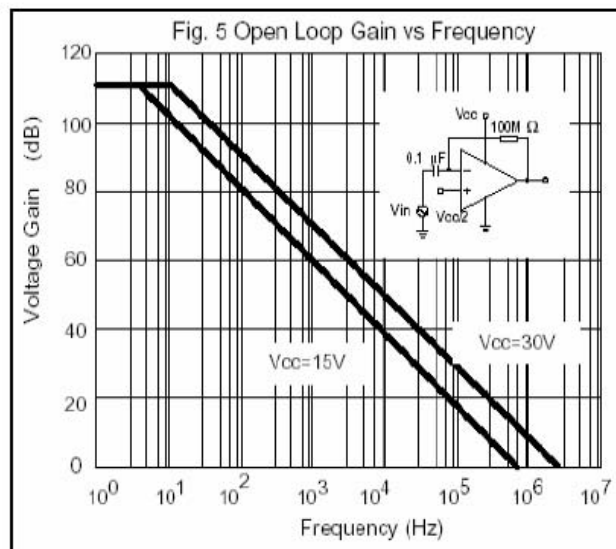
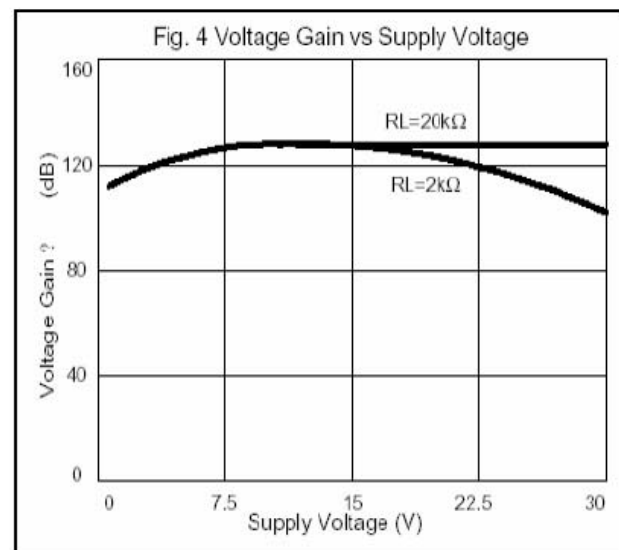
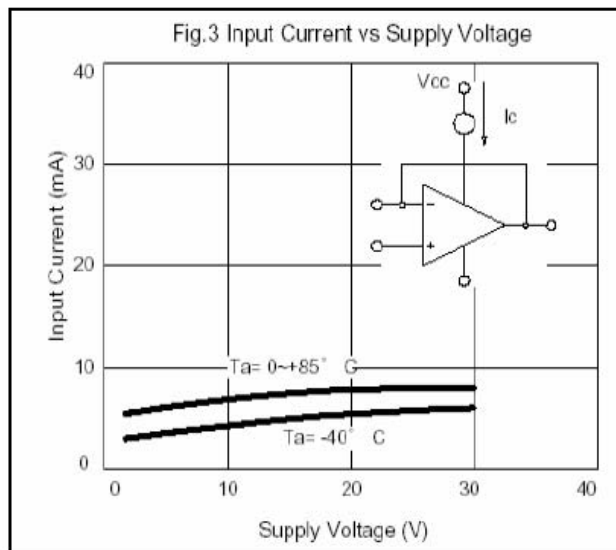
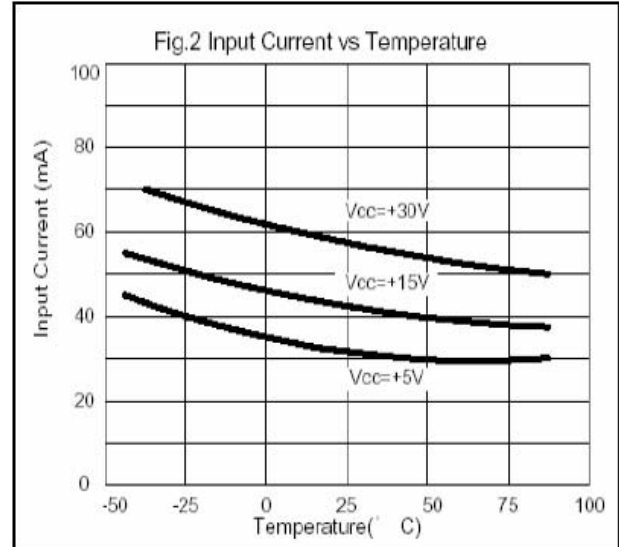
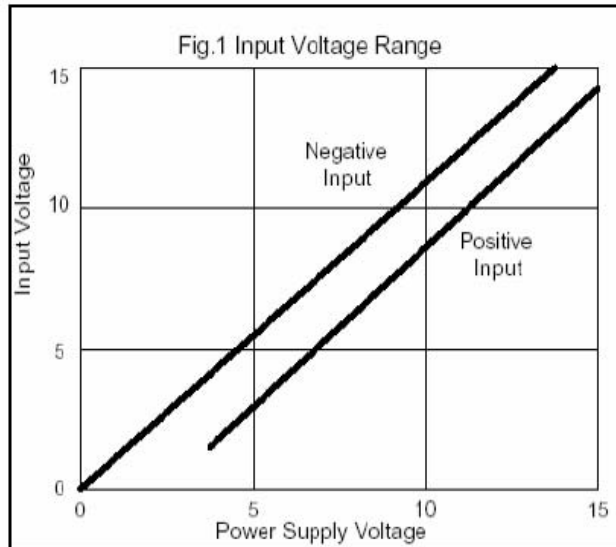
Electrical Characteristics (V_{CC}=5V, Ta=25°C, V_{EE}=GND, unless otherwise specified.)

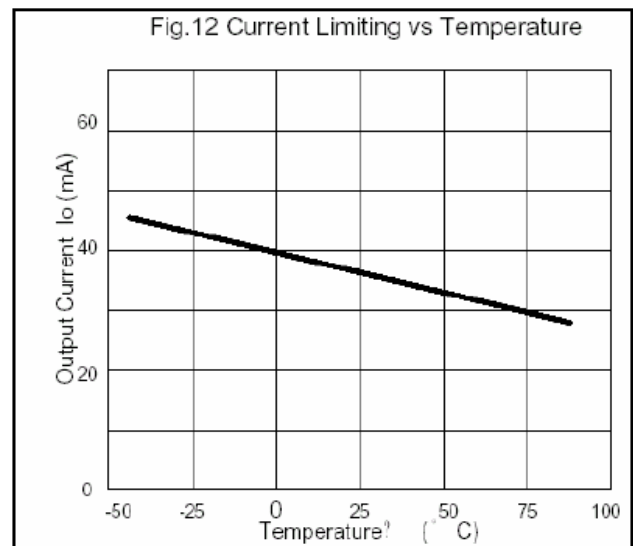
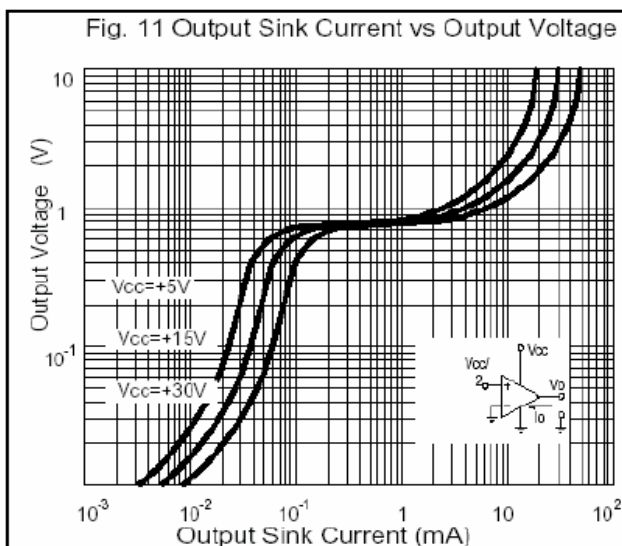
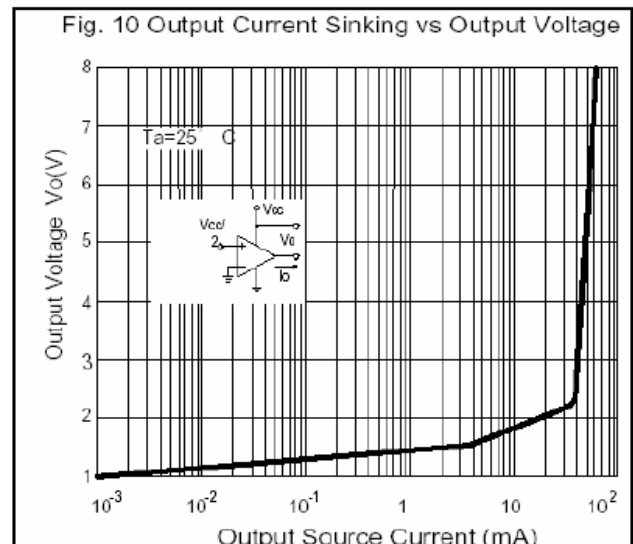
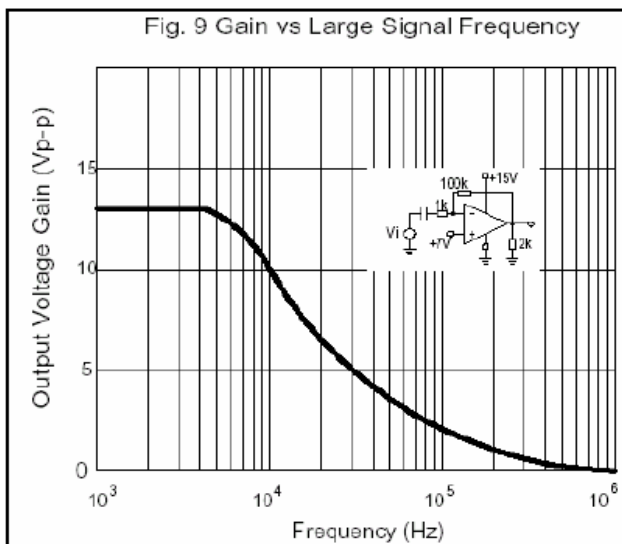
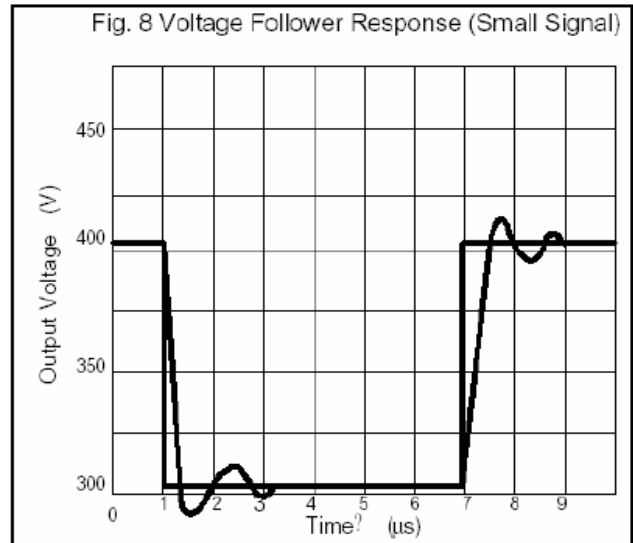
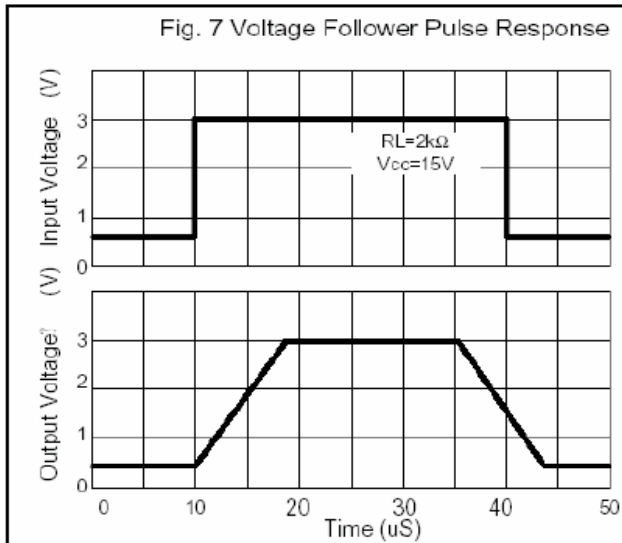
Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Input Offset Voltage	V _{CM} =0 to V _{CC} -1.5V V _{O(p)} =1.4V, R _S =0	V _{IO}	-	2.9	7.0	mV
Input Offset Current		I _{IO}	-	5	50	nA
Input Bias Current		I _{IB}	-	45	250	nA
Input Common-Mode Voltage	V _{CC} =30V	V _{ICR}	0	-	V _{CC} -1.5	V
Power Supply Current	R _L =∞, V _{CC} =5V, V _O =0V	I _{CC}	-	0.5	1.2	mA
	R _L =∞, V _{CC} =30V, V _O =0V		-	0.8	2.0	mA
Large Signal Voltage Gain	V _{CC} =15V, R _L ≥2kΩ V _{O(p)} =1V to 11V	G _V	25	100	-	V/mV
Output Voltage-High Limit	V _{CC} =30V, R _L =2kΩ	V _{O(H)}	26	-	-	V
	V _{CC} =30V, R _L =10kΩ		27	28	-	
Output Voltage-Low Limit	V _{CC} =5V, R _L ≥10kΩ	V _{O(L)}	-	5	20	mV
Common Mode Rejection Ratio		CMRR	65	80	-	dB
Power Supply Rejection Ratio		PSRR	65	100	-	dB
Channel Separation	f=1kHz to 20kHz	CS	-	120	-	dB
Short Circuit Current to Ground		I _{SC}	-	40	60	mA
Output Source Current	V _i (+)=1V, V _i (-)=0V, V _{CC} =15V, V _{O(p)} =2V	I _{source}	10	30	-	mA
Output Sink Current	V _i (+)=0V, V _i (-)=1V, V _{CC} =15V, V _{O(p)} =2V	I _{sink}	10	15	-	mA
	V _i (+)=0V, V _i (-)=1V, V _{CC} =15V, V _{O(p)} =0.2V		12	100	-	μA
Differential Input Voltage		V _{IDR}	-	-	V _{CC}	V

Block Diagram



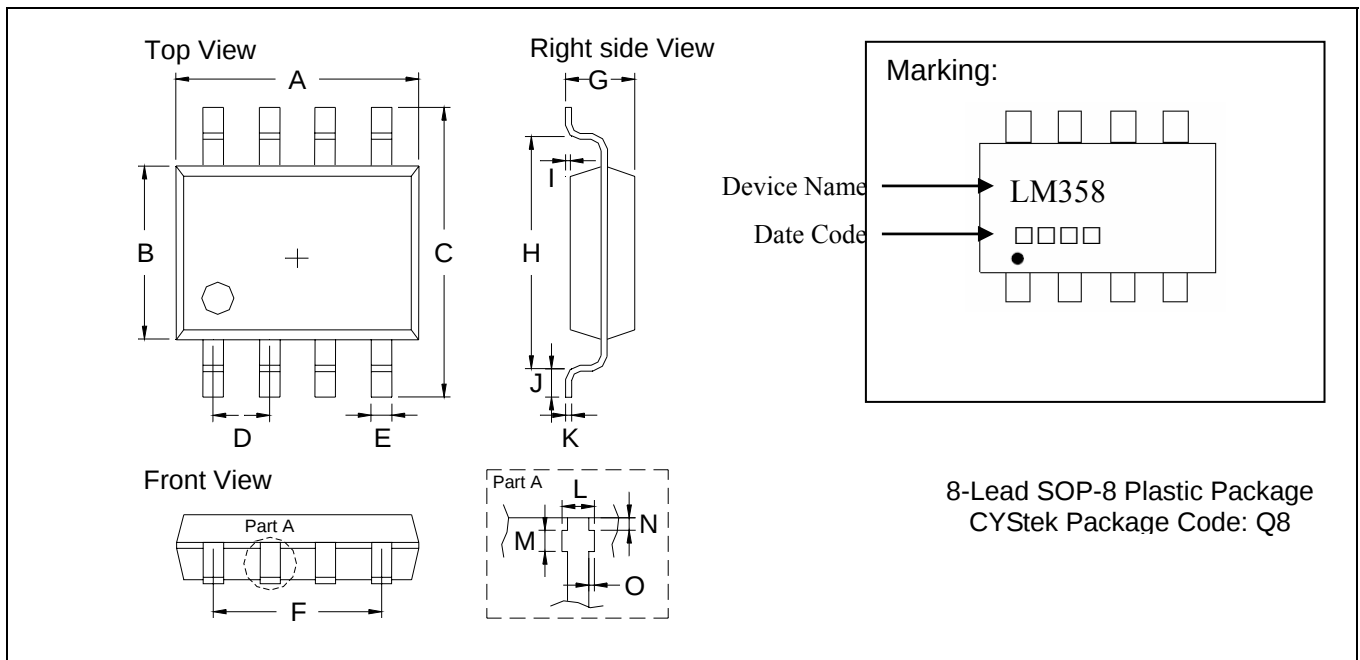
Characteristic Curves



Characteristic Curves(Cont.)




SOP-8 Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1909	0.2007	4.85	5.10	I	0.0019	0.0078	0.05	0.20
B	0.1515	0.1555	3.85	3.95	J	0.0118	0.0275	0.30	0.70
C	0.2283	0.2441	5.80	6.20	K	0.0074	0.0098	0.19	0.25
D	0.0480	0.0519	1.22	1.32	L	0.0145	0.0204	0.37	0.52
E	0.0145	0.0185	0.37	0.47	M	0.0118	0.0197	0.30	0.50
F	0.1472	0.1527	3.74	3.88	N	0.0031	0.0051	0.08	0.13
G	0.0570	0.0649	1.45	1.65	O	0.0000	0.0059	0.00	0.15
H	0.1889	0.2007	4.80	5.10					

Notes: 1. Controlling dimension: millimeters.

2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

3. If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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