

# IL4558

## Dual Operational Amplifiers

The IL4558 is dual general purpose operational amplifiers.

The high common-mode input voltage range and the absence of latch-up make these amplifiers ideal for voltage follower application.

The devices are short circuit protected and the internal frequency compensation ensures stability without external components.

### Short Circuit Protection

Wide common-mode and differential ranges

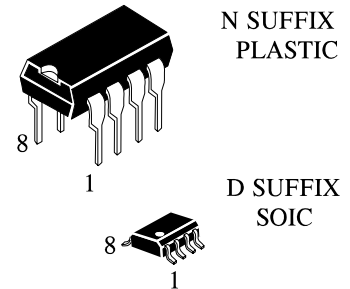
No frequency compensation required

Low power consumption

No latch-up

3 MHz unity gain bandwidth guaranteed

Gain and phase match between amplifiers



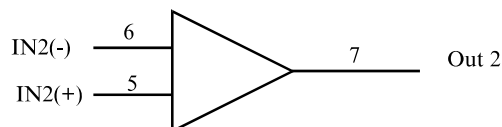
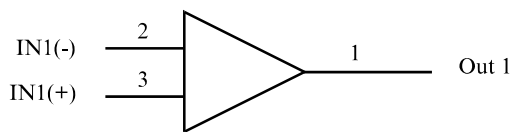
### ORDERING INFORMATION

IL4558N Plastic

IL4558D SOIC

$T_A = 0$  to  $70$  C for  
all packages

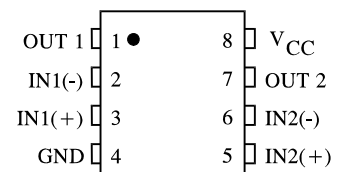
### BLOCK DIAGRAM



PIN 4 = GND (V)

PIN 8 =  $V_{CC}$  (V+)

### PIN ASSIGNMENT



**MAXIMUM RATINGS\***

Symbol	Parameter	Value	Unit
V <sup>+</sup>	Supply Voltage	18	V
V <sup>-</sup>	Supply Voltage	-18	V
V <sub>IDR</sub>	Differential Input Voltage	30	V
V <sub>IN</sub>	Input Voltage	15	V
P <sub>D</sub>	Power Dissipation in Still Air	570	mW
Tstg	Storage Temperature Range	-55 to 125	C

\* Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

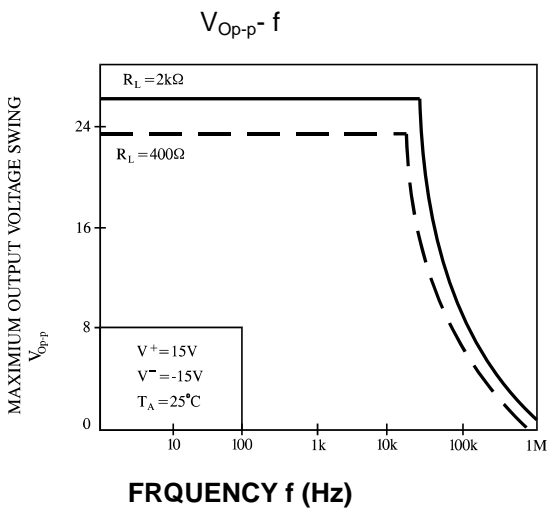
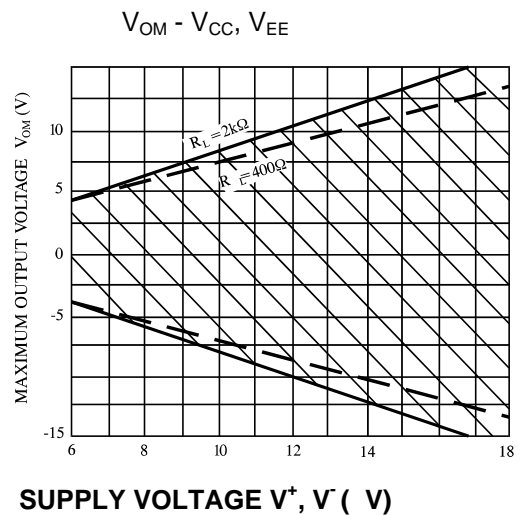
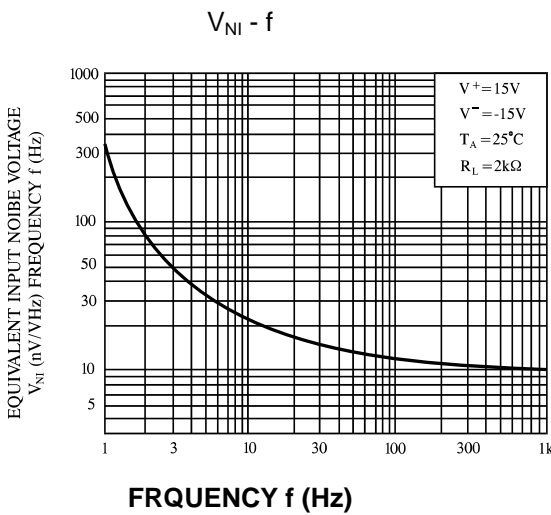
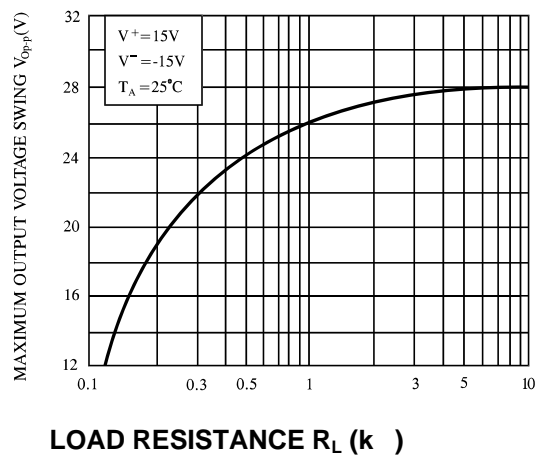
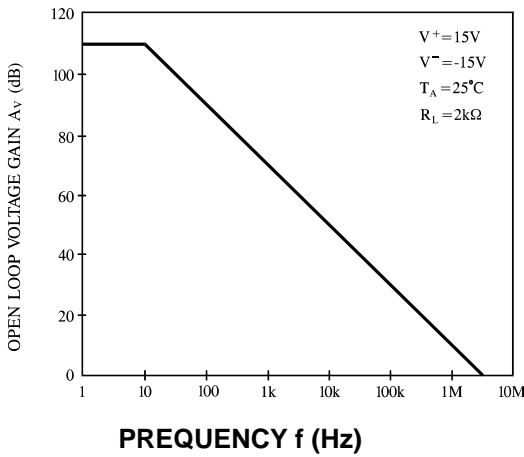
**RECOMMENDED OPERATING CONDITIONS**

Symbol	Parameter	Min	Max	Unit
V <sup>+</sup>	Supply Voltage		16	V
V <sup>-</sup>	Supply Voltage		-16	V

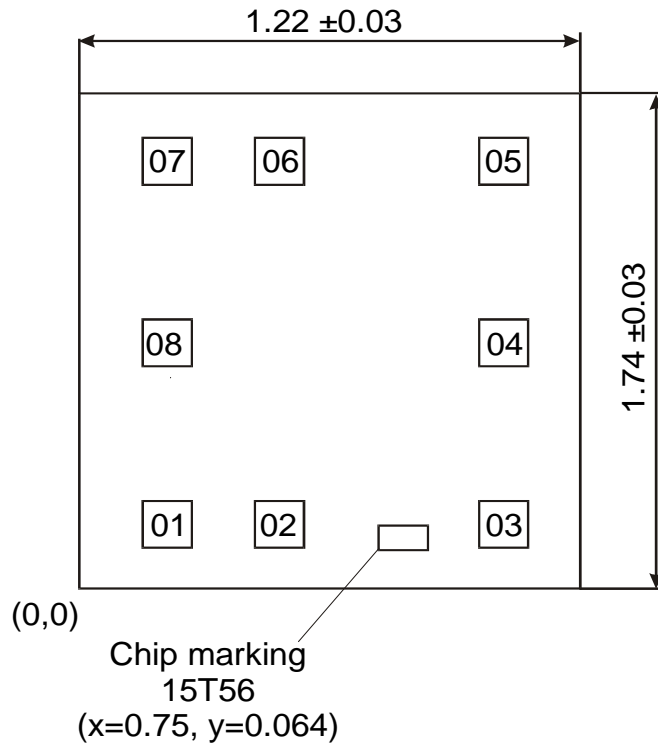
**ELECTRICAL CHARACTERISTICS**(T<sub>A</sub> = 25 C, V<sup>+</sup> = +15 V, V<sup>-</sup> = -15 V)

Symbol	Parameter	Test Conditions	Guaranteed Limits		Unit
			Min	Max	
V <sub>IO</sub>	Input Offset Voltage	R <sub>S</sub> 10K		5.0	mV
I <sub>IO</sub>	Input Offset Current			200	nA
I <sub>IB</sub>	Input Bias Current			- 500	nA
r <sub>i</sub>	Input Resistance		0.3		M
A <sub>V</sub>	Large-Signal Voltage Gain	R <sub>L</sub> 2K , V <sub>C</sub> = 10V	20		V/mV
V <sub>OM</sub>	Output Voltage Swing	R <sub>L</sub> 10K	12		V
		R <sub>L</sub> 2K	10		V
V <sub>ICR</sub>	Input Common-Mode Voltage Range		12		V
CMRR	Common Mode Rejection Ratio	R <sub>S</sub> 10K	70		dB
PSRR	Supply Voltage Rejection Ratio	R <sub>S</sub> 10K		150	V/V
SR	Slew Rate	R <sub>L</sub> 2K	0.8	1.6	
I <sup>+</sup> , I <sup>-</sup>	Supply Current			5.6	mA
SR	Slew Rate	R <sub>L</sub> = 2K			V/ s
P <sub>C</sub>	Power Consumption	R <sub>L</sub> =		170	mW
V <sub>N</sub>	Input Noise Voltage	R <sub>S</sub> = 1K f = 30Hz 30KHz		3.5	Vrms
I <sub>source</sub>	Source Current		- 20		mA
I <sub>sink</sub>	Sink Current		20		mA

TYPICAL PERFORMANCE CURVES



CHIP PAD DIAGRAM IZ4558



Pad size 0.110x0.110 mm (Pad size is given as per passivation layer)  
Thickness of chip 0.35±0.02 mm

**PAD LOCATION**

Pad No	Symbol	X	Y
01	OUT1	0.105	0.105
02	IN1(-)	0.275	0.105
03	IN1(+)	1.005	0.105
04	GND	1.005	0.680
05	IN2(+)	1.005	1.255
06	IN2(-)	0.833	1.279
07	OUT2	0.275	1.255
08	Vcc	0.105	1.255