

HA17558F/FP

Dual Operational Amplifier

HITACHI

勝特力材料 886-3-5753170
胜特力电子(上海) 86-21-54151736
胜特力电子(深圳) 86-755-83298787

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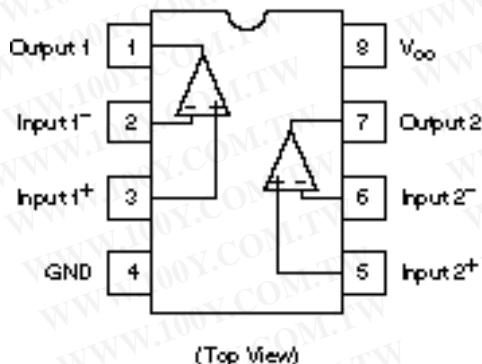
Description

HA17558F and HA17558FP are dual operational amplifiers which provides internal frequency compensation and high performance. It can be applied widely to measuring control equipment and to general Use. The two amplifiers share a common bias network and power supply leads.

Features

- High voltage Gain: 104dB (Typ)
- High speed: 1V/ μ s
- Continuous short-circuit protection
- Low-noise operational amplifiers
- Internal frequency compensation

Pin Arrangement



Notice: The example of an applied circuit or combination with other equipment shown herein indicates characteristics and performance of a semiconductor -applied products.

The company shall assume no responsibility for any problem involving a patent caused when applying the descriptions in the example.

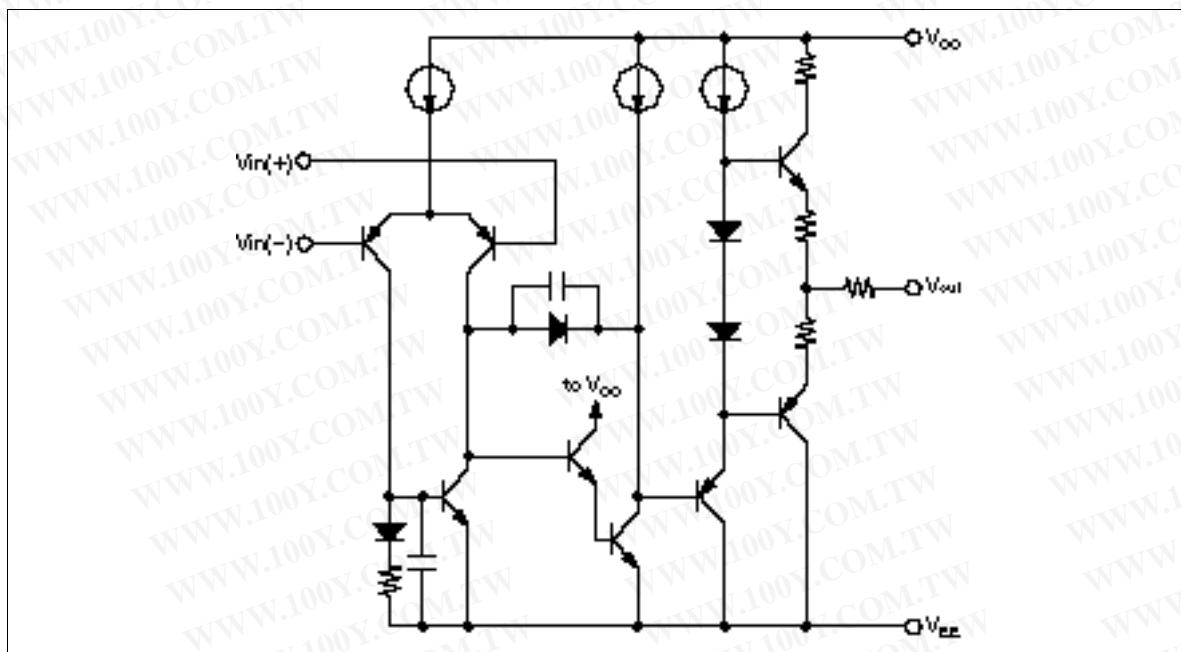
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Circuit Schematic (1/2)



Ordering Information

Type No.	Application	Package
HA17558FP	Industrial use	FP-8D
HA17558F	Commercial use	FP-8D

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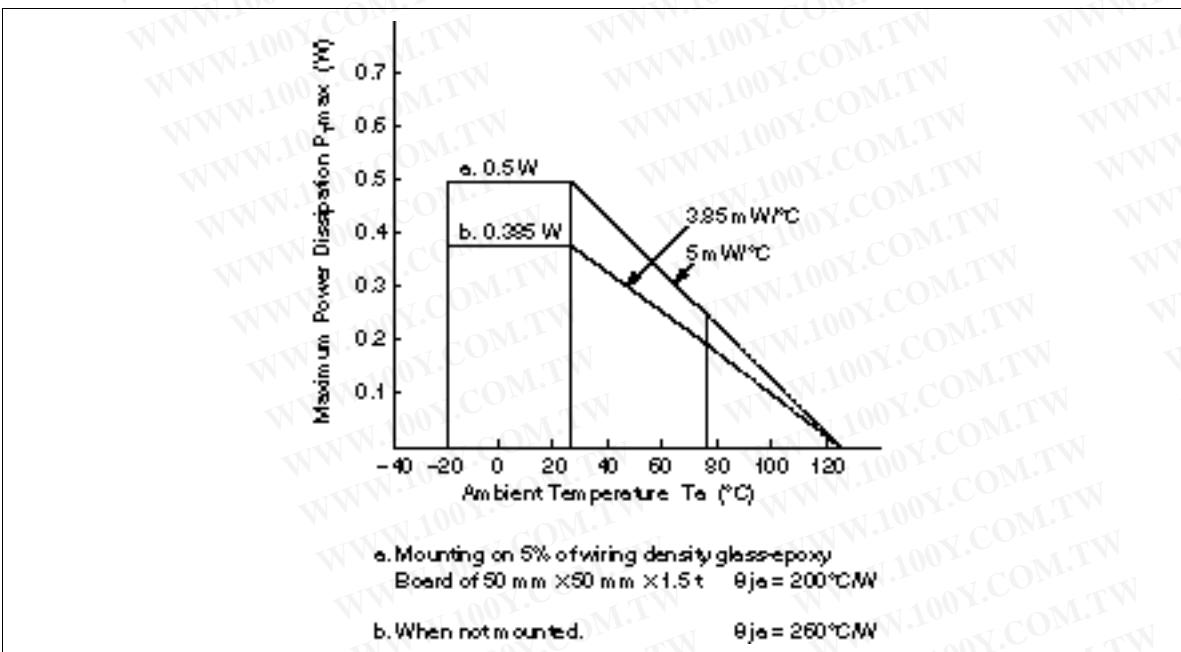
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Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Power supply	V_{CC}	+18	V
	V_{EE}	-18	V
Common-mode differential voltage	V_{in} (diff)	± 30	V
Common-mode input voltage ^{*1}	V_{CM}	± 15	V
Power dissipation ^{*2}	P_T	385	mW
Operating temperature	T_{opr}	-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

Notes: 1. For supply voltage less than $\pm 15\text{V}$, the absolute maximum input voltage is equal to the supply voltage.

2. Value under $T_a \leq 25^\circ\text{C}$. In case of more than it, $3.85\text{mW}/^\circ\text{C}$ derating shall be done.



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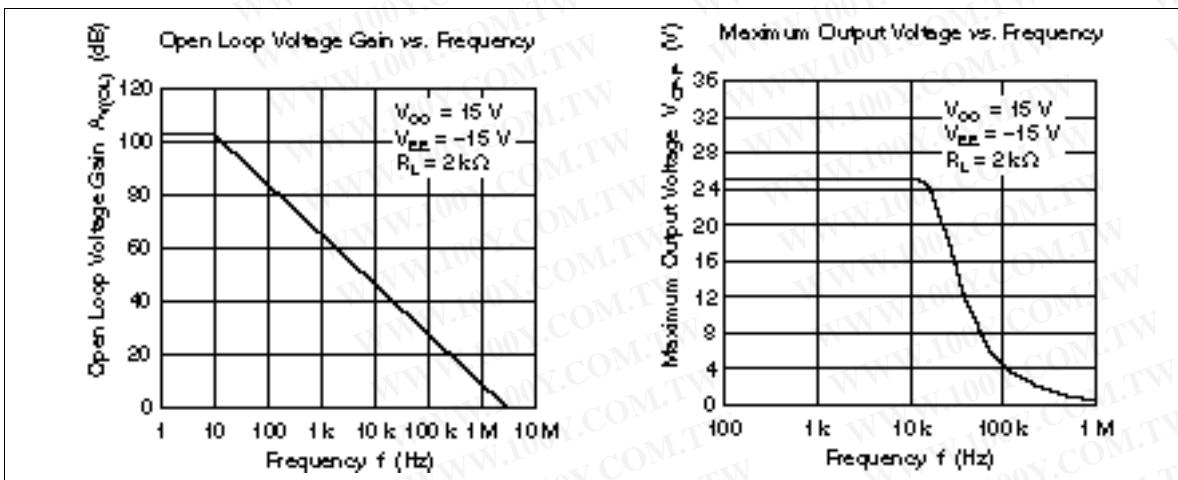
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Electrical Characteristics (Ta = 25°C, V_{CC} = +15V, V_{EE} = -15V)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Input offset voltage	V _{IO}	—	0.5	6	mV	R _S 10k Ω
Input offset current	I _{IO}	—	5	200	nA	
Input bias current	I _I	—	50	500	nA	
Voltage gain	A _V	86	104	—	dB	R _L ≥ 2kΩ, VO = ±10V
Maximum output voltage	V _{OP-P}	±12	±14	—	V	R _L ≥ 10kΩ
Maximum output voltage	V _{OP-P}	±10	±12.4	—	V	R _L ≥ 2kΩ
Common mode input voltage range	V _{CM}	±12	±14	—	V	
Common mode rejection ratio	CMR	70	100	—	dB	R _S ≤ 10kΩ
Supply voltage rejection ratio	SVR	—	10	150	μV/V	R _S ≤ 10kΩ
Power dissipation	P _T	—	90	170	mW	2-channel, No load
Slew rate	SR	—	1.0	—	V/μs	A _V = 1
Equivalent input noise voltage	V _{NI}	—	6	—	μVp-p	R _S = 1kΩ
Channel separation	CS	—	105	—	dB	f = 1kHz

Characteristics Curve

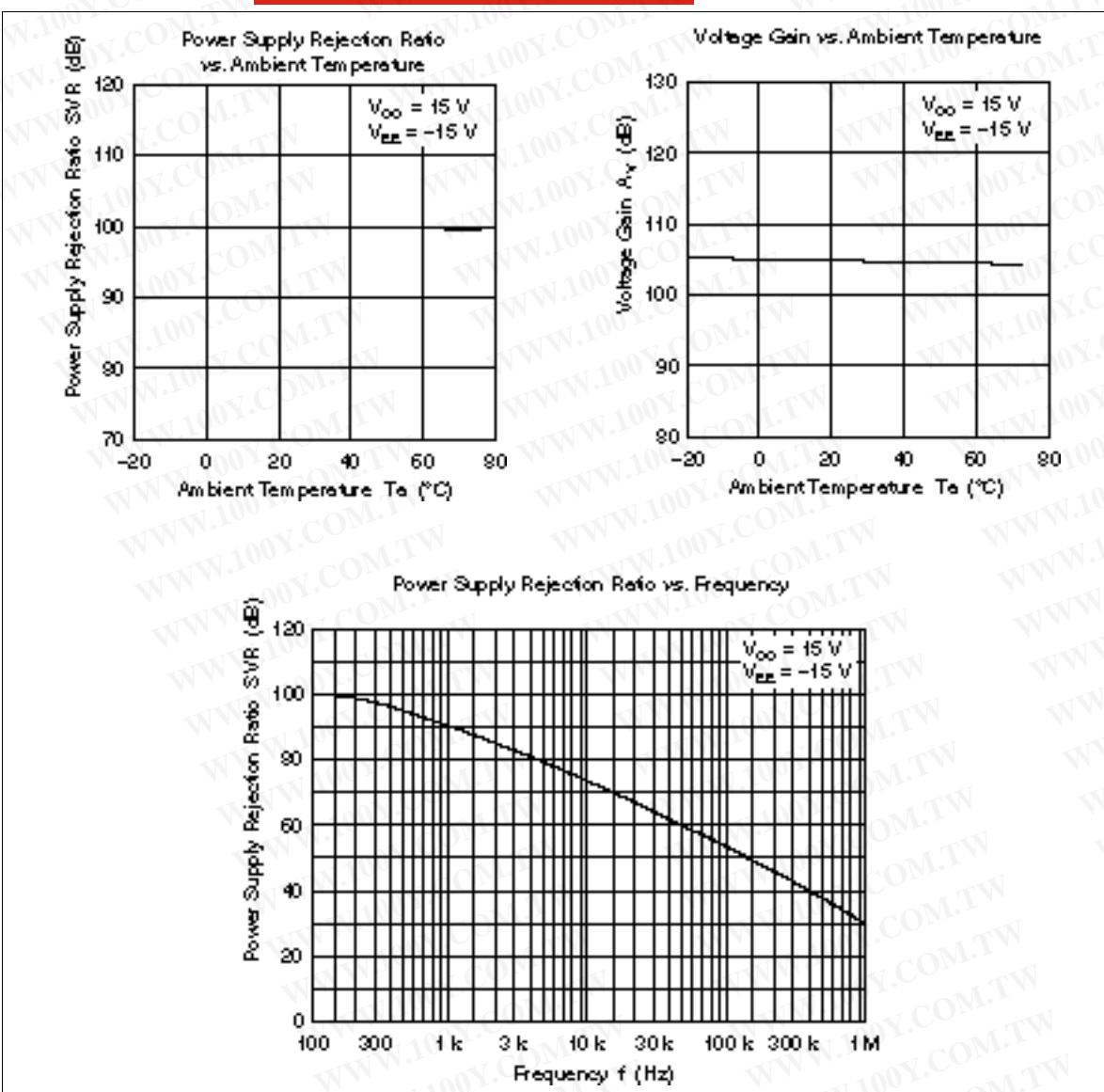


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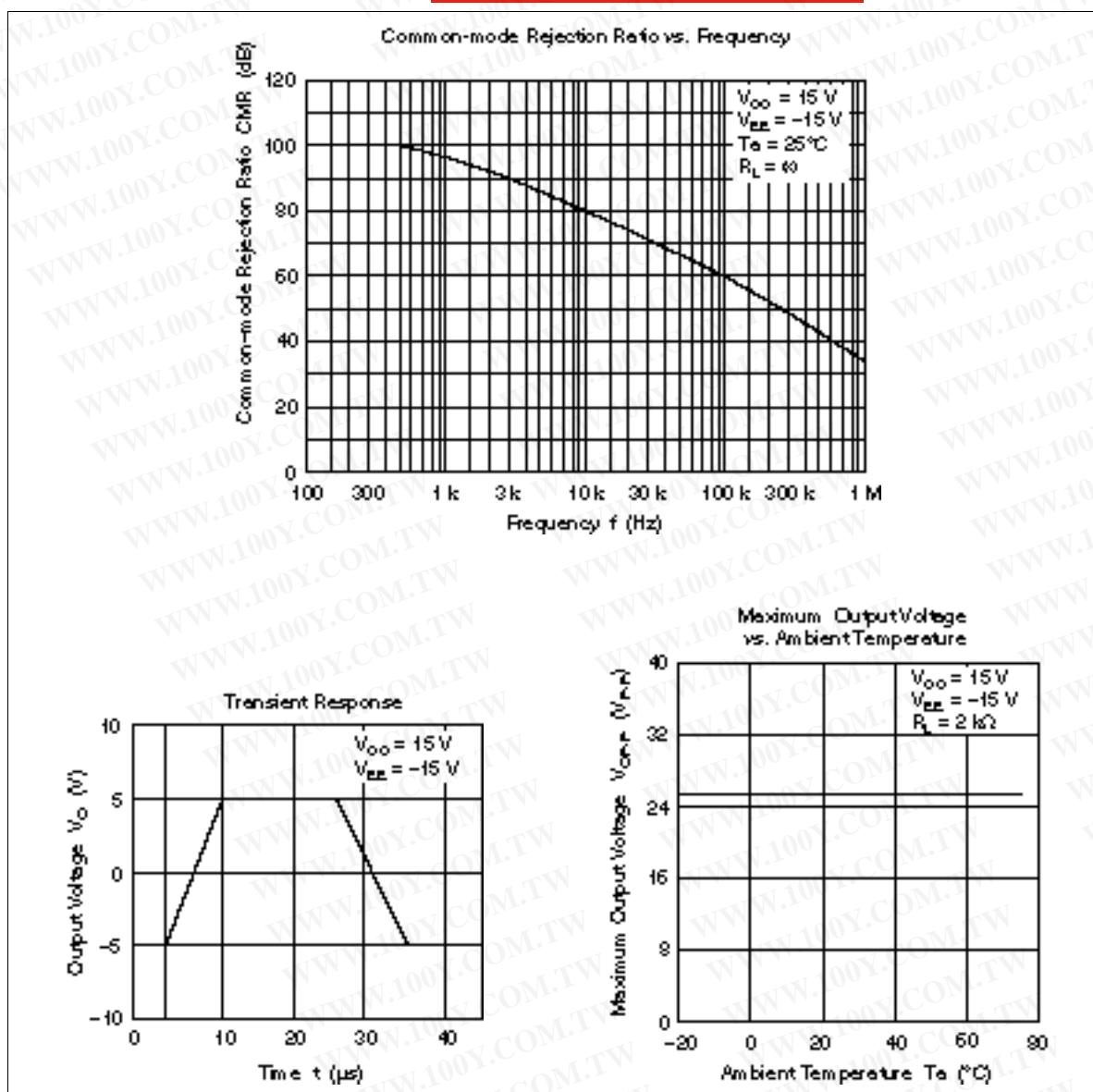
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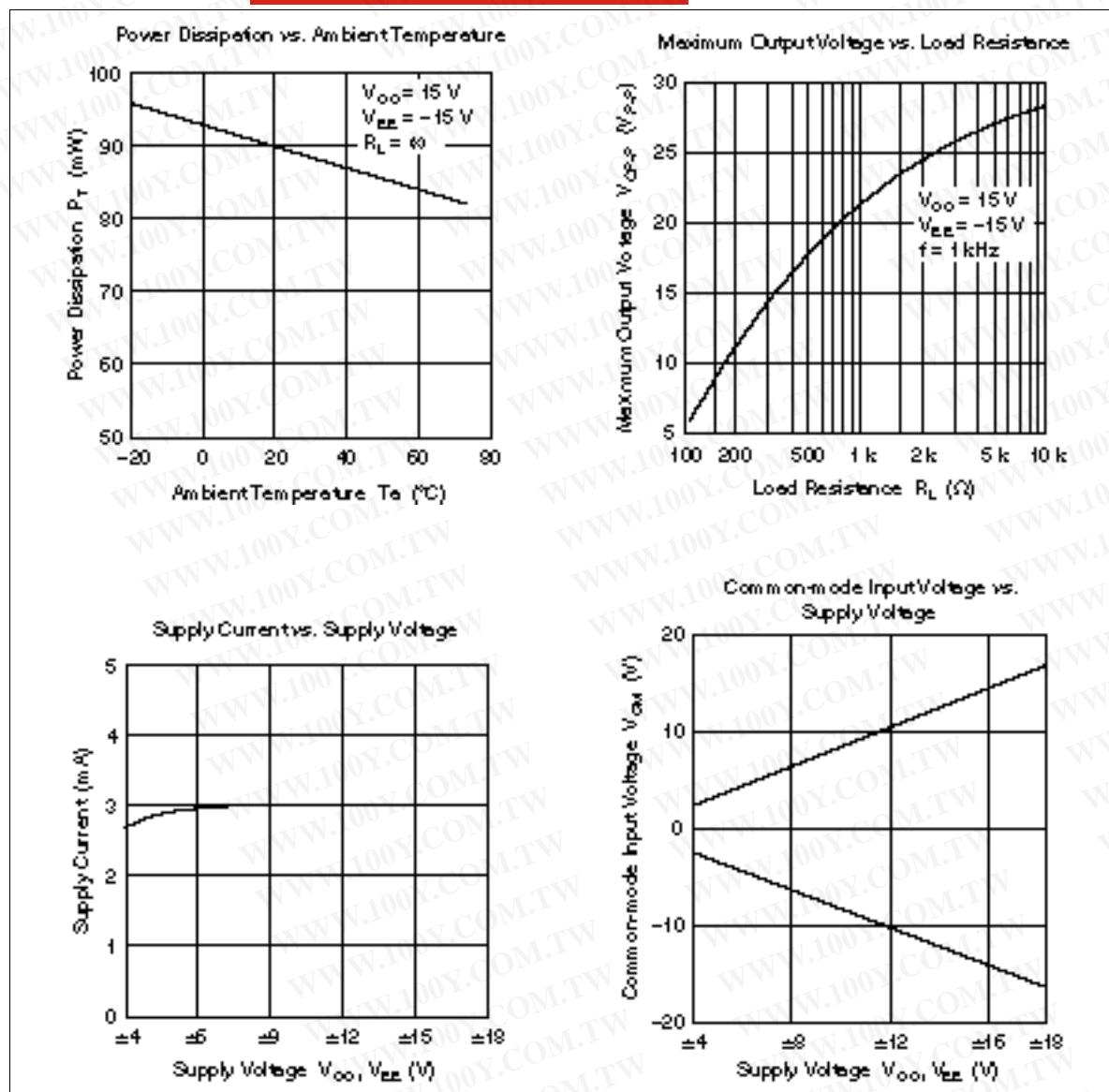


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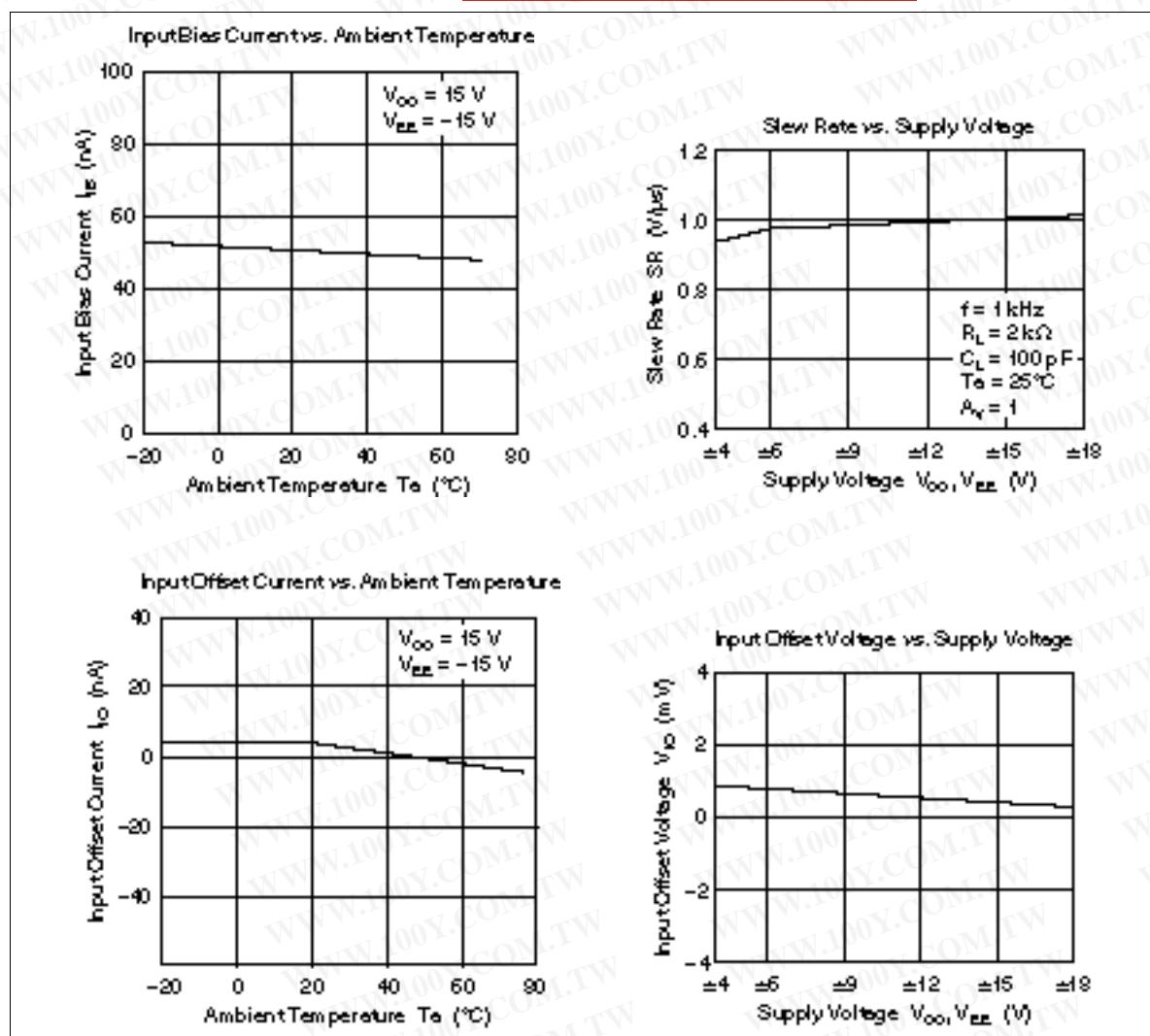
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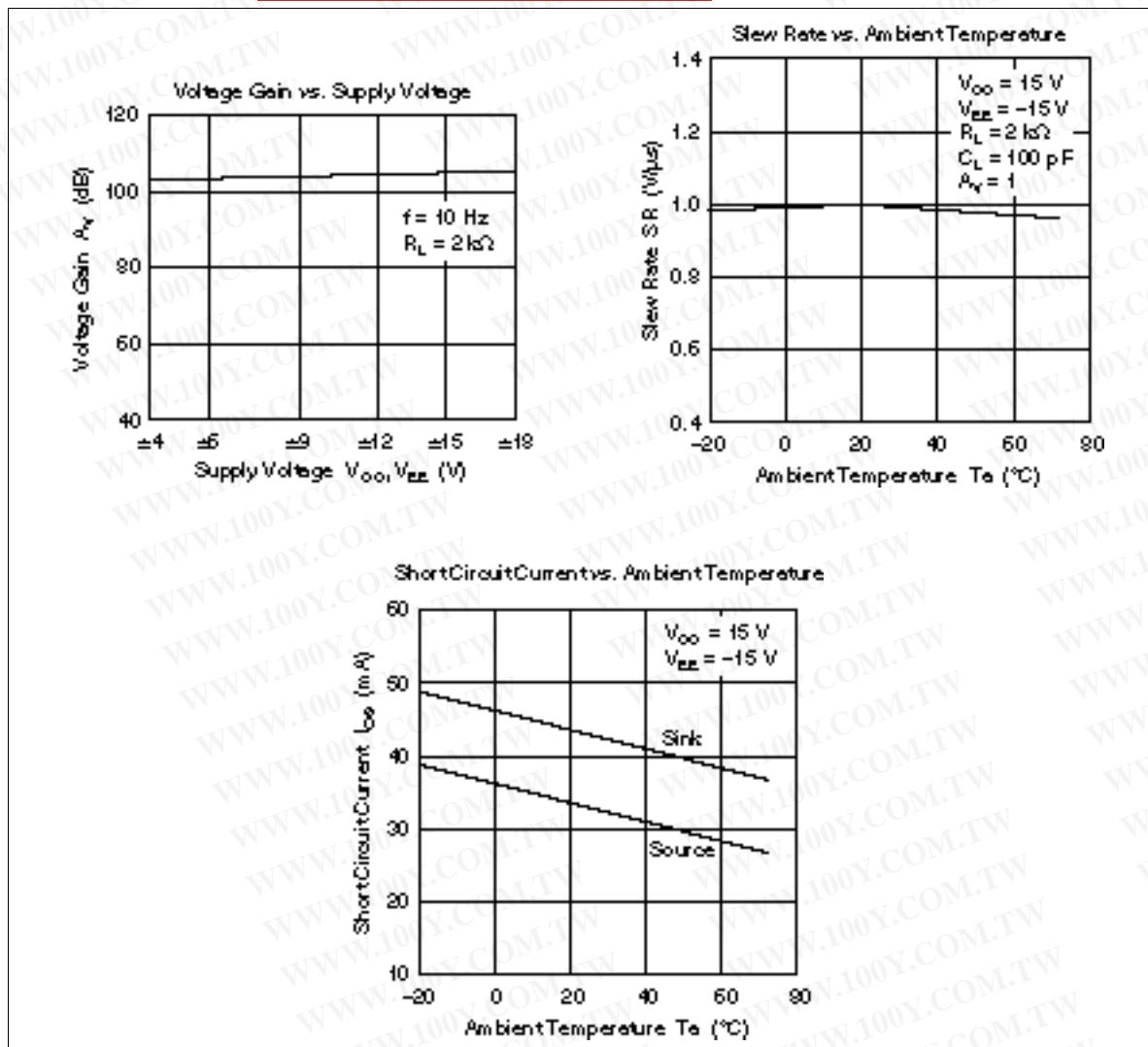
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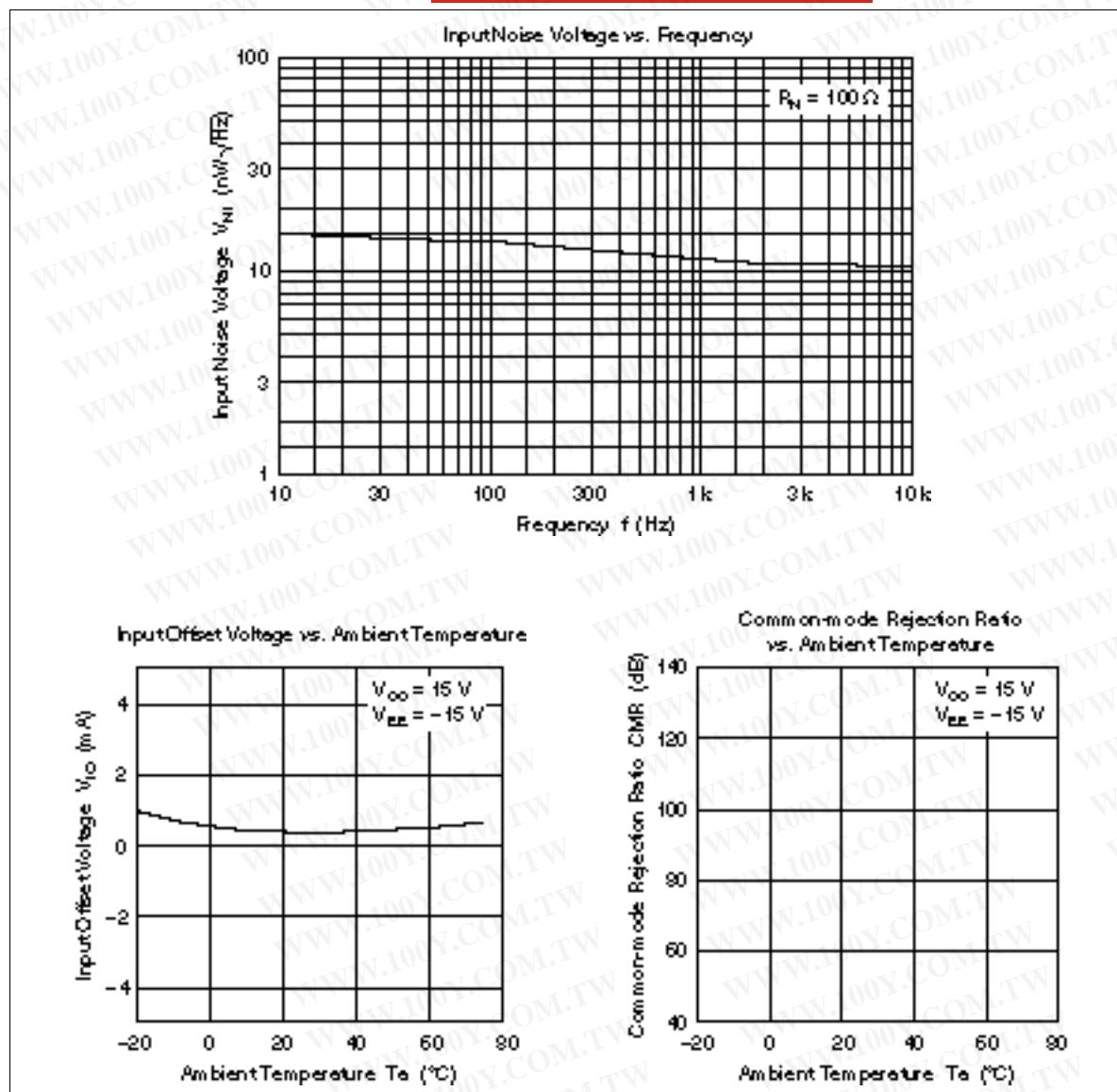
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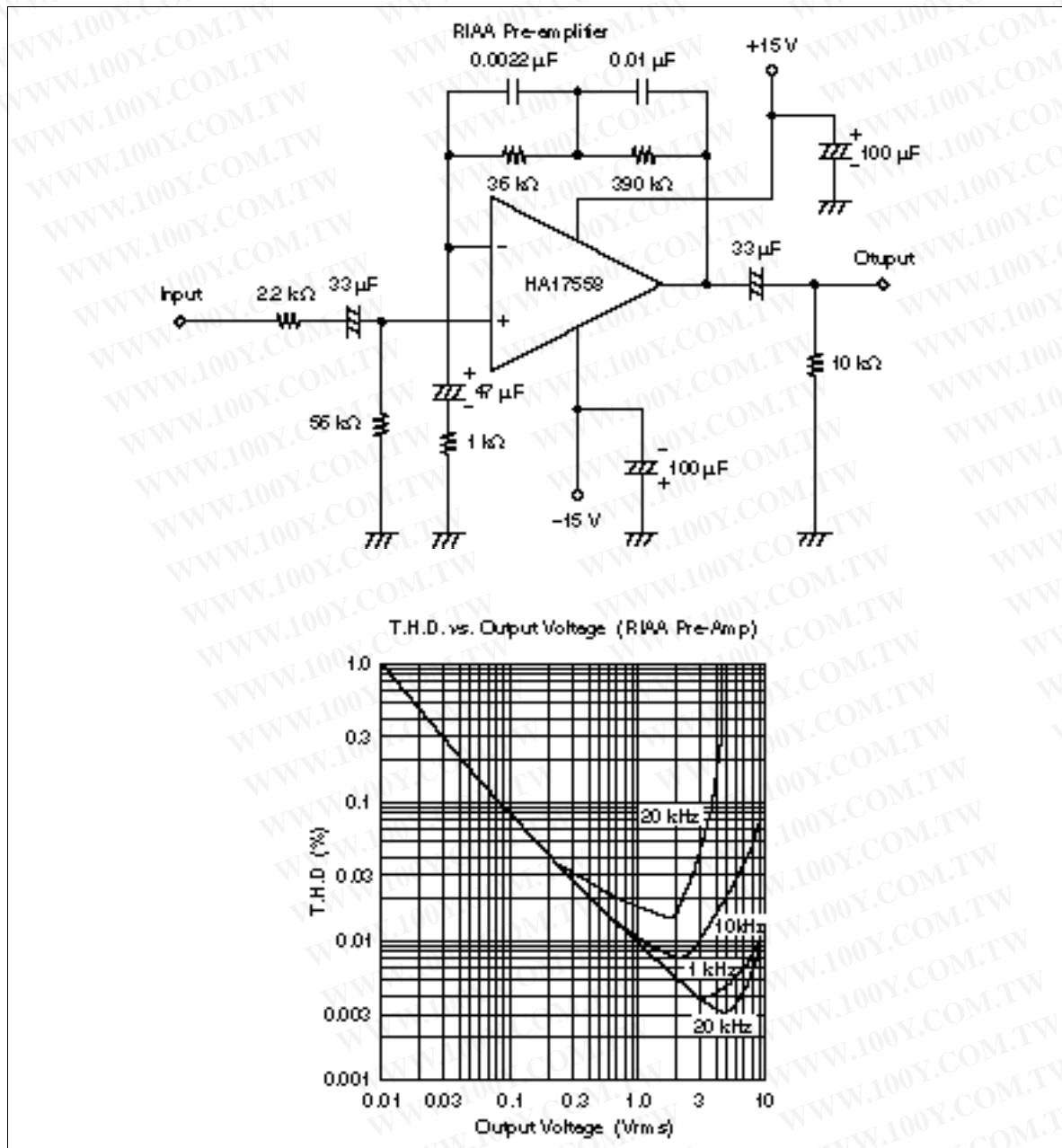


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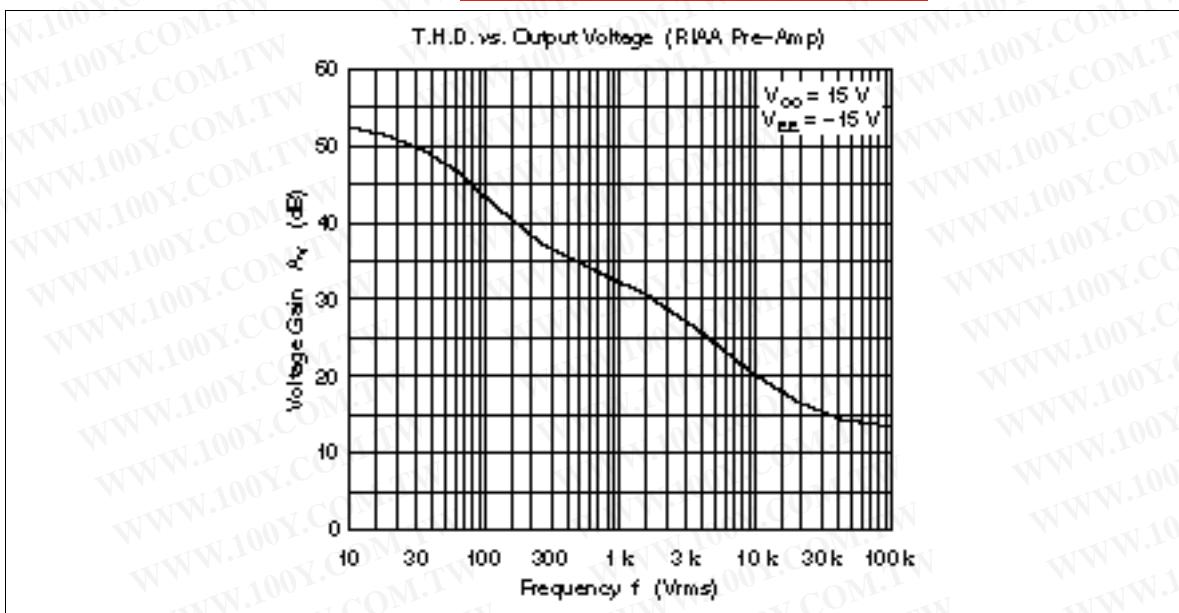
Circuit Example



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