



SANYO Semiconductors

DATA SHEET

LA6458M LA6458S

Monolithic Linear IC
High-Performance Dual Operational Amplifiers

Overview

The LA6458M and 6458S are consists of two independent, interanally phase compensated operational amplifiers. Application areas include active filters, audio preamplifiers, and various electronic circuits.

Features

- LA6458M: 8-pin MFP package, LA6458S: 9-pin SIP package.
- Built in phase compensation circuit
- High gain, low noise.
- Slew rate: 1.1V/ μ s typ

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		± 18	V
Differential input voltage	V_{ID}		± 30	V
Common-mode input voltage	V_{IN}		± 15	V
Allowable power dissipation	$P_d \text{ max}$	LA6458M	300	mW
		LA6458S	500	mW
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$

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SANYO Semiconductor Co., Ltd.

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LA6458M / 6458S

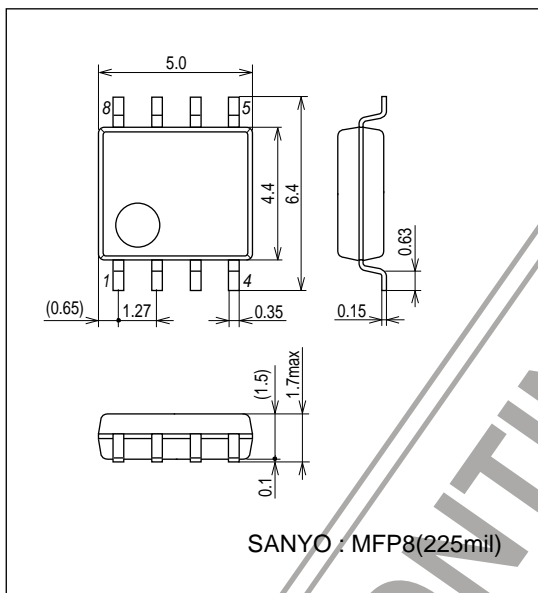
Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 15\text{V}$, $V_{EE} = -15\text{V}$

Parameter	Symbol	Conditions	Ratings			unit
			min	typ	max	
Input offset voltage	V_{IO}	$R_S=10\text{k}\Omega$		0.5	6	mV
Input offset current	I_{IO}			5	200	nA
Input bias current	I_B			60	500	nA
Common-mode input voltage	V_{ICM}		± 12	± 14		V
Common-mode rejection ratio	CMR		70	90		dB
Voltage gain	V_{GO}	$R_L \geq 2\text{k}\Omega$, $V_O = \pm 10\text{V}$	86	100		dB
Maximum output voltage	V_{O1}	$R_L \geq 10\text{k}\Omega$	± 12	± 14		V
	V_{O2}	$R_L \geq 2\text{k}\Omega$	± 10	± 13		V
Slew rate	SR	LA6458M: $V_G=0$, $R_L \geq 2\text{k}\Omega$		1.0		V/ μs
		LA6458S: $V_G=0$, $R_L \geq 2\text{k}\Omega$		1.1		V/ μs
Equivalent input noise voltage	V_{NI}	LA6458M: $R_S=1\text{k}\Omega$, B.P.F=10Hz to 30kHz		1.6		μV
		LA6458S: $R_S=1\text{k}\Omega$, B.P.F=10Hz to 30kHz		1.7		μV
Current drain	I_{CC}			3.5	6	mA
Supply voltage rejection	SVR	$R_S \leq 10\text{k}\Omega$		30	150	$\mu\text{V/V}$

Package Dimensions

unit: mm (typ)

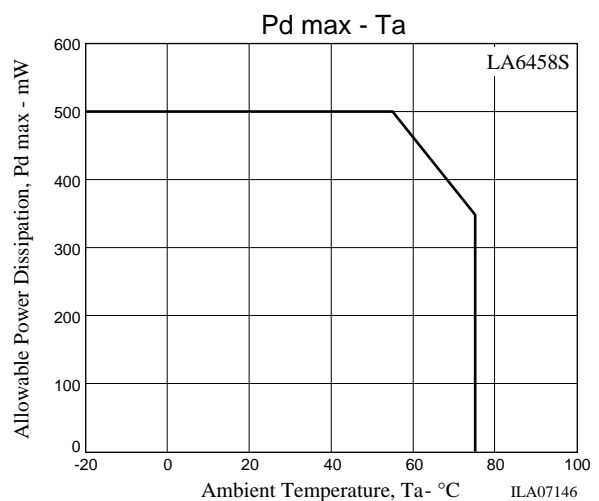
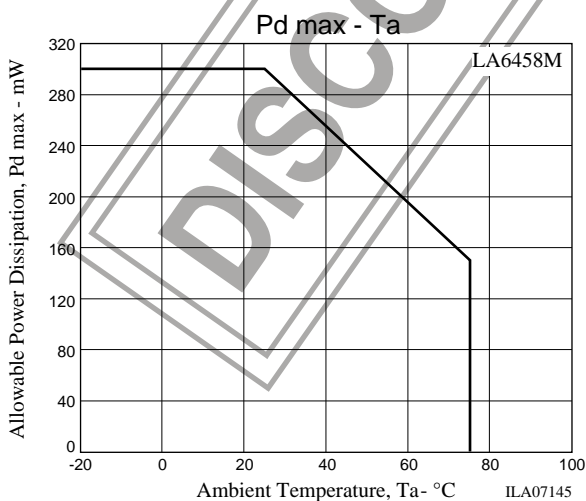
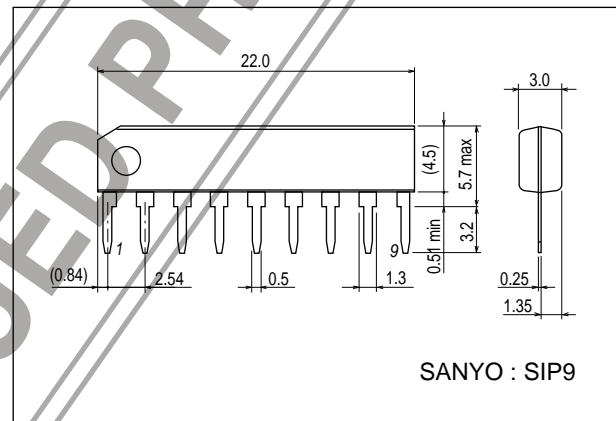
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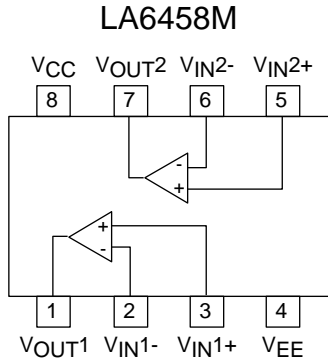
Package Dimensions

unit: mm (typ)

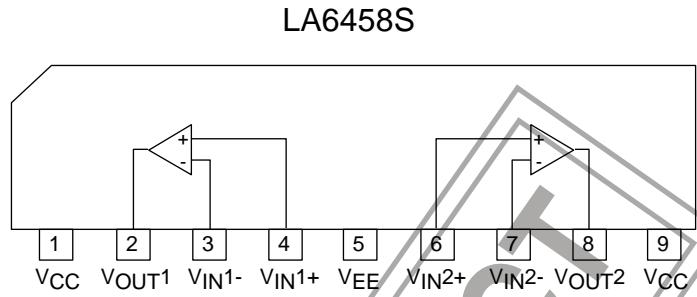
3017D [LA6458S]



Pin Assignment



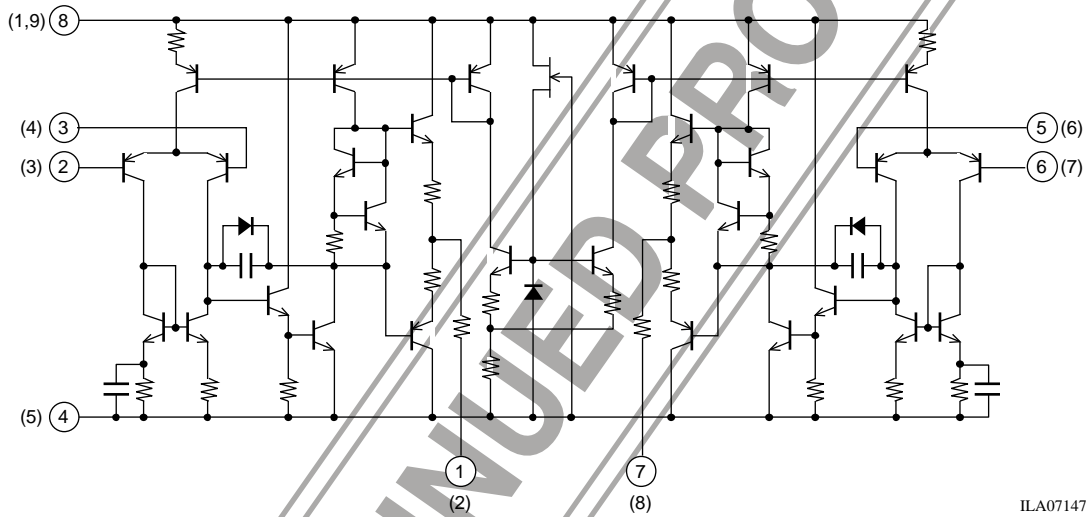
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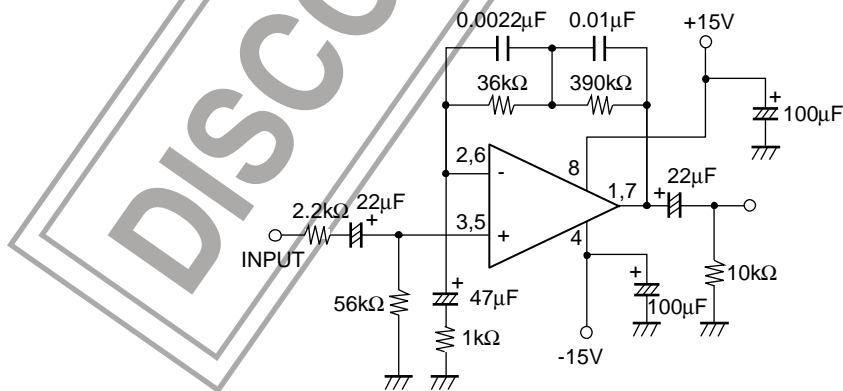
Equivalent Circuit

Pin No. : LA6458M, () of pin No. : LA6458S



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Sample Application Circuits / RIAA preamplifier (VG = 32.5dB)

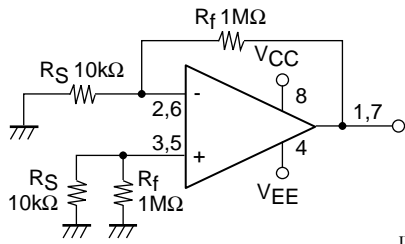


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LA6458M / 6458S

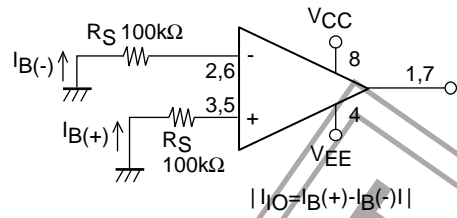
Test Circuits (Pin Assignment: SIP/MFP package)

1. V_{IO}, SVR



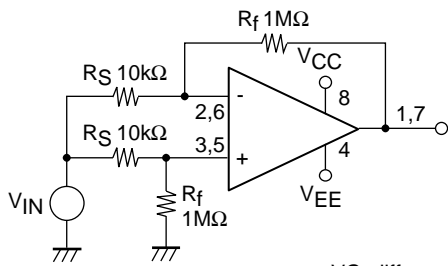
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2. I_{IO}, I_B



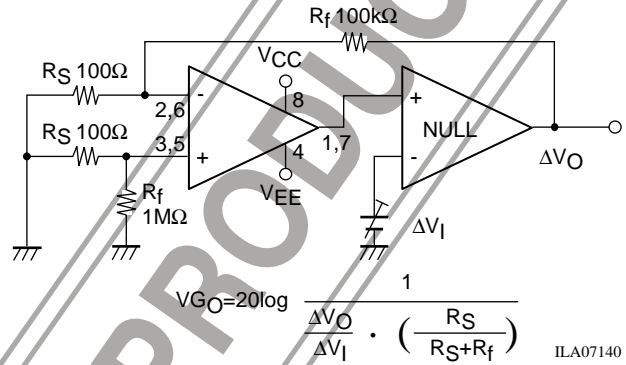
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3. V_{ICM}, CMR



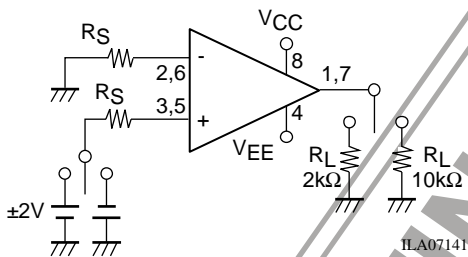
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4. V_{GO}



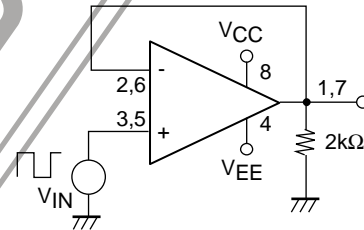
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5. V_O



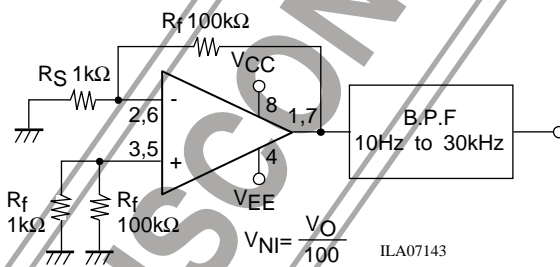
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6. S_R



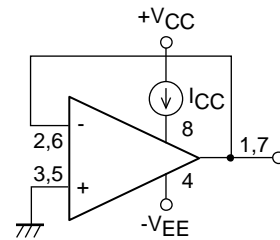
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7. V_{NI}

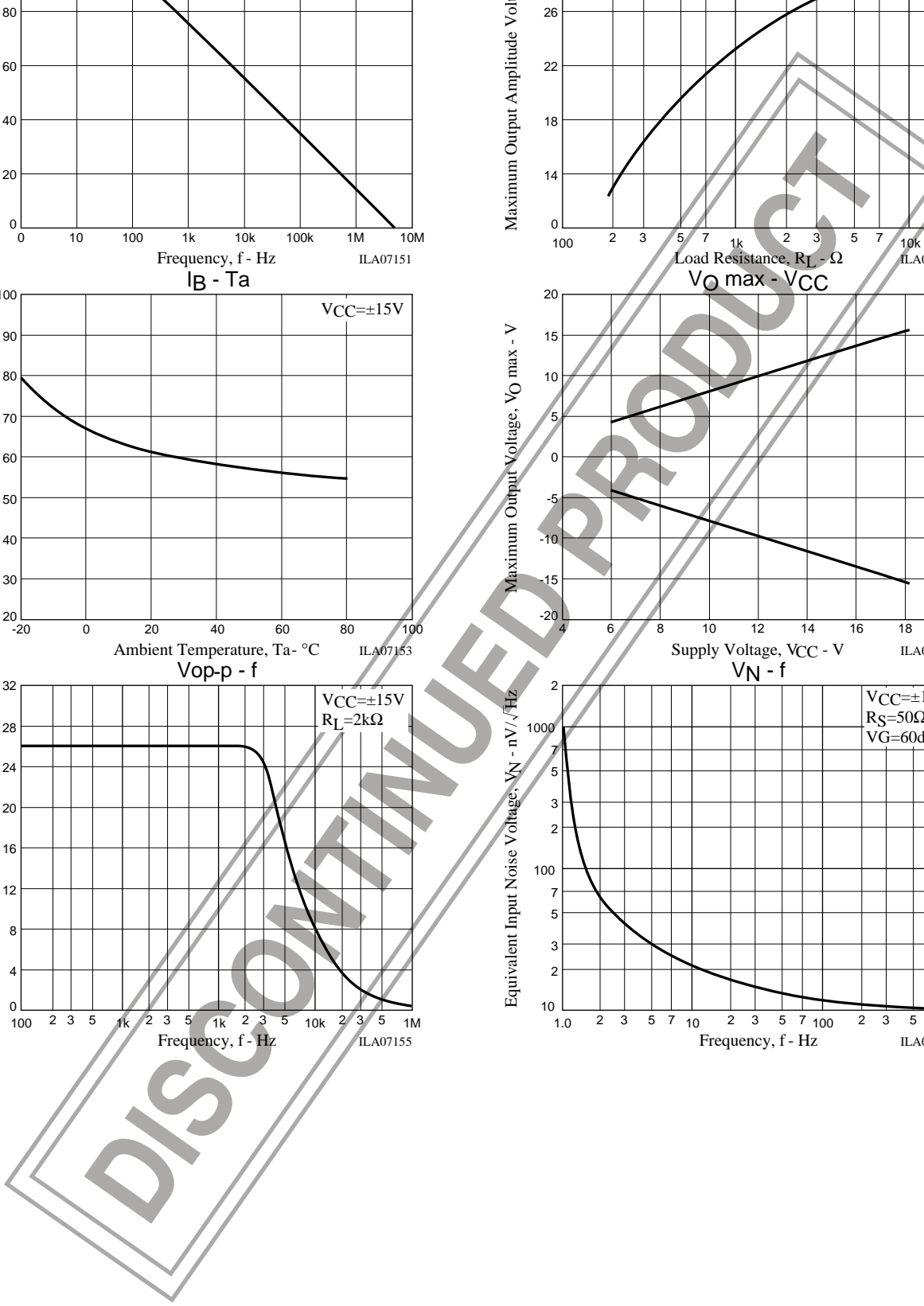
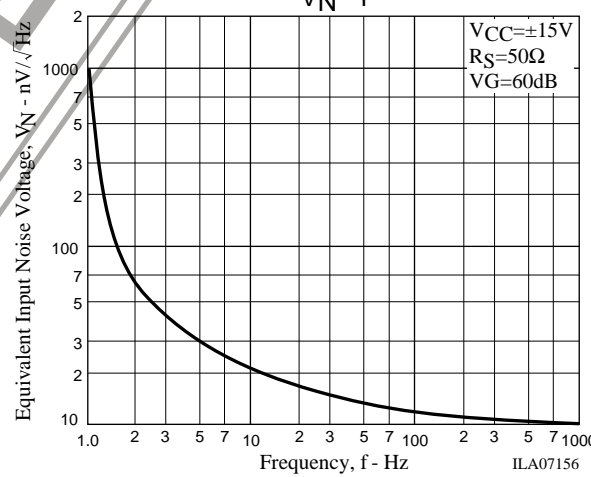
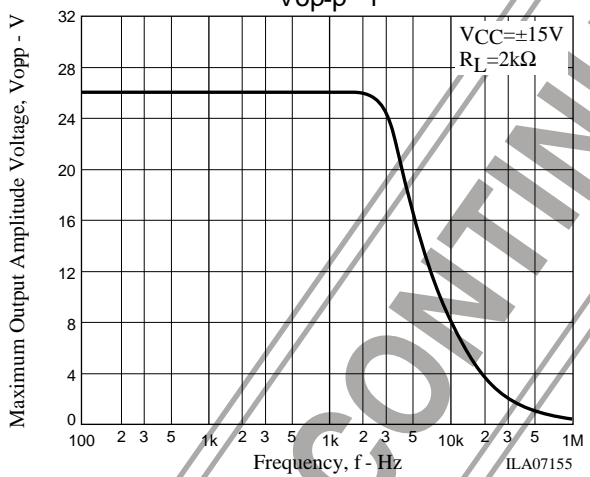
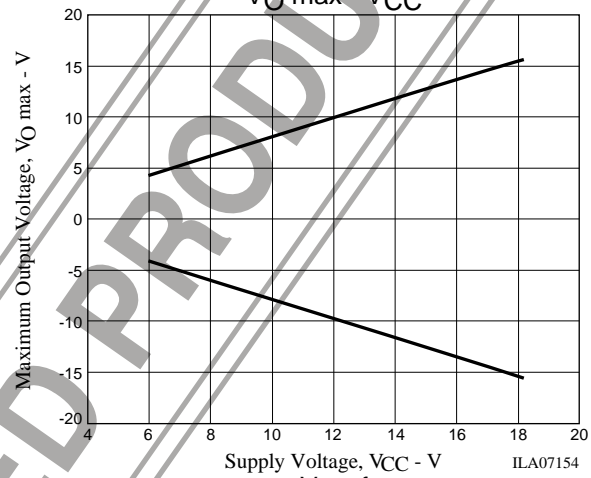
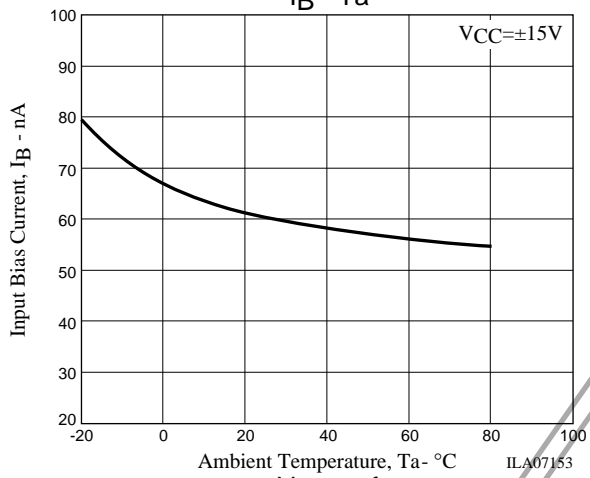
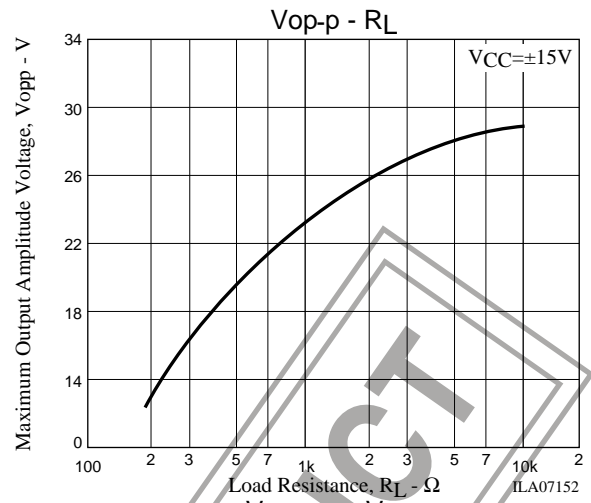
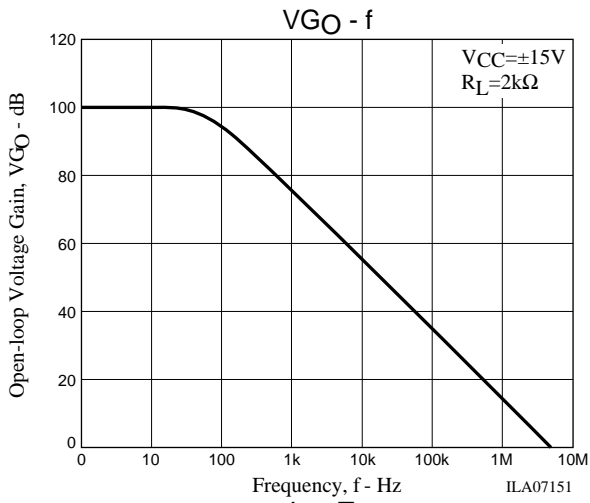


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8. I_{CO}



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