Monolithic Linear IC

LA6458M, 6458S

High-Performance Dual Operational Amplifiers

Overview

The LA6458 consists of two independent, internally 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
- Phase compensation circuit built in.
- High gain, low noise.
- Slew rate : 1.1V/µs typ.

Specifications

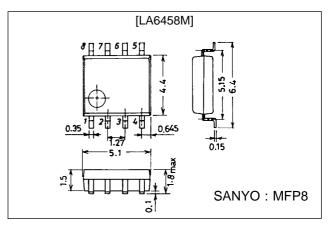
Maximum Ratings at $Ta = 25^{\circ}C$

Parameter	Symbol Conditions Ratings		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	Pd max	LA6458M	300	mW	
		LA6458S	500	mW	
Operating temperature	Topr		-20 to +75	°C	
Storage temperature	Tstg		-40 to +125	°C	

Package Dimensions

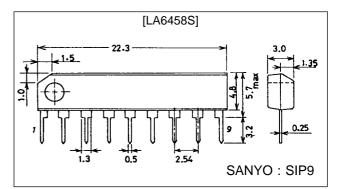
unit : mm

3032B-MFP8





3017C-SIP9



- Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.
- SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

SANYO Electric Co., Ltd. Semiconductor Bussiness Headquarters TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

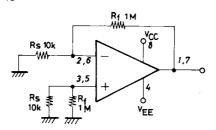
Operating Characteristics at Ta = 25°C, $V_{\rm CC}$ = 15 V, $V_{\rm EE}$ = –15 V

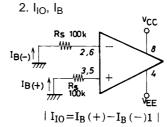
Parameter	Symbol	Conditions	min	typ	max	Unit
Input offset voltage	V _{IO}	R _S = 10 kΩ		0.5	6	mV
Input offset current	l _{IO}			5	200	nA
Input bias current	Ι _Β			60	500	nA
Common-mode input voltage	VICM		±12	±14		V
Common-mode rejection ratio	CMR		70	90		dB
Voltage gain	VG _O	$R_L \ge 2 k\Omega, V_O = \pm 10 V$	86	100		dB
Maximum output voltage	V _O (1)	$R_L \ge 10 \ k\Omega$	±12	±14		V
	V _O (2)	$R_L \ge 2 \ k\Omega$	±10	±13		V
Slew rate	SR	LA6458M: VG = 0, $R_L \ge 2 \ k\Omega$		1.0		V/µs
		LA6458S: VG = 0, $R_L \ge 2 \ k\Omega$		1.1		V/µs
Equivalent input noise voltage	V _{NI}	LA6458M: R_S = 1 k Ω , B.P.F. = 10 Hz to 30 kHz		1.6		μV
		LA6458S: $R_S = 1 \text{ k}\Omega$, B.P.F. = 10 Hz to 30 kHz		1.7		μV
Current drain	ICC			3.5	6	mA
Supply voltage rejection	SVR	$R_{S} \leq 10 \ k\Omega$		30	150	μV/V

Test Circuits

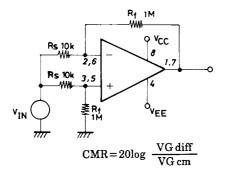
(Pin assignment : SIP/MFP package)

1. V_{IO} , SVR

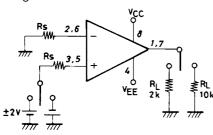




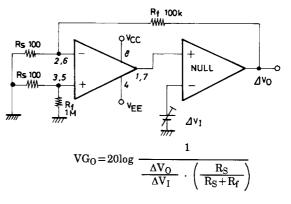




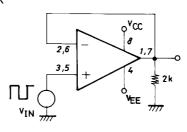




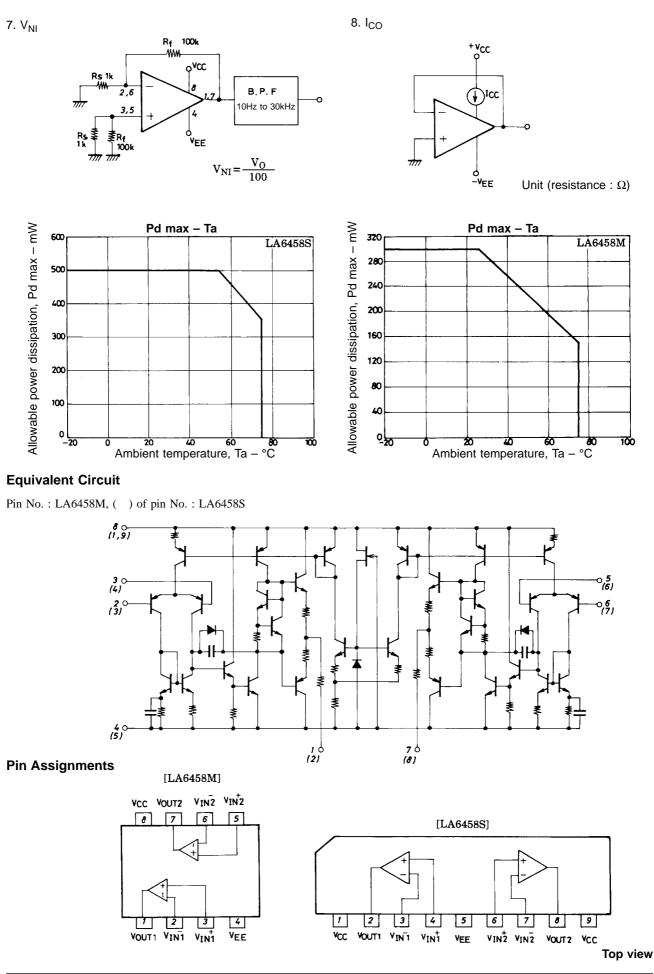
4. VG_O

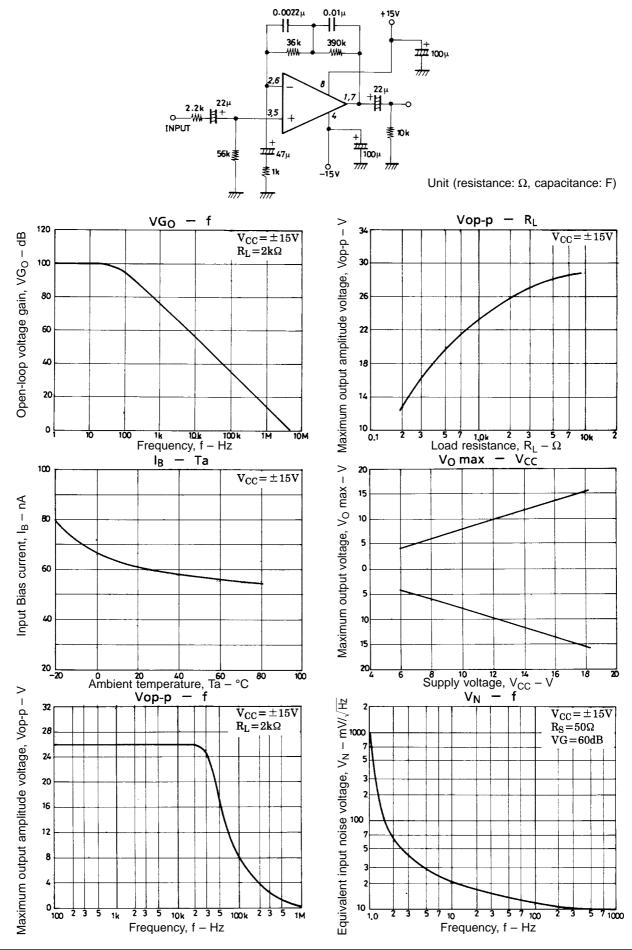


6. SR



Unit (resistance: Ω)





Sample Application Circuit RIAA preamplifier (VG = 32.5 dB)

- Specifications of any and all SANYO products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- SANYO Electric Co., Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO products(including technical data,services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of SANYO Electric Co., Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO product that you intend to use.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of June, 1996. Specifications and information herein are subject to change without notice.