Ordering number: EN5329

Monolithic Linear IC

LA6540M

4-output Power Operational Amplifier

Overview

The LA6540M is a 4-output power operational amplifier developed for use in consumer and industrial equipment.

Functions

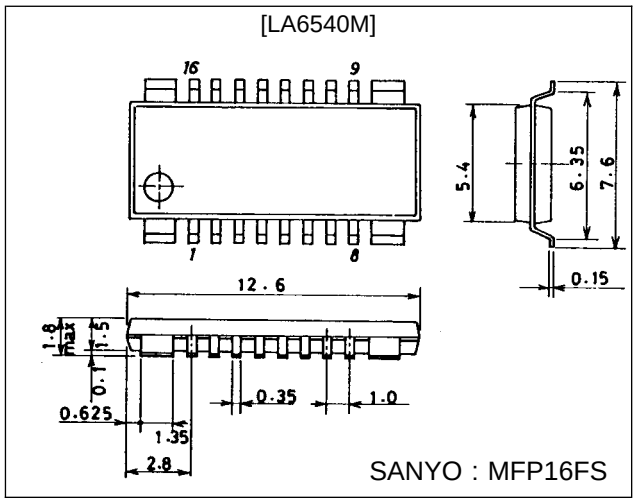
- High output current (I_O max = 0.7 A : typ)
- Includes a current limiter
- Wide operating voltage range (±2 to ±16 V)
- Single-supply operation possible (4 to 32 V)
- Thermal shutdown built in

Package Dimensions

unit : mm

3097-MFP16FS

[LA6540M]



SANYO : MFP16FS

Specifications

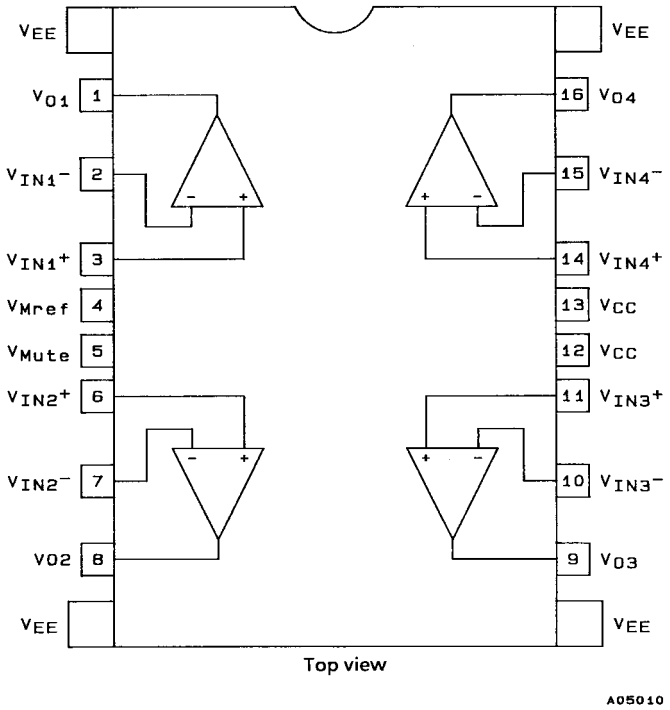
Maximum Ratings at Ta = 25 °C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		±18	V
Input voltage	V_{IN}		±17	V
Allowable power dissipation	Pd max		0.7	W
Operating temperature	Topr		–20 to +75	°C
Storage temperature	Tstg		–40 to +150	°C

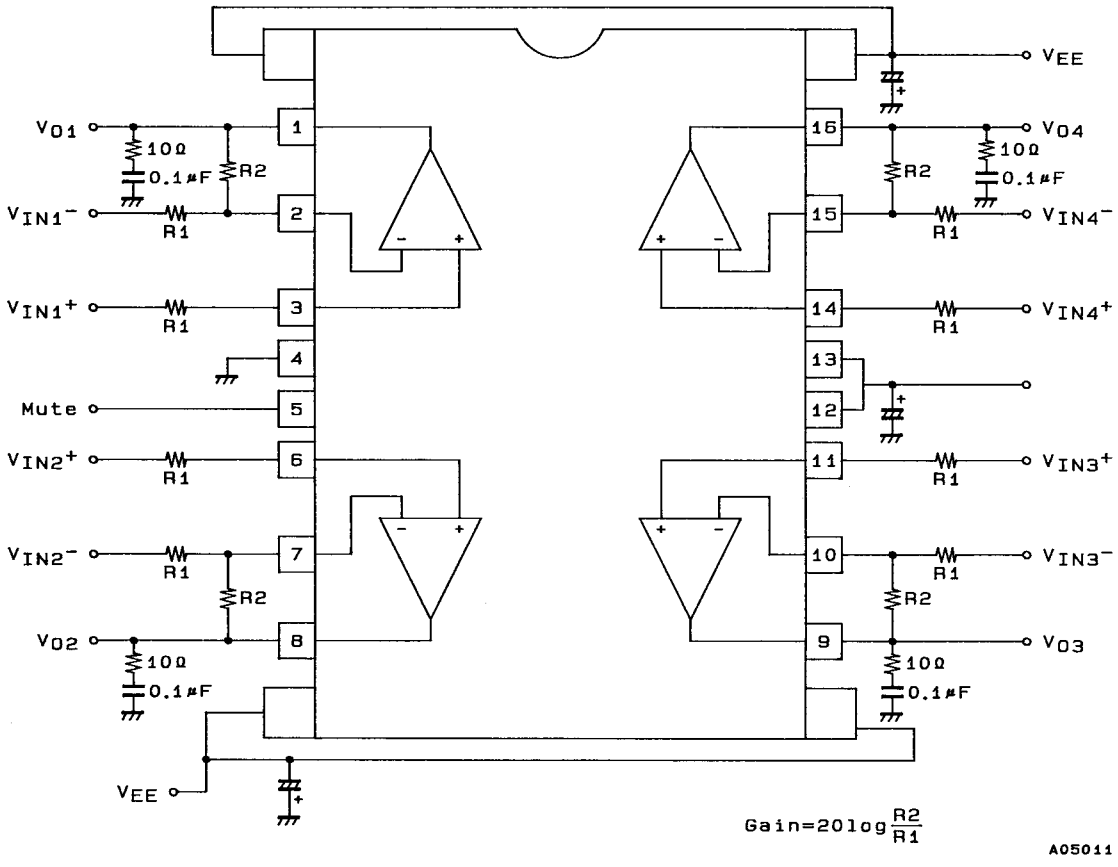
Operation Characteristics at Ta = 25 °C, V_{CC} = +15 V, V_{EE} = –15 V

Parameter	Symbol	Conditions	min	typ	max	Unit
No-load current drain	I_{CC}	Mute OFF		15	30	mA
Input offset voltage	V_{IO}	$R_S \leqq 10$ kΩ		2	7	mV
Input offset current	I_{IO}			10	100	nA
Input bias current	I_B			50	300	nA
Input common-mode voltage range	V_{ID}		–14		+13	V
Common-mode signal rejection ratio	CMRR		60	75		dB
Maximum output voltage	V_O	R_L = 33 Ω	±11	±12		V
Slew rate	SR	R_L = 33 Ω, R1 = 2.2 Ω, C1 = 0.1 µF		0.15		V/µs
Limiting current (built in)	I_{SC}		0.5	0.7		A

Pin Assignment

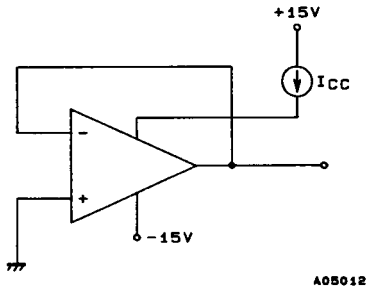


Sample Application Circuit

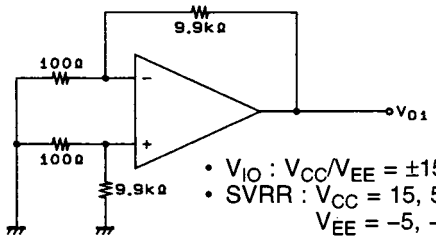


Test Circuits

I_{CC}

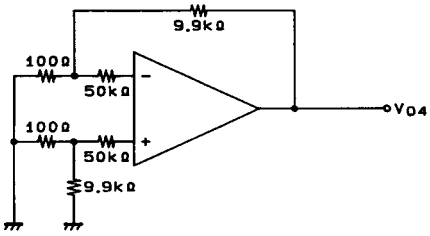


V_{IO}, SVRR



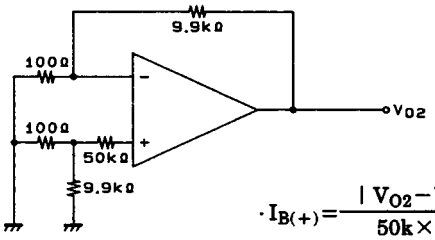
- V_{IO} : V_{CC}/V_{EE} = ±15 V
- SVRR : V_{CC} = 15, 5 V
  V_{EE} = −5, −15 V

I_{IO}



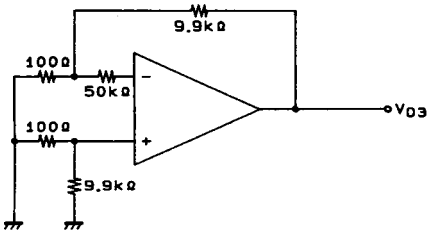
$$\cdot I_{IO} = \frac{|V_{O4} - V_{O1}|}{50k \times 100}$$

$I_{B(+)}$



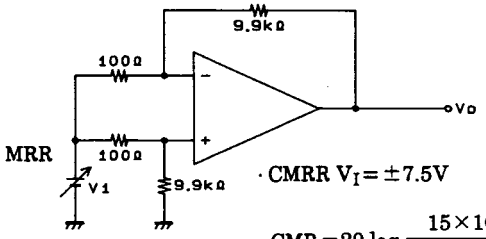
$$\cdot I_{B(+)} = \frac{|V_{O2} - V_{O1}|}{50k \times 100}$$

$I_{B(-)}$



$$\cdot I_{B(-)} = \frac{|V_{O3} - V_{O1}|}{50k \times 100}$$

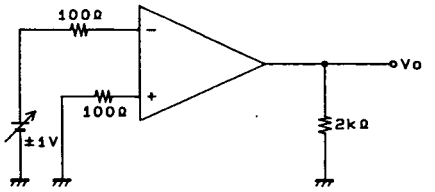
CMRR, V_{ICM}



- CMRR $V_I = \pm 7.5V$

$$\cdot CMR = 20 \log \frac{15 \times 100}{|\Delta V_O|}$$

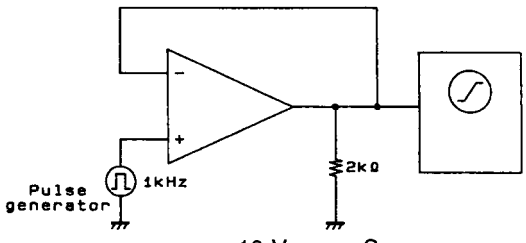
V_O



$$\cdot V_{IO} = V_{O1}/100$$

$$\cdot SVR(+) \\ \cdot SVR(-) = \left| \frac{\Delta V_{O1}}{100 \times 10V} \right|$$

SR



10 Vp-p Square wave