



LA5311M

Monolithic Linear IC
Variable Divided Voltage Generator for LCD

Overview

The LA5311M is a variable divided voltage generator IC for multiple drive of LCD matrix.

Features

- Power supply for variable bias LCD drive.
- 4 operational amplifiers deliver 4 voltage outputs.
- Low current drain (1.0mA max).
- Miniflat package.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	VCC max		30	V
Output current	I _{OUT}		5	mA
Allowable power dissipation	Pd max		300	mW
Operating temperature	T _{opr}		-20 to +75	°C
Storage temperature	T _{stg}		-40 to +125	°C

Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage range	VCC op	VCC-V ₁ >1.0V	11 to 28	V
Recommended output current	I ₁		0 to 3	mA
	I ₂ , I ₃		-3 to +3	mA
	I ₄		-3 to 0	mA

Operating Characteristics at Ta=25°C, VCC=20V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	I _{CC}	VCC=0V, GND=-20V=V ₅ , External R _A =100kΩ			1.0	mA
Output ratio1	R1	V ₂ /V ₁ , VCC=0V, GND=-20V=V ₅ , External R _A =100kΩ	1.94		2.06	-
Output ratio2	R2	V ₅ -V ₃ /V ₅ -V ₄ , VCC=0V, GND=-20V=V ₅ , External R _A =100kΩ	1.94		2.06	-

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

80906 / 12506 SY IM / 31500TN (KT) / 40194HK / 7227KI / 9264KI, TS No.1531-1/3

LA5311M

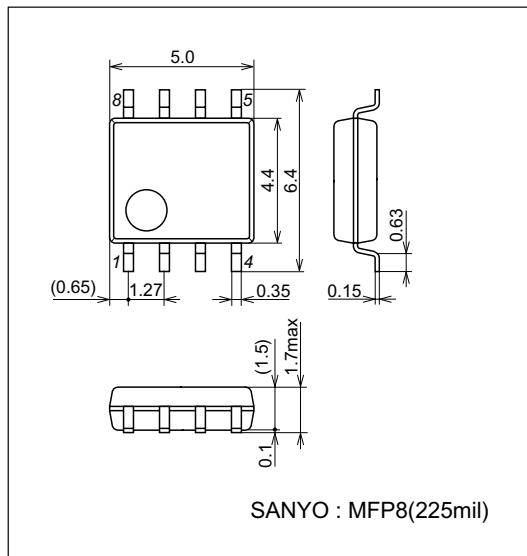
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output ratio3	R3	$V_2 / V_5 - V_3$, $V_{CC}=0V$, $GND=-20V=V_5$, External $R_A=100k\Omega$	0.97		1.03	-
Output ratio4	R4	$V_1 / V_5 - V_4$, $V_{CC}=0V$, $GND=-20V=V_5$, External $R_A=100k\Omega$	0.97		1.03	-
Load regulation	ΔV_1	$+100\mu A < I_{OUT} < +3mA$			20	mV
	ΔV_2	$+100\mu A < I_{OUT} < +3mA$			20	mV
	ΔV_3	$+100\mu A < I_{OUT} < +3mA$			20	mV
	$-\Delta V_2$	$-3mA < I_{OUT} < -100\mu A$			20	mV
	$-\Delta V_3$	$-3mA < I_{OUT} < -100\mu A$			20	mV
	$-\Delta V_4$	$-3mA < I_{OUT} < -100\mu A$			20	mV
R_1+R_2	R	0.5V applied across R_1+R_2	33	40	47	k Ω

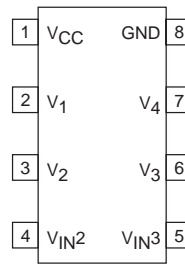
Package Dimensions

unit : mm

3032D



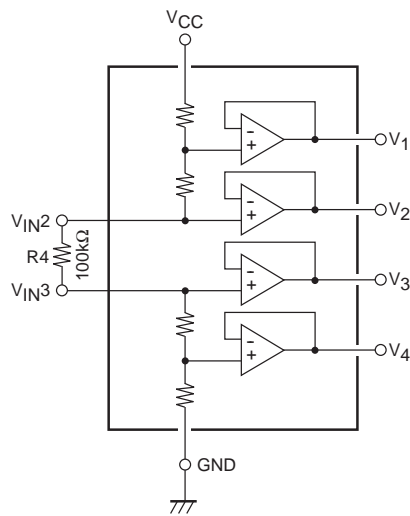
Pin Assignment



Top view

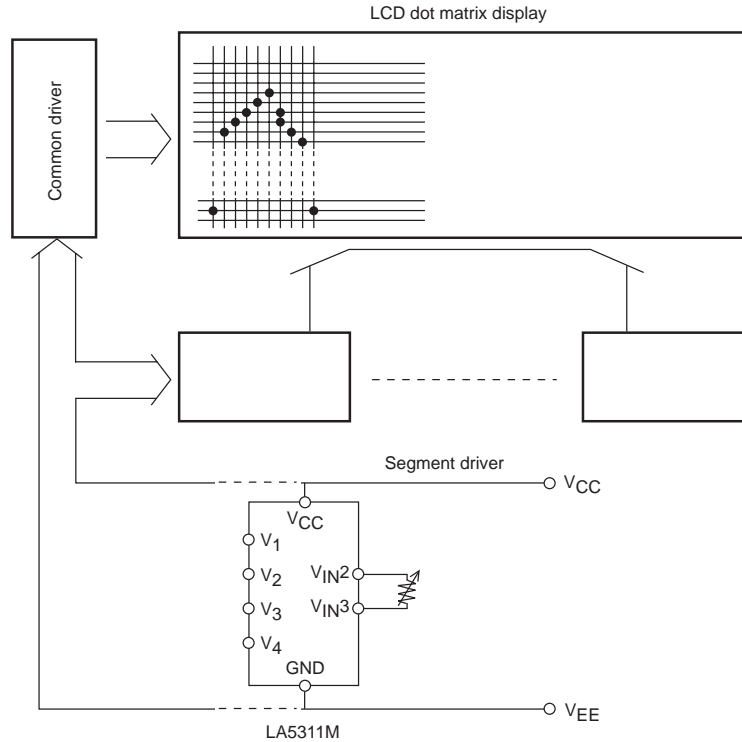
ILA04312

Equivalent Circuit



ILA04313

Sample Application Circuit



ILA04314

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