



LA5310M

Voltage Divider for LCD Applications

Overview

The LA5310M is a voltage divider IC for use in LCD matrix multidrive applications.

Features

- Power supply for 1/9 bias LCD applications.
- 5 operational amplifiers producing 5 voltage outputs.
- Low current drain (1.0mA max).
- Miniflat package.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		35	V
Output current	I_{OUT}		5	mA
Allowable power dissipation	$P_d\ max$		300	mW
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-30 to +125	$^\circ\text{C}$

Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage range	$V_{CC\ op}$		11 to 25	V
Recommended output current	I_1		0 to 3	mA
	I_2, I_3		-3 to +3	mA
	I_4, I_5		-3 to 0	mA

Operating Characteristics at $T_a = 25^\circ\text{C}$

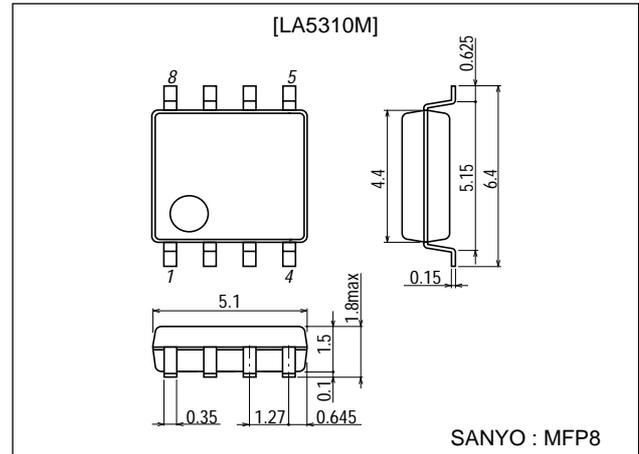
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	I_{CC}	$V_{CC}=25\text{V}$			1.0	mA
Output voltage	V_1		-1.25	-1.20	-1.15	V

Continued on next page.

Package Dimensions

unit:mm

3032B-MFP8



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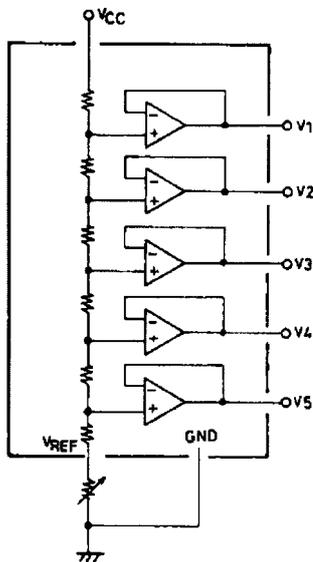
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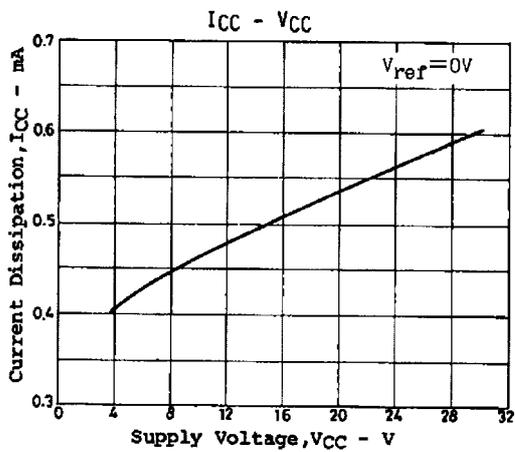
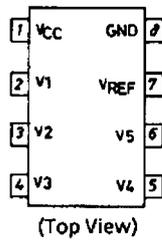
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output ratio1	R _{a1}	$V_2/V_1, V_{CC}=0, V_{ref}=-12V, GND=-25V$	1.96	2.00	2.04	V
Output ratio2	R _{a2}	$V_5-V_3/V_5-V_4, V_{CC}=0, V_{ref}=-12V, GND=-25V$	1.96	2.00	2.04	V
Output ratio3	R _{b1}	$-V_5/-V_1, V_{CC}=0, V_{ref}=-12V, GND=-25V$	8.73	9.00	9.27	V
Output ratio4	R _{b2}	$-V_5/-V_2, V_{CC}=0, V_{ref}=-12V, GND=-25V$	4.37	4.50	4.63	V
Output ratio5	R _{b3}	$-V_5/-V_5+V_3, V_{CC}=0, V_{ref}=-12V, GND=-25V$	4.37	4.50	4.63	V
Output ratio6	R _{b4}	$-V_5/-V_5+V_4, V_{CC}=0, V_{ref}=-12V, GND=-25V$	8.73	9.00	9.27	V
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
	$-\Delta V_5$	$-3mA < I_{OUT} < -100\mu A$			20	mV

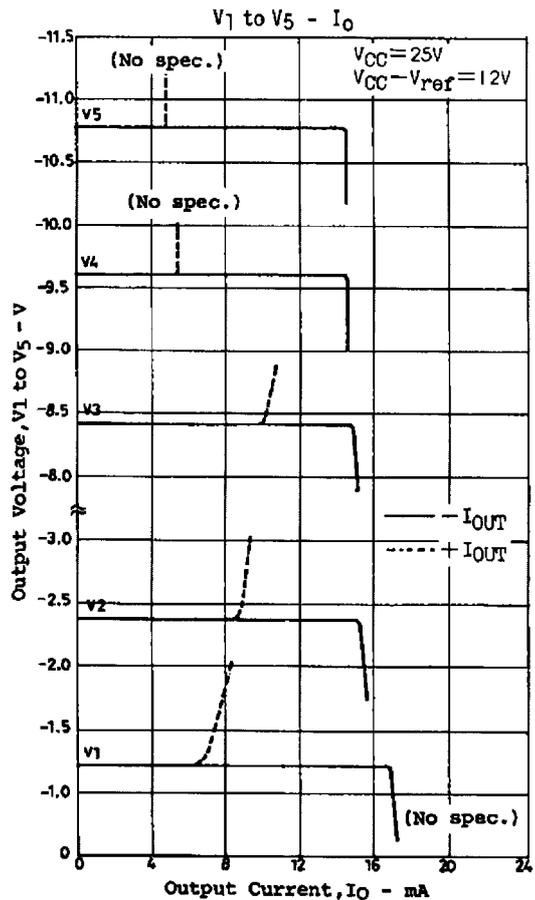
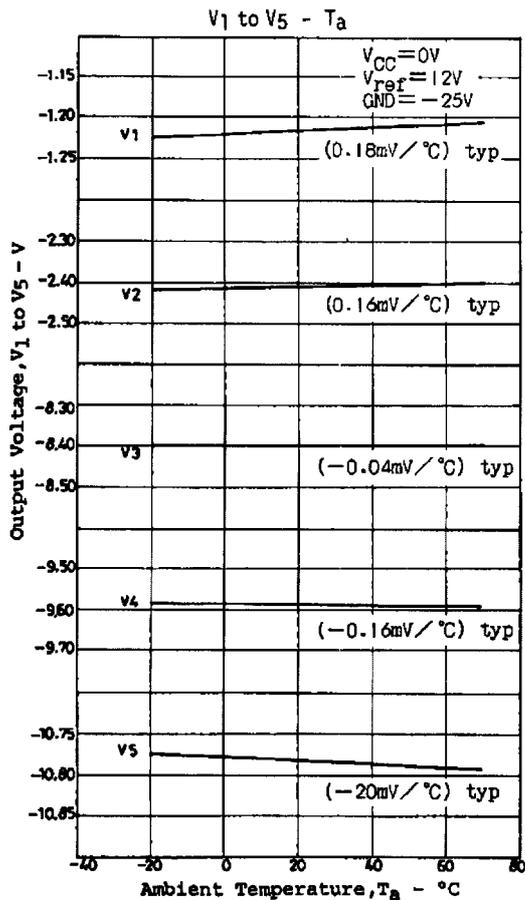
Equivalent Circuit



Pin Assingment



LA5310M



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