

**SANYO**

No. 1340C

**LA5310M**

Voltage Divider for LCD Applications

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

**Features**

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

Maximum Ratings at Ta=25°C			unit
Maximum Supply Voltage	V <sub>CCmax</sub>	35	V
Output Current	I <sub>OUT</sub>	5	mA
Allowable Power Dissipation	P <sub>dmax</sub>	300	mW
Operating Temperature	T <sub>opr</sub>	-20 to +75	°C
Storage Temperature	T <sub>stg</sub>	-30 to +125	°C

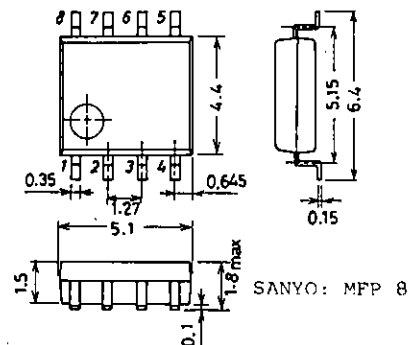
Operating Conditions at Ta=25°C			unit
Supply Voltage Range	V <sub>CC op</sub>	11 to 25	V
Recommended Output Current	I <sub>1</sub>	0 to 3	mA
"	I <sub>2, I<sub>3</sub></sub>	-3 to +3	mA
"	I <sub>4, I<sub>5</sub></sub>	-3 to 0	mA

Operating Characteristics at Ta=25°C			min	typ	max	unit
Current Dissipation	I <sub>CC</sub>	V <sub>CC</sub> =25V			1.0	mA
Output Voltage	V <sub>1</sub>		-1.25	-1.20	-1.15	V
Output Ratio 1	R <sub>a1</sub>	V <sub>2</sub> /V <sub>1</sub> , V <sub>CC</sub> :0	1.96	2.00	2.04	V
"	2	R <sub>a2</sub> V <sub>5</sub> -V <sub>3</sub> /V <sub>5</sub> -V <sub>4</sub> ,	1.96	2.00	2.04	V
"	3	R <sub>b1</sub> -V <sub>5</sub> /-V <sub>1</sub> ,	8.73	9.00	9.27	V
"	4	R <sub>b2</sub> -V <sub>5</sub> /-V <sub>2</sub> ,	4.37	4.50	4.63	V
"	5	R <sub>b3</sub> -V <sub>5</sub> /-V <sub>5</sub> +V <sub>3</sub> ,	4.37	4.50	4.63	V
"	6	R <sub>b4</sub> -V <sub>5</sub> /-V <sub>5</sub> +V <sub>4</sub> ,	8.73	9.00	9.27	V

Continued on next page.

**Package Dimensions 3032B**

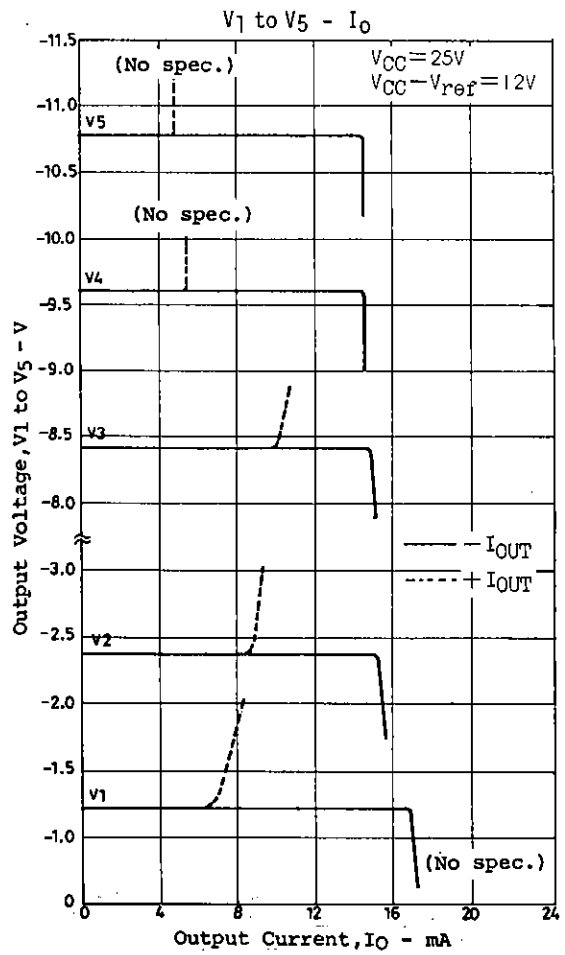
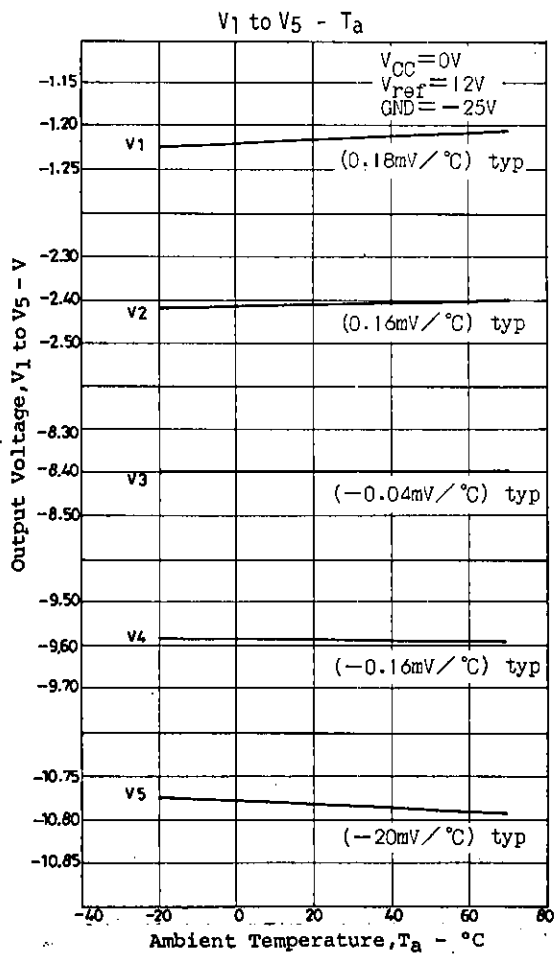
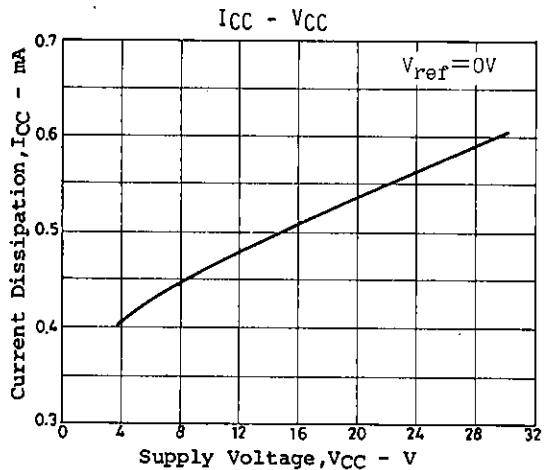
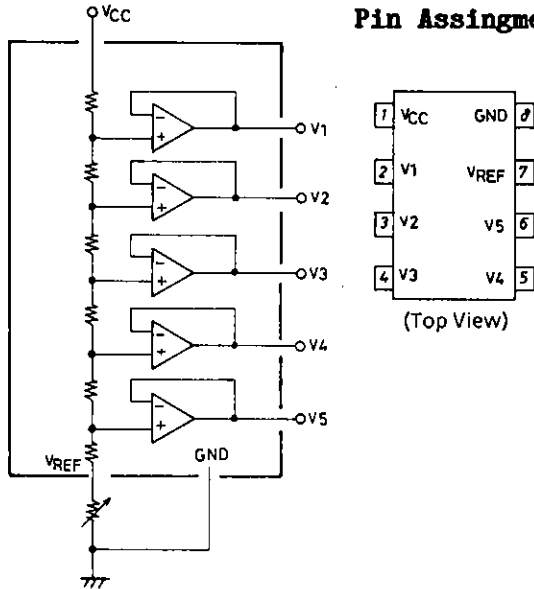
(unit : mm)



Continued from preceding page.

		min	typ	max	unit
Load Regulation	$\Delta V_1$		$+100\mu A < I_{OUT} < +3mA$	20	mV
"	$\Delta V_2$		"	20	mV
"	$\Delta V_3$		"	20	mV
"	$-\Delta V_2$		$-3mA < I_{OUT} < -100\mu A$	20	mV
"	$-\Delta V_3$		"	20	mV
"	$-\Delta V_4$		"	20	mV
"	$-\Delta V_5$		"	20	mV

Equivalent Circuit



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- 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.