

LA5640N

Voltage Regulator for LCD

The LA5640N is a voltage regulator IC for use in LCD-used sets as well as desk-top calculators. This IC, designed for LSI which drives LCD, regulates LCD driving voltage of LSI according to the temperature characteristic of LCD so that the variations in temperature cause no shading of LCD.

Features

- Small quiescent current : 20 μ A typ.
- Small input-output voltage drop : 0.1V typ.
- Output voltage : 3.15V typ.
- Temperature coefficient of output voltage : 11.2mV/ $^{\circ}$ C typ.

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

Parameter	Symbol	Value	unit
Maximum Supply Voltage	V _{CC} max	8.5	V
Maximum Output Current	I _O max	300	μ A
Allowable Power Dissipation	P _d max	300	mW
Operating Temperature	T _{opr}	-25 to +75	$^{\circ}$ C
Storage Temperature	T _{stg}	-55 to +125	$^{\circ}$ C

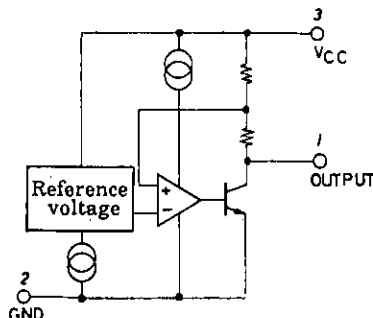
Recommended Operating Conditions at Ta = 25 $^{\circ}$ C

Parameter	Symbol	Value	unit
Supply Voltage	V _{CC}	4.0 to 7.0	V
Output Current	I _O	50 to 250	μ A

Operating Characteristics at Ta = 25 $^{\circ}$ C, V_{CC} = 6V

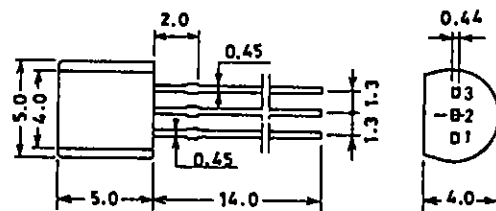
Parameter	Symbol	Condition	min	typ	max	unit
Output Voltage 1	V _O	V _{CC} = 4 to 7V, I _O = 50 to 250 μ A (Pins 3-1)	2.90	3.15	3.4	V
Output Voltage 2	H-V _O	I _O = 50 to 250 μ A, Ta = 40 $^{\circ}$ C	2.7	2.95	3.2	V
Output Voltage 3	C-V _O	I _O = 50 to 250 μ A, Ta = 0 $^{\circ}$ C	3.1	3.45	3.8	V
Reactive Voltage	V _C	I _O = 250 μ A		0.1	0.3	V
Quiescent Current	I _{CC}			20	40	μ A
Line Regulation	Δ V _O			2		mV/V
Temperature Coefficient of Output Voltage	Δ V _O / Δ T		-11.2			mV/ $^{\circ}$ C

Equivalent Circuit



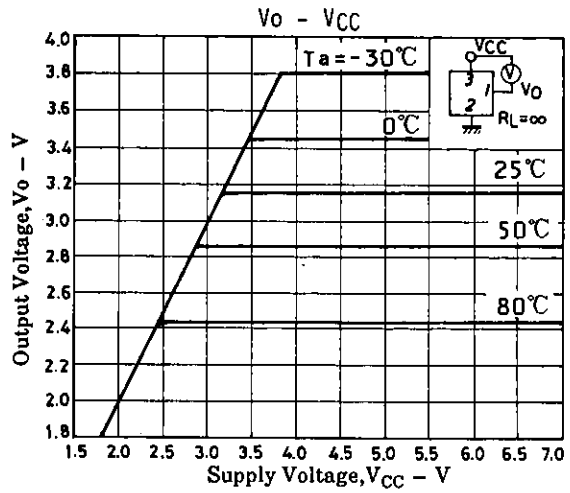
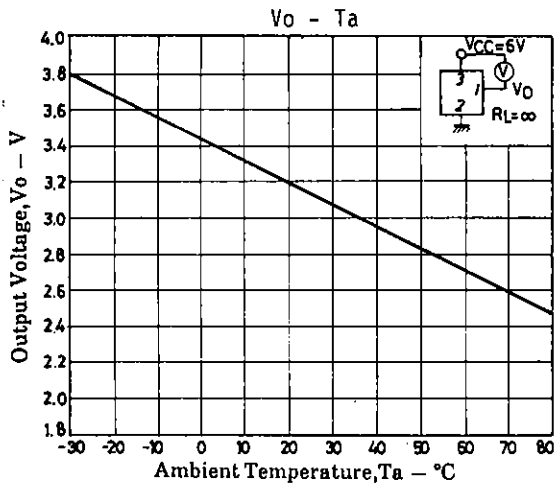
Package Dimensions (unit: mm)

3131

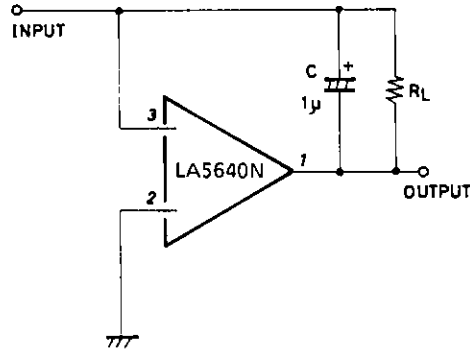


JEDEC : TO-92 3: V_{CC}
 EIAJ : SC-43 2: GND
 SANYO : NP 1: OUTPUT

LA5640N



Sample Application Circuit



Unit (capacitance: F)

- 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.