Ordering number: EN 1173C

Monolithic Digital IC

NO.1173C

LB1241

Fluorescent Display Tube Driver

The LB1241 has been designed for interfacing low-level digital devices to fluorescent display tubes. Its 8-circuit independent Darlington output stage is used for digit and segment drivers. Equivalent pull-down resistors are built in; externally connected resistors to prevent ghosts are no longer required. Output is activated when input voltages are at a low level, making the IC and ideal interface for N-channel MOS devices.

FEATURES

- 8 circuit independent Darlington driver.
- Capable of driving digits or segments.
- Built-in pull-down sink current.
- Rated at 45 V/30 mA
- Large pull-down current and capable of preventing ghost effectively.

ABSOLUTE MAXIMUM RATINGS/T_a = 25°C

				unit
Maximum power supply voltage	V_{CC} max		−0.3 ~ 45	V
Output supply voltage	V_{OUT}		−0.3 ~ V_{CC}	V
Input supply voltage	V_{IN}	GND < V_{IN}	V_{CC} − 10 ~ V_{CC}	V
Maximum output current	I_{OUT}		−30	mA
Allowable power dissipation	P_d max		1130	mW
Operating temperature	Topr		−20 ~ +75	°C
Storage temperature	T_{stg}		−40 ~ +150	°C

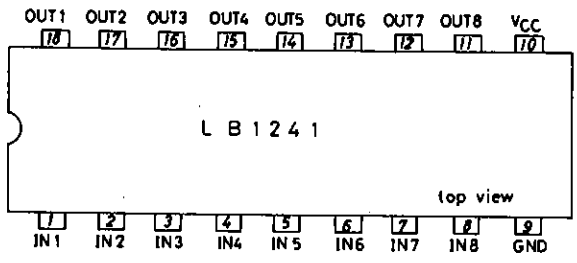
ALLOWABLE OPERATING CONDITIONS/T_a = 25°C

				unit
Supply voltage	V_{CC}		4.75 ~ 45	V
Input "H" level voltage	V_{IH}	GND < V_{IN}, I_{OUT} = −30 mA	V_{CC}−10 ~ V_{CC}−2.8	V
Input "L" level voltage	V_{IL}	$I_{OUT} \leqq$ −30 μA	V_{CC}−0.45 ~ V_{CC}	V

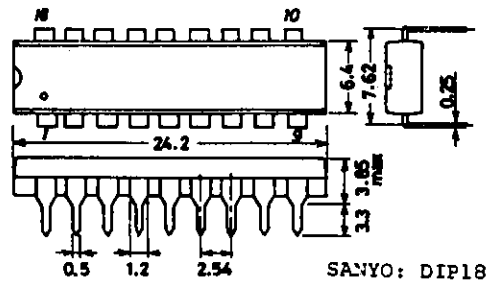
ELECTRICAL CHARACTERISTICS/T_a = 25°C, V_{CC} = 45 V

			min	typ	max	unit
Supply current	I_{CCL}	All inputs: open	0.6	1.3	2.3	mA
	I_{CCH}	All inputs: V_{IN} = V_{CC} − 5 V	7.0	10	16	mA
Output voltage	V_{OL}	V_{IN} = V_{CC} − 0.3 V, I_{OUT} = 0 mA			200	mV
	V_{OH}	V_{IN} = V_{CC} − 5 V, I_{OUT} = −30 mA	V_{CC} − 2.0	V_{CC} − 1.6		V
Pull-down current	I_{OPL}	V_{OUT} = V_{CC}	0.6	1.0	1.8	mA
Input current	I_{IN1}	V_{IN} = V_{CC} − 5 V	0.2	0.4	0.6	mA
	I_{IN2}	V_{IN} = V_{CC} − 10 V	0.6	0.9	1.3	mA
Output leakage current	I_{OL}	V_{IN} = V_{CC} − 0.3 V, V_{OUT} = 0.5 V	−30			μA

PIN ASSIGNMENT



Package Dimensions 3007A-D18IC (unit : mm)



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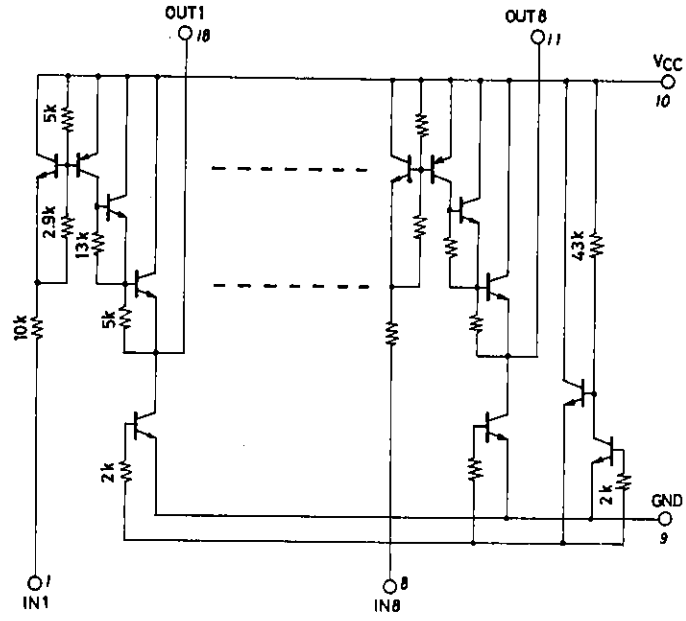
EQUIVALENT CIRCUIT



Unit (resistance: Ω)