Monolithic Digital IC

NO.1369C

LB1245

Active-Low Input Fluorescent Display Tube Driver

The LB1245 has been designed for interfacing low-level digital devices to fluorescent display tubes. Its 8-channel 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 an ideal interface for N-channel MOS devices. (V_{DD}, V_{SS} of LSI can be made common to V_{DD}, V_{SS} of the LB1245.)

Features

- 8-channel independent Darlington driver.
- Capable of driving digits or segments.
- Built-in pull-down sink current.
- Rated at 55V/30mA.

Absolute Maximum Ratings at Ta=25°C

			unit
Maximum Power Supply Voltage	$V_{CC}max$		-0.3 to +55.0 V
	$V_{DD}max$	$V_{DD} \leqq V_{CC}-2.0V$	-0.3 to +10.0 V
Output Supply Voltage	$V_{OUT}max$		-0.3 to V_{CC} V
Input Supply Voltage	$V_{IN}max$	$V_{IN} \geqq 0$	V_{DD}-10 to V_{DD} V
Maximum Output Current	$I_{OUT}max$		30 mA
Allowable Power Dissipation	Pdmax		1.13 W
Operating Temperature	Topr		-20 to +75 °C
Storage Temperature	Tstg		-40 to +150 °C

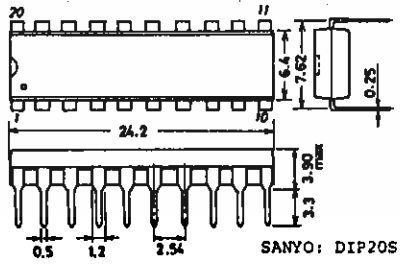
Allowable Operating Conditions at Ta=25°C

				unit
Supply Voltage	V_{CC}		5.5 to 55	V
	V_{DD}	$V_{DD} \leqq V_{CC}-2.0V$	3.5 to 10	V
Input "ON" Level Voltage	V_{ION}	$V_{IN} \leqq 0, I_{OUT}=-30mA$	V_{DD}-10 to V_{DD}-3.2	V
Input "OFF" Level Voltage	V_{IOFF}	$I_{OUT} \geqq -30\mu A$	V_{DD}-0.4 to V_{DD}	V

Electrical Characteristics at Ta=25°C, V_{CC}=55V, V_{DD}=5.0V

			min	typ	max	unit
Power Supply Current	I_{CCL}	All inputs:open			2.0	mA
	I_{CCH}	All inputs:$V_{IN}=V_{DD}$-5V			14	mA
	I_{DDH}	All inputs:			6.5	mA
Output Voltage	V_{OL}	$V_{IN}=V_{DD}$-0.4V, I_{OUT}=0			200	mV
	V_{OH}	$V_{IN}=V_{DD}$-5V, I_{OUT}=-30mA	V_{CC}-2			V
Pull-down Current	I_{OPL}	$V_{OUT}=V_{CC}$	0.2	0.4	1.0	mA
Input Current	I_{IN1}	$V_{IN}=V_{DD}$-5V	-0.8			mA
	I_{IN2}	V_{DD}=10V, $V_{IN}=V_{DD}$-10V	-1.9			mA
Output Leakage Current	I_{OL}	$V_{IN}=V_{DD}$-0.4V, V_{OUT}=0.5V	-30			μA

Package Dimensions 3021B-D20SIC
(unit : mm)



Equivalent Circuit

Unit (resistance: Ω)