

IR2410

7-Unit 400mA Darlington Transistor Array

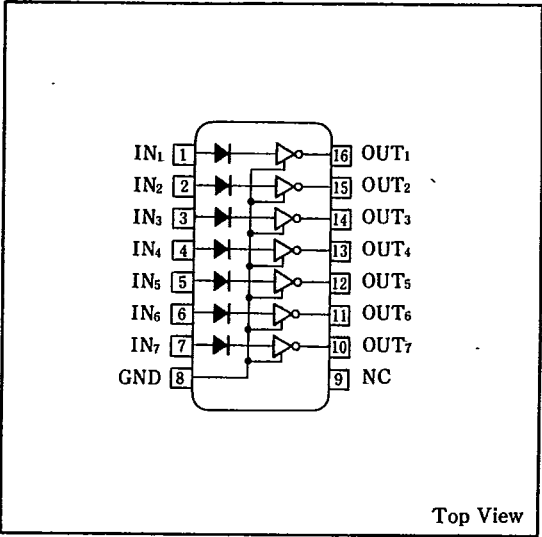
Description

The IR2410 is a 7-circuit driver which is useful when designing circuits for printer calculators with display tubes.

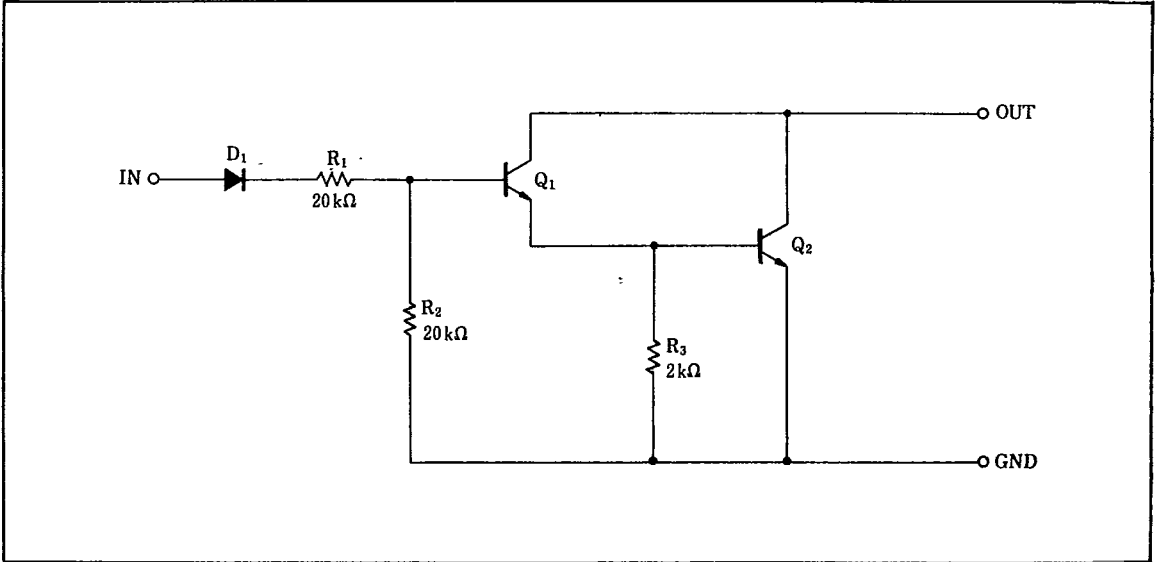
Features

- 1. High output current, $I_{OUT}=400\text{mA (MAX.)}$
- 2. High output breakdown voltage
 $BV_{CEO}=45\text{V (MAX.)}$
- 3. Directly driven by MOS output
- 4. Internal negative input voltage protective diode
- 5. Darlington construction
- 6. 16-pin dual-in-line package

Pin Connections



Equivalent Circuit



Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating	Unit
Supply voltage	V_{CC}		45	V
Output current*1	I_{OUT}	Each circuit	400	mA
Input voltage	V_{IN}		-40~+45	V
Breakdown voltage between collector-base	BV_{CBO}		45	V
Breakdown voltage between collector-emitter	BV_{CEO}		45	V
Load inductance	L_L	Protection diode used	100	mH
Power dissipation	P_D	$T_a \leq 25^\circ\text{C}$	650	mW
P_D derating ratio	$\Delta P_D/^\circ\text{C}$	$T_a > 25^\circ\text{C}$	6.5	mW/ $^\circ\text{C}$
Operating temperature	T_{opr}		-25~+75	$^\circ\text{C}$
Storage temperature	T_{stg}		-55~+125	$^\circ\text{C}$

*1 Duty cycle 10% or less, repetitive frequency 10Hz or more.

Recommended Operating Conditions

Parameter	Symbol	Condition	Rating	Unit
Max. output voltage	V_{OM}		45	V
Operating temperature	T_{opr}		-20~+75	$^\circ\text{C}$
Output current	I_{OUT}	at 10% duty	0~400	mA
		at 50% duty	0~150	

Electrical Characteristics

($T_a = -25 \sim +75^\circ\text{C}$)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}				45	V
ON-state input voltage	$I_{I\ ON}$	$V_{IN} = 17\text{V}, I_{OUT} = 0\text{mA}$		1.2	1.5	mA
ON-state output voltage	$V_{O\ ON1}$	$V_{IN} = 14\text{V}, I_{OUT} = 400\text{mA}$			2.2	V
	$V_{O\ ON2}$	$V_{IN} = 14\text{V}, I_{OUT} = 200\text{mA}$			1.4	
OFF-state output current	$I_{O\ OFF}$	$V_{IN} = 0\text{V}, V_{OUT} = 45\text{V}$			100	μA
Input leakage current	I_L	$V_{IN} = -35\text{V}$	-10			μA
DC current amplitude	h_{FE}	$V_{CE} = 2.5\text{V}, I_{OUT} = 300\text{mA}$	1,000			

Electrical Characteristic Curve

Output current—Duty cycle Characteristics

