

7-Unit 400mA Darlington Transistor Array

IR2403

T-43-25

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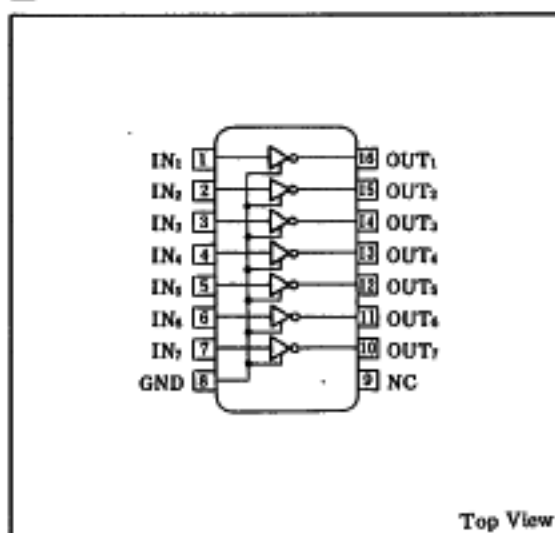
■ Description

The IR2403 is a 7-circuit driver. This IC can be used for directly driving high output current relays and LED digital display devices.

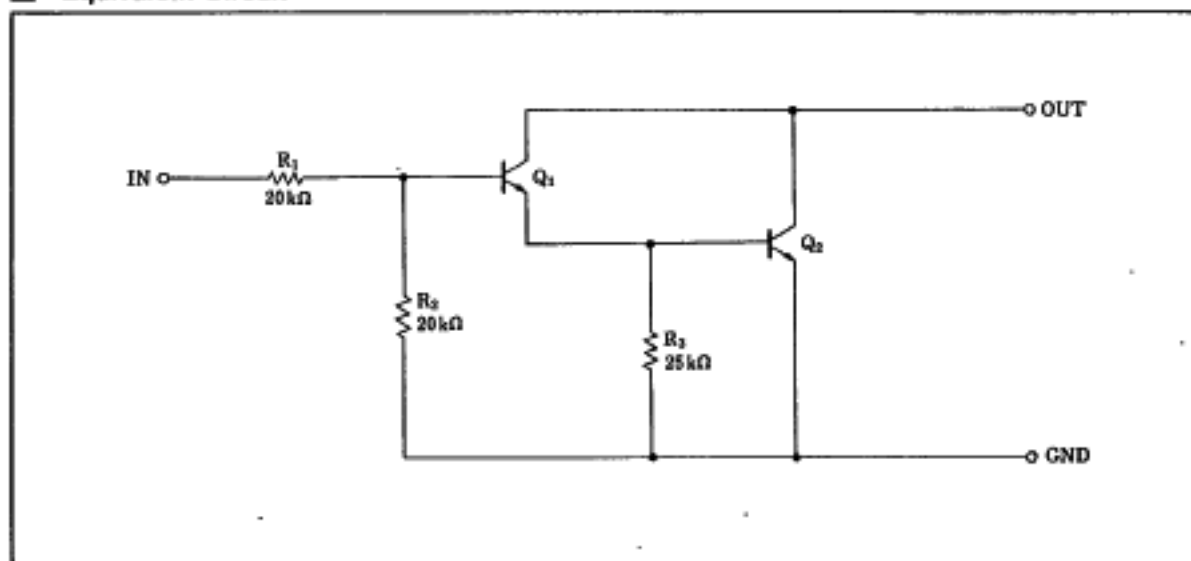
■ Features

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. Darlington construction
5. 16-pin dual-in-line package

■ Pin Connections



■ Equivalent Circuit



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■ 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}		45	V
Breakdown voltage between collector-base	BV_{CBO}		45	V
Breakdown voltage between collector-emitter	BV_{CEO}		45	V
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/°C
Operating temperature	T_{opr}		-25 ~ +75	°C
Storage temperature	T_{stg}		-55 ~ +125	°C

*1 Duty cycle 8% or less, repetitive frequency 10Hz or more.

■ Recommended Operating Conditions

Parameter	Symbol	Condition	Rating	Unit
Max. output voltage	V_{OM}		45 or less	V
Operating temperature	T_{opr}		-20 ~ +75	°C
Output current	I_{OUT}	at 8% duty	0~400	mA
		at 50% duty	0~150	

* Repetitive frequency 10Hz or more.

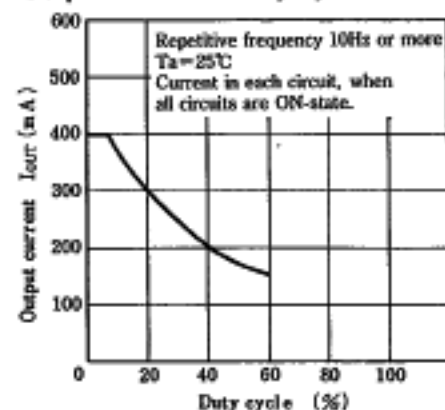
■ Electrical Characteristics

(Ta = -25 ~ +75°C)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}				45	V
ON-state input current	$I_{I\ ON}$	$V_{IN} = 17\text{V}, I_{OUT} = 0\text{mA}$		0.8	1.5	mA
ON-state output voltage	$V_{O\ ON1}$	$V_{IN} = 13\text{V}, I_{OUT} = 400\text{mA}$			2.2	V
	$V_{O\ ON2}$	$V_{IN} = 13\text{V}, I_{OUT} = 200\text{mA}$			1.4	
	$V_{O\ ON3}$	$V_{IN} = 13\text{V}, I_{OUT} = 100\text{mA}$			1.2	
OFF-state output current	$I_{O\ OFF}$	$V_{IN} = 0\text{V}, V_{OUT} = 45\text{V}$			100	μA
DC current amplitude	I_{PR}	$V_{CE} = 2.5\text{V}, I_C = 300\text{mA}$	1,000			

■ Electrical Characteristic Curve

Output current—Duty cycle Characteristics



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