T-43-25

IR2403 7-Unit 400mA Darlington Transistor Array

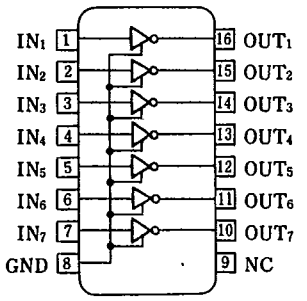
Description

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

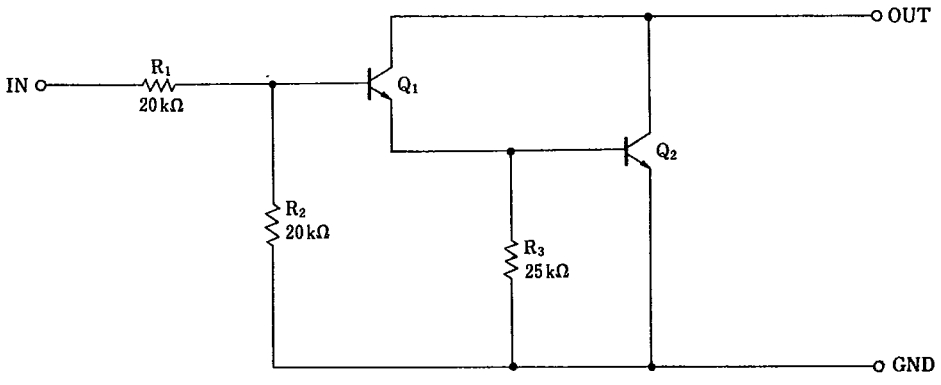
1. High output current, I_{OUT}=400mA (MAX.)
2. High output breakdown voltage BV_{CEO}=45V (MAX.)
3. Directly driven by MOS output
4. Darlington construction
5. 16-pin dual-in-line package

Pin Connections



Top View

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}		45	V
Breakdown voltage between collector-base	BV_{CBO}		45	V
Breakdown voltage between collector-emitter	BV_{CEO}		45	V
Power dissipation	P_D	Ta≦25℃	650	mW
P_D derating ratio	ΔP_D/℃	Ta>25℃	6.5	mW/℃
Operating temperature	T_{opr}		−25~+75	℃
Storage temperature	T_{stg}		−55~+125	℃

*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	℃
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℃)

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

■ Electrical Characteristic Curve

Output current—Duty cycle Characteristics