T-43-25

IR2C17/IR2C17N 7-Unit 400mA Darlington Transistor Array

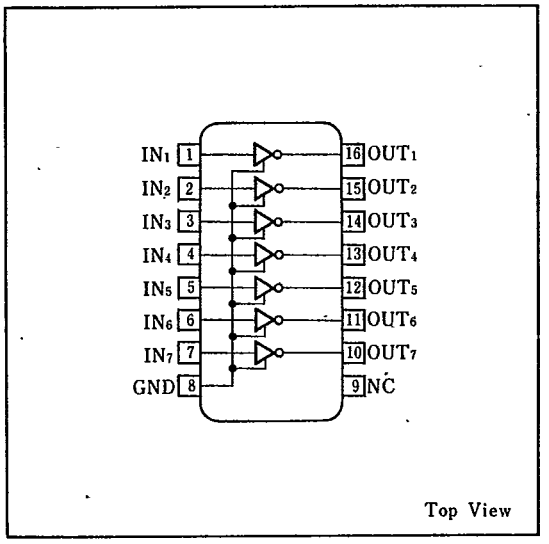
■ Description

The IR2C17/IR2C17N is a 7-circuit driver. Input characteristics are specified to match the SHARP one-chip microcomputer SM550 series and CMOS logic IC.

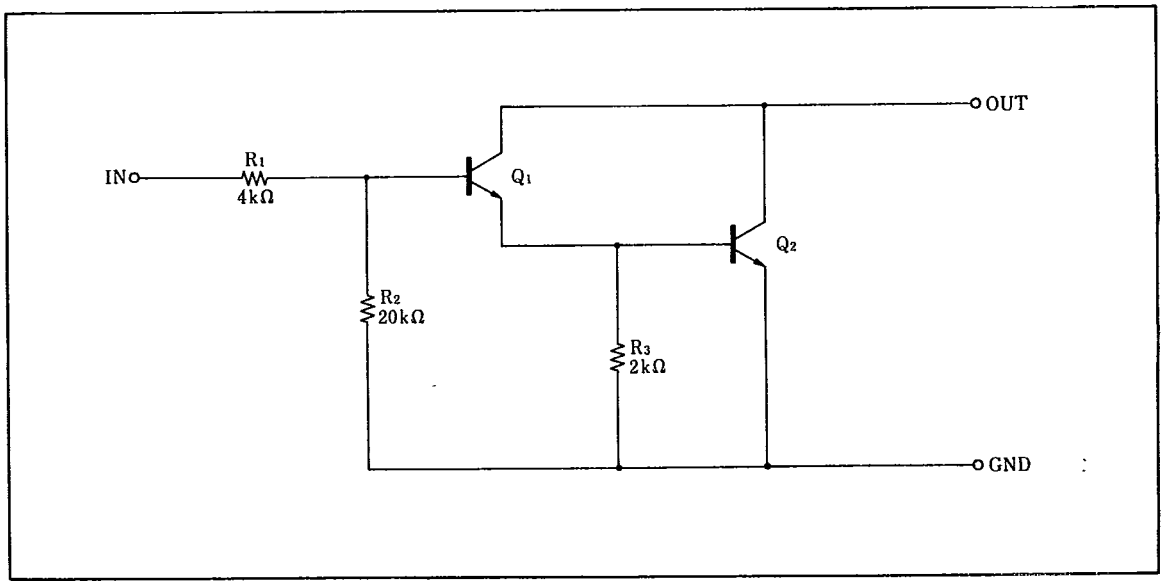
■ Features

1. High output current I_{OUT}=400mA (MAX.)
2. High output breakdown voltage BV_{CED}=45V (MAX.)
3. Directly driven by CMOS output
4. Darlington construction
5. 16-pin dual-in-line package (IR2C17)
   16-pin small-outline package (IR2C17N)

■ 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}			45	V
Collector-emiter breakdown voltage	BV_{CEO}			45	V
Power dissipation	P_D	Ta≦25℃	IR2C17	650	mW
			IR2C17N	450	
P_D derating ratio	ΔP_D/℃	Ta>25℃	IR2C17	6.5	mW/℃
			IR2C17N	3.6	
Operating temperature	T_{opr}			−25～+75	℃
Storage temperature	T_{stg}			−55～+150	℃

*1 Duty cycle 7% or less, repetitive frequency: 10Hz or more (Input voltage: 5.5V)

Recommended Operating Conditions

Parameter	Symbol	Condition	Rating	Unit
Output voltage	V_{CEO}		45	V
Output current	I_{OUT}	at 10% duty	0～400	mA
		at 50% duty	0～150	

* Repetitive frequency: 10Hz or more.

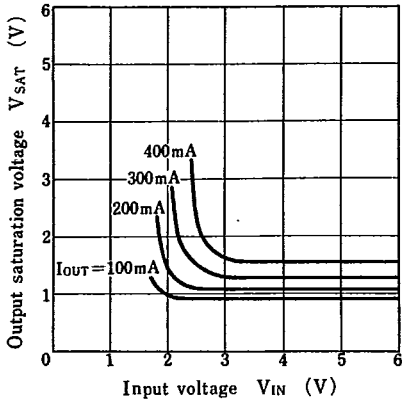
Electrical Characteristics

(Ta=−25～+75℃)

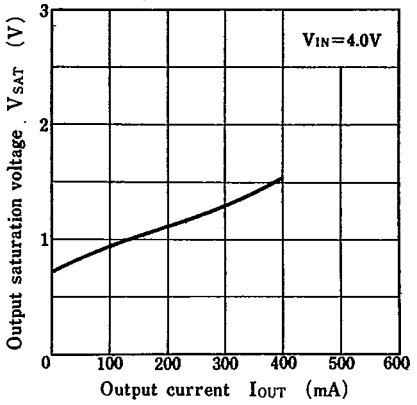
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}				45	V
ON-State input current	$I_{I\ ON}$	V_{IN}=5.5V, I_{OUT}=0mA		1	1.5	mA
ON-State output voltage	$V_{O\ ON1}$	V_{IN}=4.0V, I_{OUT}=400mA			2.2	V
	$V_{O\ ON2}$	V_{IN}=4.0V, I_{OUT}=200mA			1.4	
OFF-State output current	$I_{O\ OFF}$	V_{IN}=0V, V_{CEO}=45V			100	μA
DC current amplitude	h_{FE}	V_{CEO}=2.5V, I_{OUT}=300mA	1,000			
Input "High" voltage	V_{IH}		4			V
Input "Low" voltage	V_{IL}				0.4	V

Electrical Characteristic Curves (Unless otherwise specified, Ta=25℃)

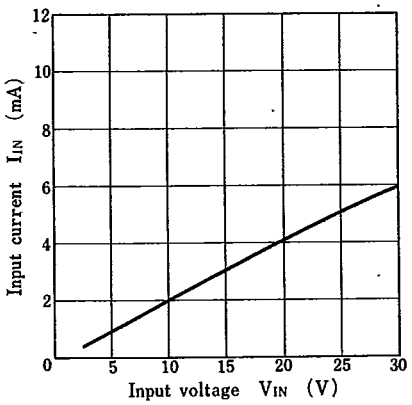
Output saturation voltage— Input voltage Characteristics



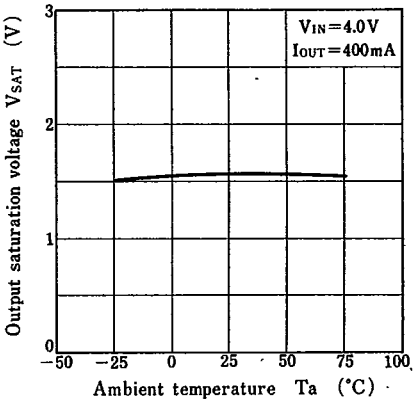
Output saturation voltage— Output current Characteristics



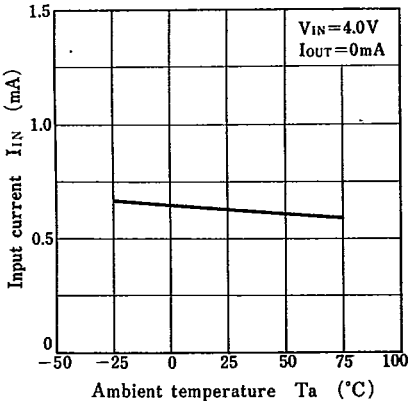
Input current— Input voltage Characteristics



Output saturation voltage— Ambient temperature Characteristics



Input current—Ambient temperature Characteristics



Output current—Duty cycle Characteristics