T-43-25

IR2C26 4-Unit 400mA Transistor Array

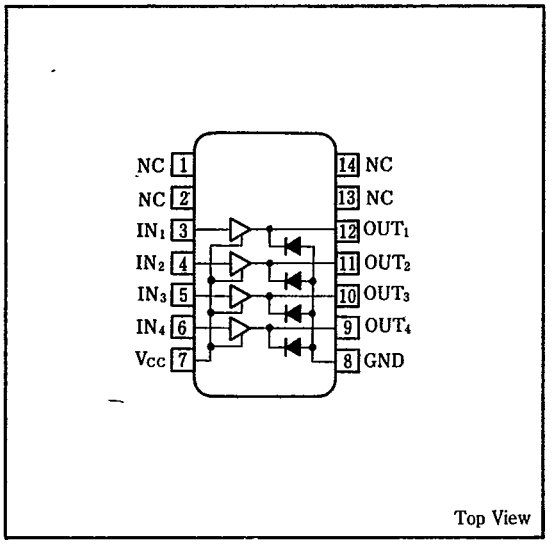
Description

The IR2C26 is a 4-circuit driver IC, which consists of an input inverter and a current source type output section. The output section is composed of a PNP transistor and an NPN Darlington transistor, with the base current of the PNP transistor constant. A clamp diode is placed between each output and GND; V_{CC} and GND are common for the 4 circuits. This transistor array is suitable for driving replays, printers, LED fluorescent display tubes and lamps as well as for interface with logic systems of the MOS or bipolar transistor, solenoids and small motors.

Features

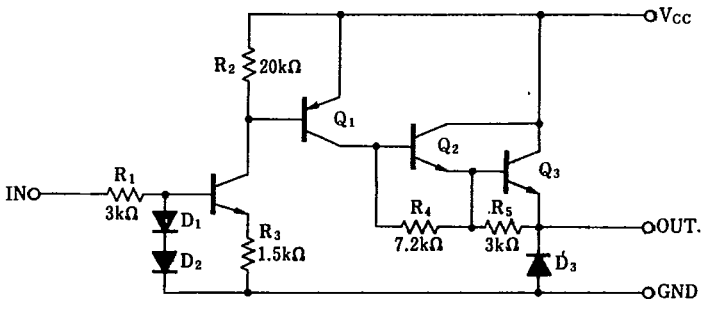
1. High output current, $I_{OUT}=-400mA$ (MAX.)
2. High output breakdown voltage $BV_{CEO}=45V$ (MAX.)
3. Built-in output clamp diode
4. Darlington structure, output current source type
5. 14-pin dual-in-line package

Pin Connections



Top View

Equivalent Circuit



Unit circuit.

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■ Absolute Maximum Ratings

(Ta=25℃)

Parameter	Symbol	Condition	Rating	Unit
Supply voltage	V_{CC}		45	V
Voltage between collector and emitter	V_{CEO}	When output is "L"	45	V
Output current	I_{OUT}	Current per circuit at the time of output being "H"	−400	mA
Input voltage	V_{IN}		0~10	V
Clamp diode reverse voltage	V_R		45	V
Clamp diode forward current	I_F		−400	mA
Power dissipation	P_D	Ta≦25℃	970	mW
P_D derating ratio	ΔP_D/℃	Ta>25℃	7.76	mW/℃
Operating temperature	T_{opr}		−20~+75	℃
Storage temperature	T_{stg}		−55~+150	℃

■ Recommended Operating Conditions

(Unless otherwise specified, Ta=−20~+75℃)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}				45	V
Output current (per circuit)	I_{OUT}	at 15% duty			−350	mA
		at 65% duty			−100	mA
Input "High" voltage	V_{IH}	I_{OUT}=−350mA	2.4			V
Input "Low" voltage	V_{IL}				0.2	V

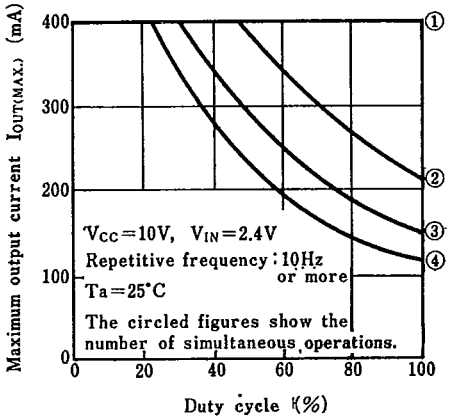
■ Electrical Characteristics

(Unless otherwise specified, Ta=−20~+75℃)

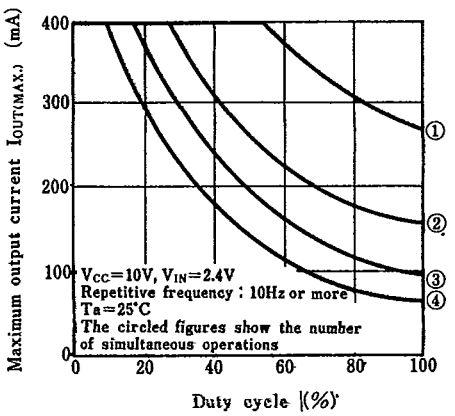
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Power leakage current	$I_{CC(leak)}$	V_{CC}=45V, V_{IN}=0.2			100	μA
Saturation voltage between collector and emitter	$V_{CE(sat)}$	V_{CC}=10V, V_{IN}=2.4V, I_{OUT}=−350mA			2.4	V
		V_{CC}=10V, V_{IN}=2.4V, I_{OUT}=−100mA			2	V
Input current	I_{IN}	V_{CC}=10V, V_{IN}=3V			1.2	mA
		V_{CC}=10V, V_{IN}=10V			5	mA
Supply current at ON	I_{CC}	V_{CC}=45V, V_{IN}=3V			5	mA
Clamp diode forward voltage	V_F	I_F=−350mA			−2.4	V
Clamp diode reverse voltage	V_R	I_R=100μA	45			V

■ Electrical Characteristic Curves (Unless otherwise specitied, Ta=+25℃)

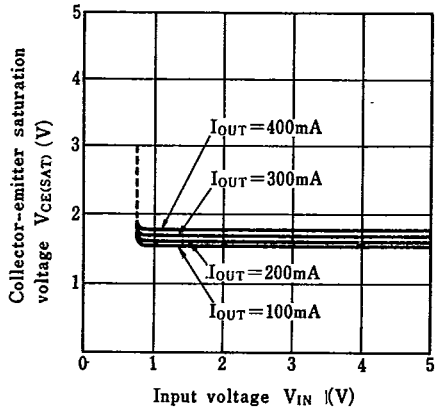
Maximum output current—Duty cycle Characteristics (1)



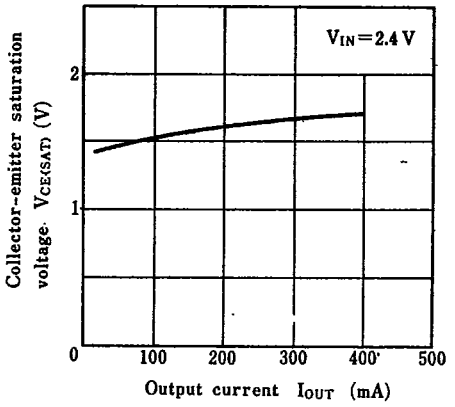
Maximum output current—Duty cycle Characteristics (2)



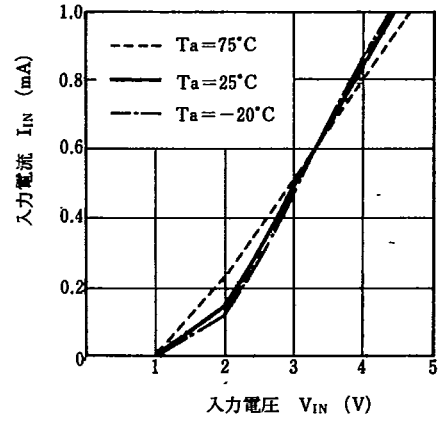
Collector-emitter saturation voltage —Input voltage Characteristics



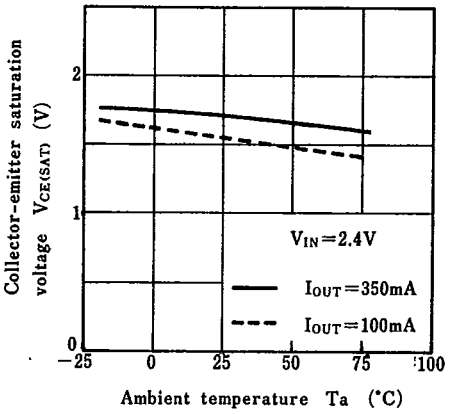
Collector-emitter saturation voltage —Output current Characteristics



Input current—Input voltage Characteristics



Collector-emitter saturation voltage —Ambient temperature Characteristics



Input current—Ambient temperature Characteristics