

IR2419 6-Unit 400mA Darlington Transistor Array

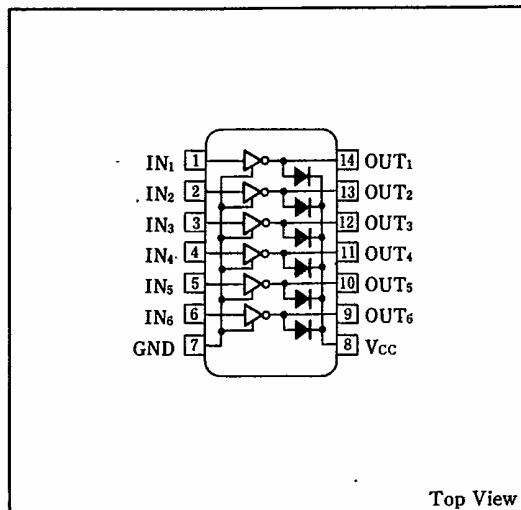
■ Description

The IR2419 is a 6-circuit driver. The internal clamping diodes enable the IC to drive the inductive load directly.

■ Features

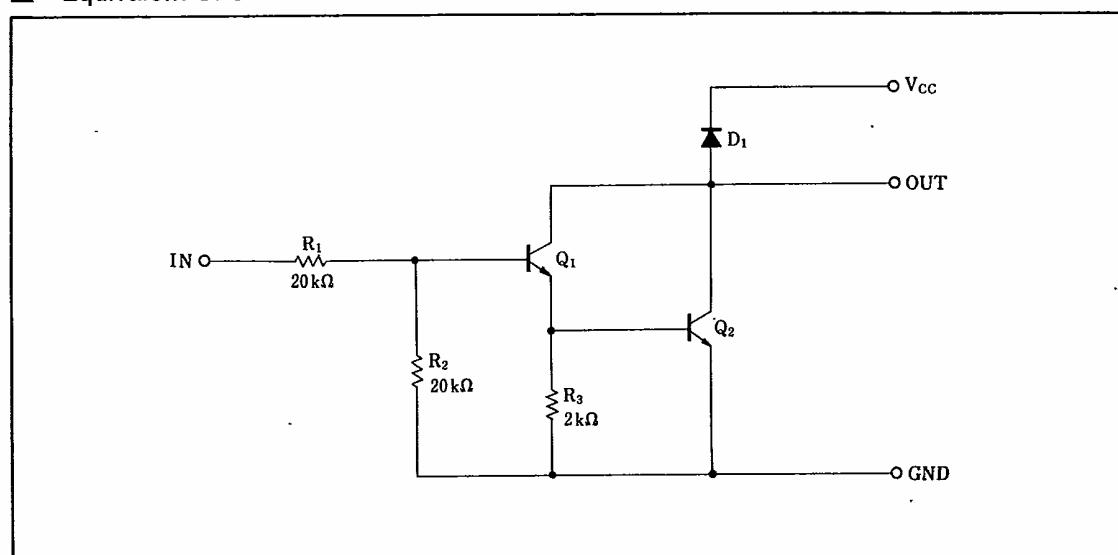
1. High output current, $I_{OUT}=400mA$ (MAX.)
2. High output breakdown voltage
 $BV_{CEO}=45V$ (MAX.)
3. Directly driven by MOS output
4. Internal output clamping diode
5. Darlington construction
6. 14-pin dual-in-line package

■ Pin Connections



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■ 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}		0~V _{CC}	V
Breakdown voltage between collector-base	BV _{CBO}		45	V
Breakdown voltage between collector-emitter	BV _{CEO}		45	V
Forward current	I _F	Applies to clamp diode	40	mA
Surge current	I _{surge}	Applies to clamp diode	400	mA
Load inductance	L _L		100	mH
Power dissipation	P _D	T _a ≤25°C	650	mW
P _D derating ratio	ΔP _D /°C	T _a >25°C	6.5	mW/°C
Operating temperature	T _{opr}		-25~+75	°C
Storage temperature	T _{stg}		-55~+125	°C

* 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	°C
Output current	I _{OUT}	at 10% duty	0~400	mA
		at 50% duty	0~150	

Repetitive frequency 10Hz or more.

Electrical Characteristics

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
	V _{ON1}	V _{IN} =14V, I _{OUT} =400mA			2.2	
ON-state output voltage	V _{ON2}	V _{IN} =14V, I _{OUT} =200mA			1.4	V
OFF-state output current	I _{O OFF}	V _{IN} =0V, V _{OUT} =45V			100	μA
Clamp diode forward voltage	V _F	I _F =400mA			2.2	V
Clamp diode leakage current	I _R	V _R =45V			100	μA
DC current amplitude	h _{FE}	V _{CE} =2.5V, I _{OUT} =300mA	1,000			

Electrical Characteristic Curve

Output current—Duty cycle Characteristics

