

SHARP ELEK/ MELEC DIV

LSE D 8180798 0001952 6

7-Unit 400mA Darlington Transistor Array

IR2411

T-52-13-45

IR2411 7-Unit 400mA Darlington Transistor Array

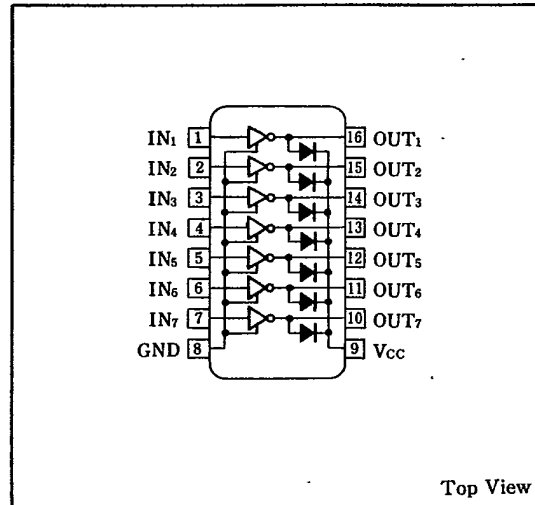
Description

The IR2411 is a 7-circuit driver. The internal clamping diodes enable the IC to drive the inductive load directly.

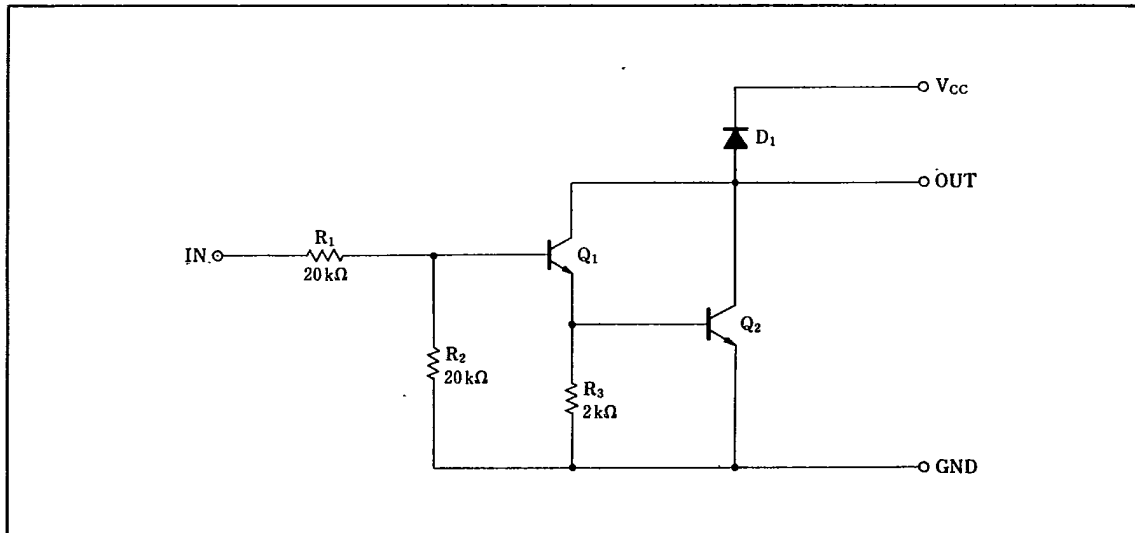
Features

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. Internal output clamping diode
5. Darlington construction
6. 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}		-0.5~45	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	4000	mA
Load inductance	L_L		100	mH
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 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*2	I_{OUT}	at 10% duty	0~400	mA
		at 50% duty	0~150	

*2 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 current	$V_{O\ ON1}$	$V_{IN}=13\text{V}, I_{OUT}=400\text{mA}$			2.2	V
	$V_{O\ ON2}$	$V_{IN}=13\text{V}, I_{OUT}=200\text{mA}$			1.4	
OFF-state output current	$I_{O\ OFF}$	$V_{IN}=0\text{V}, V_{OUT}=45\text{V}$			100	μA
Diode forward voltage	V_F	$I_F=400\text{mA}$			2.2	V
Diode leakage current	I_R	$V_R=45\text{V}$			100	μA
DC current amplitude	h_{FE}	$V_{CE}=2.5\text{V}, I_{OUT}=300\text{mA}$	1,000			
Sustaining voltage	$V_{CER(SUS)}$	$I_{OUT}=10\text{mA}$			45	V
Input voltage	V_{IN}	$I_{OUT}=100\text{mA}$			4	V

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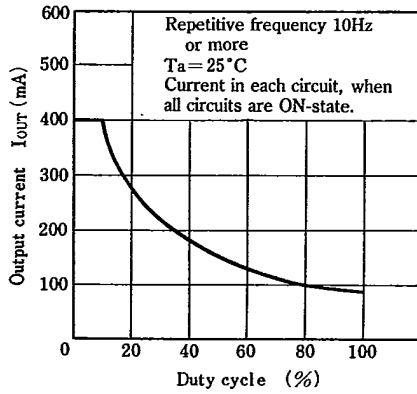
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■ Electrical Characteristic Curve**Output current—Duty cycle Characteristics**

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