

QUAD TRANSISTOR SWITCH

- OUTPUT VOLTAGE TO 50 V
- OUTPUT CURRENT TO 1.2 A
- VERY LOW SATURATION VOLTAGE
- TTL COMPATIBLE INPUTS
- INTEGRAL SUPPRESSION DIODE

The emitters of the four switches are commoned. Any number of inputs and outputs of the same device may be paralleled.

This device is intended to drive coils such as relays, solenoids, unipolar stepper motors, LED, etc.

DESCRIPTION

The L6222 monolithic quad transistor switch is designed for high current, high voltage switching applications.

Each of the four switches is controlled by a logic input and all four are controlled by a common enable input. All inputs are TTL-compatible for direct connection to logic circuits. Each switch consists of an open-collector transistor plus a clamp diode for applications with inductive loads.

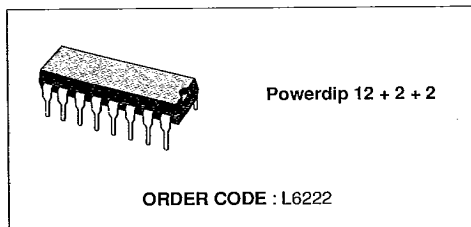
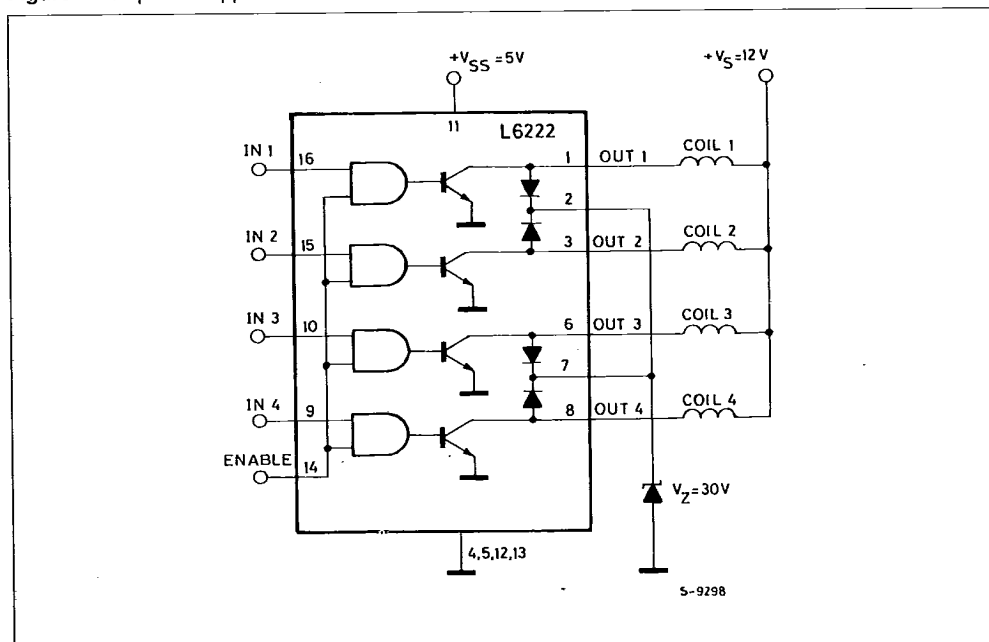


Figure 1 : Unipolar Stepper Motor Drive.



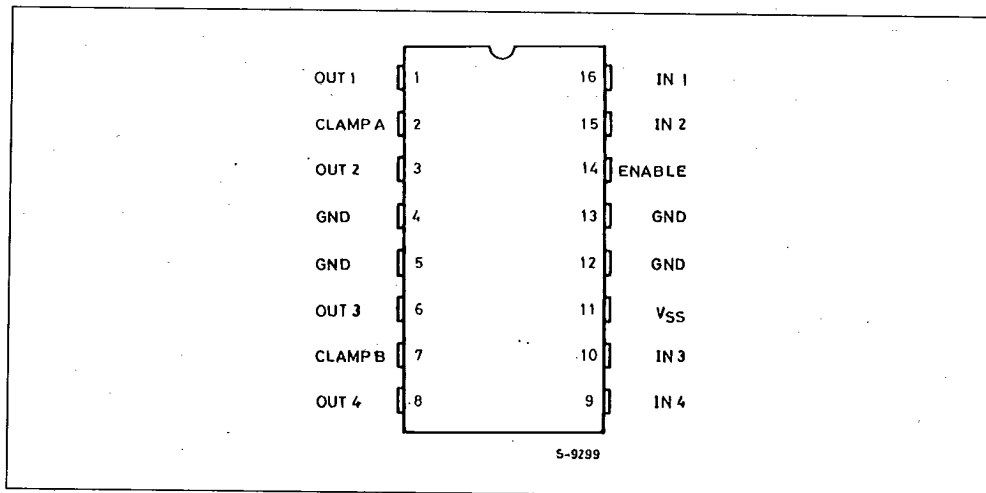
ABSOLUTE MAXIMUM RATINGS

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Symbol	Parameter	Value	Unit
V_s	Output Voltage	50	V
V_{ss}	Logic Supply Voltage	7	V
V_{IN}	Input Voltage	15	V
I_C	Collector Current (PEAK)	1.2	A
T_{op}	Operating Temperature Range (junction)	- 40 to + 150	°C
T_{stg}	Storage Temperature Range	- 55 to + 150	°C

CONNECTION DIAGRAM (top view)



TRUTH TABLE

Enable	Input	Power Out
H	H	ON
H	L	OFF
L	X	OFF

For each input : H = High level
 L = Low level
 X = Don't care

THERMAL DATA

$R_{th j-amb}$	Thermal Resistance Junction-ambient	Max.	80	°C / W
$R_{th j-case}$	Thermal Resistance Junction-case	Max.	14	°C / W

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ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, unless specified)

Symbol	Parameter	Test Conditions	Min.	Unit	Max.	Typ.
V_{SS}	Logic Supply Voltage		4.50		7	V
$V_{CE(sus)}$	Output Sustaining Voltage	$V_{IN} = 0.8\text{ V}$ $I_C = 100\text{ mA}$	46			V
I_{CEX}	Output Leakage Current	$V_{CE} = 50\text{ V}$ $V_{IN} = 0.8\text{ V}$			1	mA
$V_{CE(sat)}$	Collector Emitter Saturation Voltage	$V_{IN} \geq 2.0\text{ V}$ $I_C = 0.1\text{ A}$			0.2	V
		$I_C = 0.4\text{ A}$			0.5	
		$I_C = 0.7\text{ A}$			0.9	
V_{IL}	Input low Voltage				0.8	V
I_{IL}	Input Low Current	$V_{IN} = 0.4\text{ V}$			- 100	μA
V_{IH}	Input High Voltage		2.0			V
I_{IH}	Input High Current	$V_{IN} \geq 2.0\text{ V}$			± 10	μA
I_S	Logic Supply Current	$V_{SS} = 5\text{ V}$ All Outputs ON $I_C = 0.7\text{ A}$		50	85	mA
		All Outputs OFF		8		mA
I_R	Clamp Diode Leakage Current	$V_R = 50\text{ V}$			100	μA
V_F	Clamp Diode Forward Voltage	$I_F = 0.7\text{ A}$			1.6	V
		$I_F = 1.2\text{ A}$			2.0	