

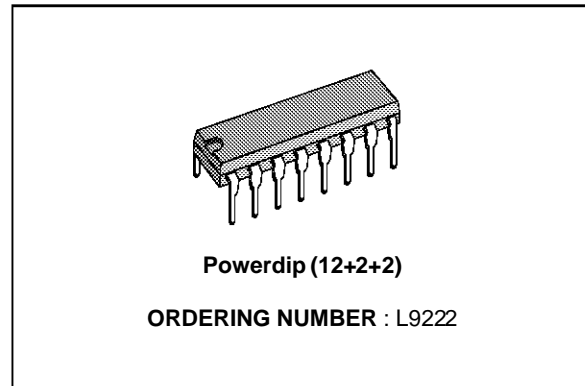
**QUAD INVERTING TRANSISTOR SWITCH**

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

**DESCRIPTION**

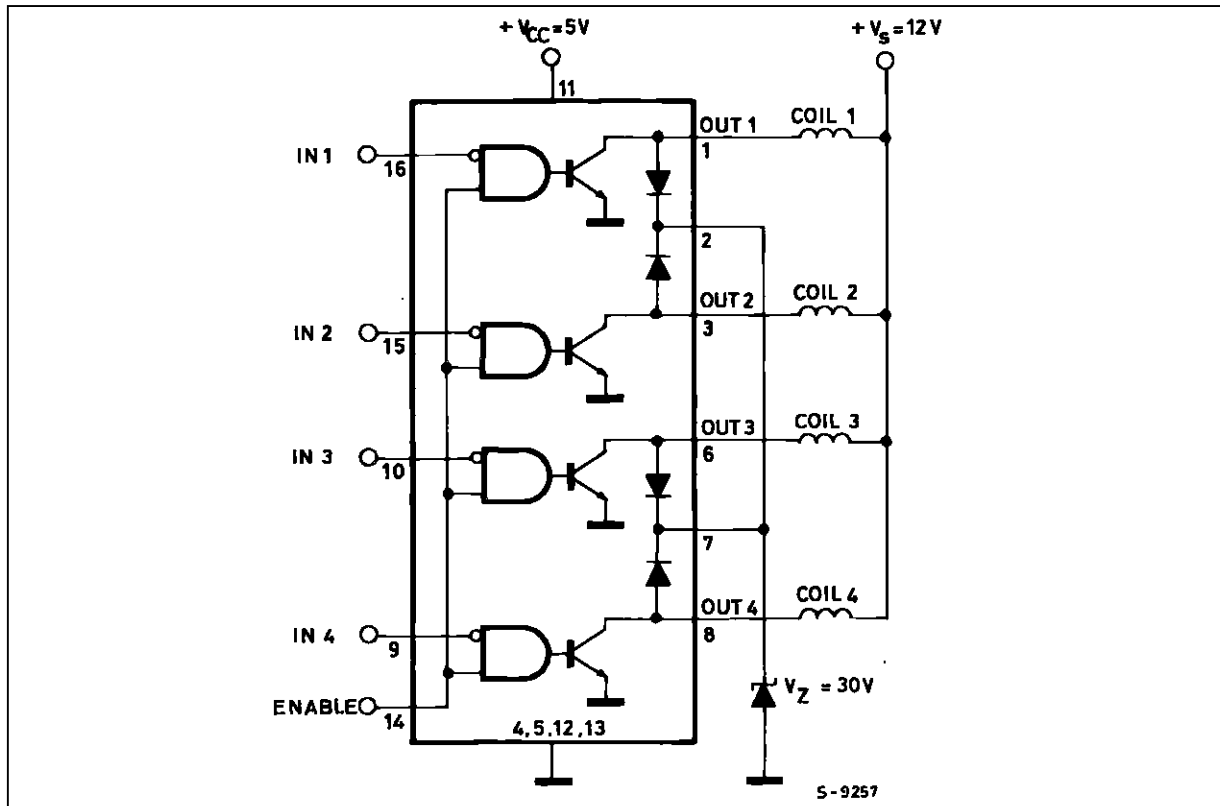
The L9222 monolithic quad transistor switch is designed for high current, high voltage switching applications.

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.



The emitters of the four switches are connected together to GND. The switches of the same device may be paralleled. The device is intended to drive coils such as relays, solenoids, unipolar stepper motors, LED etc.

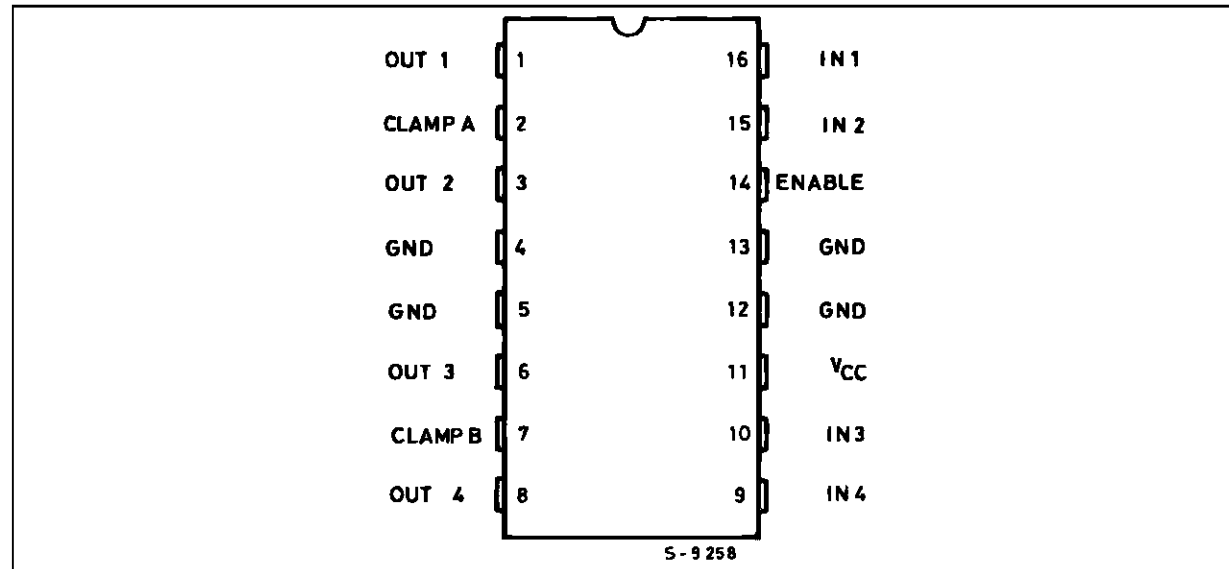
**BLOCK DIAGRAM**



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V <sub>OUT</sub>	Output Voltage	- 0.7 to 50	V
V <sub>CC</sub>	Logic Supply Voltage	7	V
V <sub>i</sub>	Input Voltage	- 0.7 to V <sub>CC</sub> + 0.3	V
T <sub>j</sub> , T <sub>ST</sub>	Junction and Storage Temperature Range	- 55 to 150	°C

**PIN CONNECTION (top view)**



**TRUTH TABLE**

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

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

**THERMAL DATA**

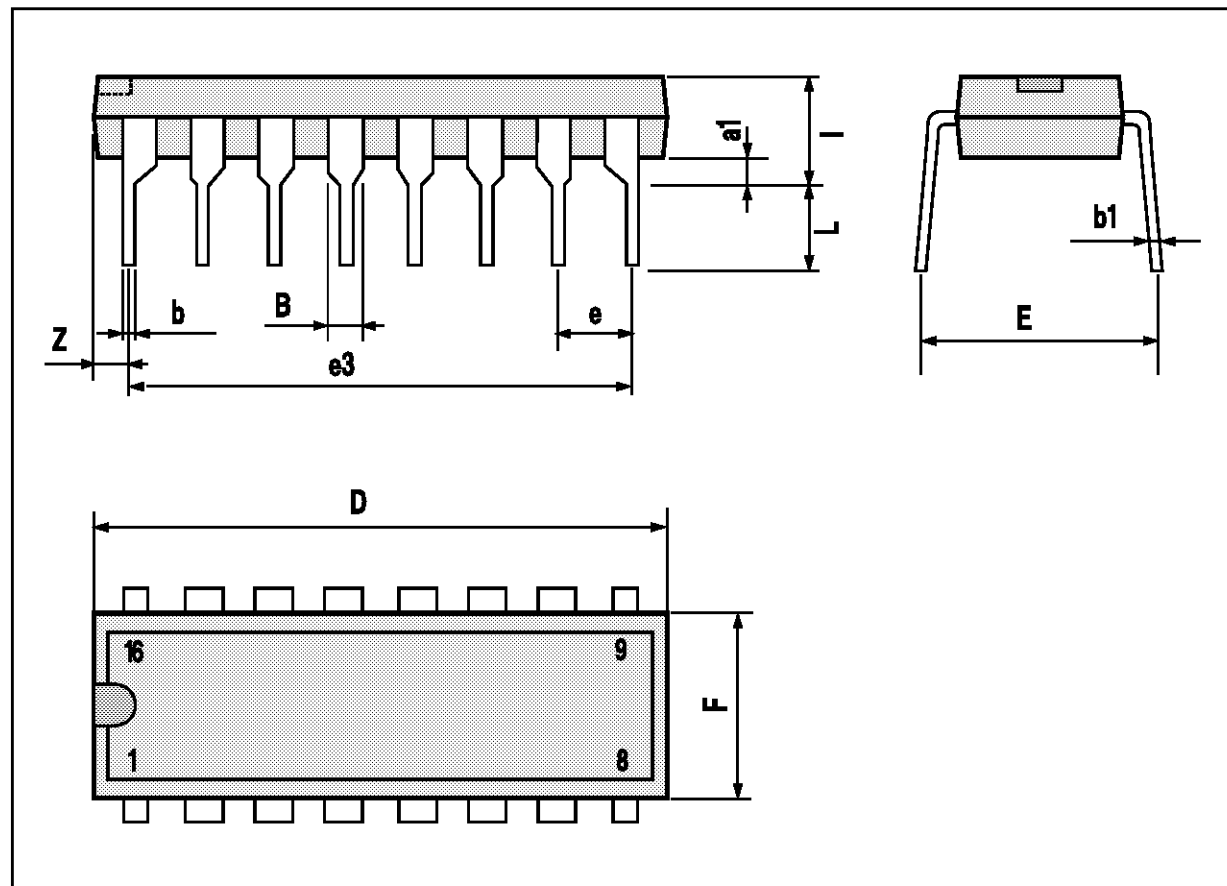
Symbol	Parameter	Value	Unit
R <sub>th j-amb</sub>	Thermal Resistance Junction-ambient	90	°C/W
R <sub>th J-case</sub>	Thermal Resistance Junction-case	14	°C/W

**ELECTRICAL CHARACTERISTICS** ( $V_{CC} = 5V_{dc} \pm 5\%$   $V_{EN} = 5V - 40 \leq T_j \leq 125^\circ C$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CE(sus)}$	Output Sustaining Voltage	$V_{IN} = 2V$ $V_{EN} = 2V$ , $I_{OUT} = 100mA$	46			V
$I_{CEX}$	Output Leakage Current	$V_{CE} = 50V$ $V_{IN} = 2V$ , $V_{EN} = 0.8V$			1	mA
$V_{CE(sat)}$	Collector Emitter Saturation	$V_{IN} \geq 0.8V$ $I_{OUT} = 0.1A$ $I_{OUT} = 0.3A$ $I_{OUT} = 0.6A$ ; $-40 + 105^\circ C$			0.3 0.5 0.8	V V V
$V_{IL}$	Input Low Voltage				0.8	V
$I_{IL}$	Input Low Current	$V_{IN} = 0.4V$	- 15			$\mu A$
$V_{IH}$	Input High Voltage		2.0			V
$I_{IH}$	Input High Current	$V_{IN} \geq 2.0V$	- 15			$\mu A$
$I_S$	Logic Supply Current	All Outputs ON $I_{OUT} = 06A$		50	90	mA
		All Outputs OFF		10	20	mA
$I_R$	Clamp Diode Leakage Current	$V_R = 50V$ Diode Reverse Voltage			100	$\mu A$
$V_F$	Clamp Diode Forward Voltage	$I_F = 0.6A$			1.8	V
		$I_F = 1.2A$			2.0	V
$I_{OUT}$	Output Current	$V_{IN} = 0.4V$ , $R = 10\Omega$ , $V_S = 13V$	0.9	1.2		A
$T_{PHL}$	Propagation Delay Time (high to low transition)	$T_j = 25^\circ C$ $I_L = 600mA$			20	$\mu s$
$T_{PHL}$	Propagation Delay Time (low to high transition)	$I_L = 600mA$ $T_j = 25^\circ C$			20	$\mu s$
$V_{ENL}$	Low Enable Voltage				0.8	V
$I_{ENL}$	Low Enable Current	$V_{EN} = 0.4V$	- 15			$\mu A$
$V_{ENH}$	High Enable Voltage		2.0			V
$I_{ENH}$	High Enable Current	$V_{EN} \geq 2.0V$	- 15		15	$\mu A$

POWERDIP16 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.51			0.020		
B	0.85		1.40	0.033		0.055
b		0.50			0.020	
b1	0.38		0.50	0.015		0.020
D			20.0			0.787
E		8.80			0.346	
e		2.54			0.100	
e3		17.78			0.700	
F			7.10			0.280
l			5.10			0.201
L		3.30			0.130	
Z			1.27			0.050



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.