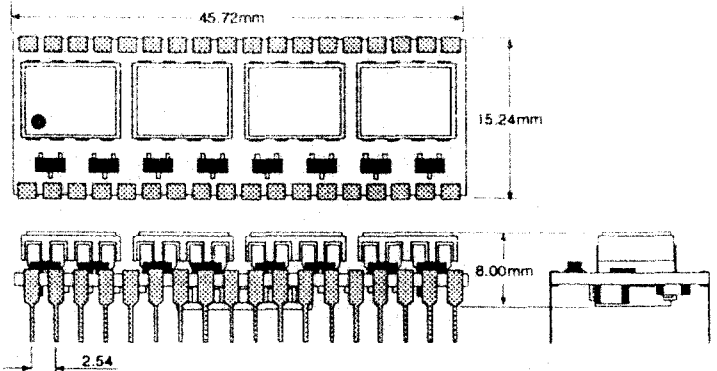


## EIGHT CHANNEL VOLTAGE MONITORING OPTOCOUPLER MODULE WITH TRI-STATE BUFFERED OUTPUT



Isocom Ltd supplies high reliability devices for applications requiring an operating temperature range of -55°C to +125°C (e.g. military applications).

Devices supplied have completed rigorous testing, and various high reliability test options are offered.

As manufacturer of high reliability optocouplers Isocom Ltd's manufacturing plant in North East England, has site approval to BS9000 (registered number 1294/M) and CECC20000 (registered number M/1084/CECC/UK) issued by the British Standards Institution.

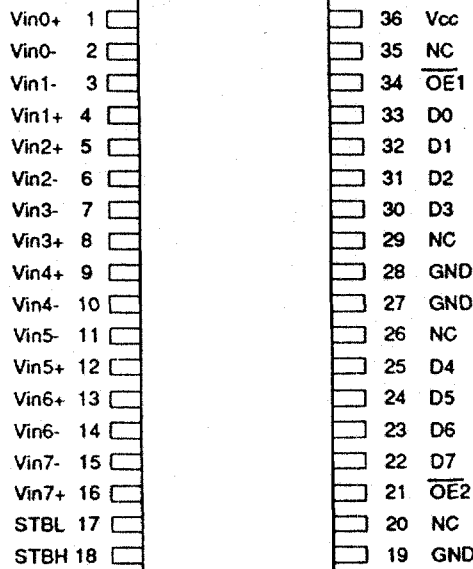
Together with CECC, BS9000 is a preferred standard for use in European military projects. Consequently, Isocom Ltd's approved devices are listed in the CECC "MUAHAG" preferred products list.

The BS9000 approval is also recognised as meeting the equivalent criteria to those required by BS5750/ISO9000/EN29000.

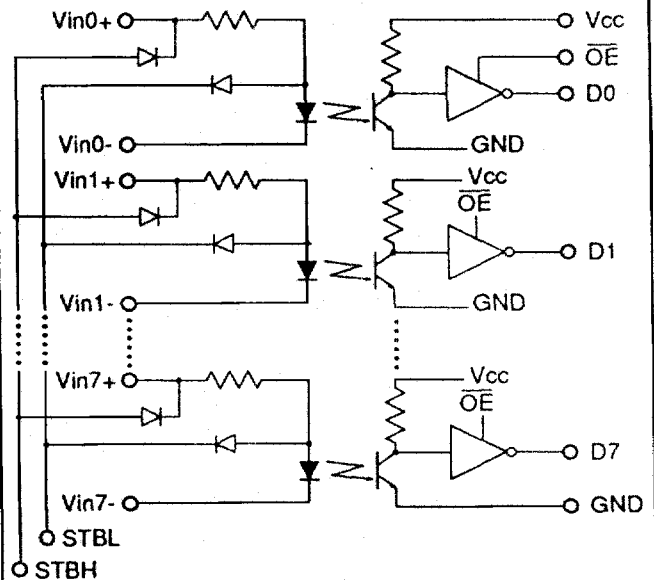
The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

# DATA

### Pin Definition:



### Electrical Schematic:



**BS9000**  
APPROVED MANUFACTURER

**CECC 20000**  
APPROVED MANUFACTURER

## Description

The IHA910 is an eight channel optocoupler module consisting of four dual channel hermetically sealed optocouplers, one octal buffer and associated passive components. The device is designed to give a nominal 2.5V input voltage switching threshold with minimum hysteresis. The design allows a wide input voltage range and includes the facility to set all the inputs to a high or low state as well as having the usual output buffer enable.

The IHA910 is configured as a 36 pin, 0.6" pitch dual in line package.

## Absolute Maximum Ratings

Storage temperature	.....	-65°C to +150°C
Operating temperature	.....	-55°C to +125°C
Lead solder temperature (1.6mm below seating plane)	.....	260°C for 10s
Output supply voltage	.....	-0.5 to 7.0V
Input voltage	.....	-5.0 to 30.0V
Continuous output current	.....	±35mA

## Truth Table

STBL	STBH	$\overline{OE}$	$V_i$	D
Z	Z	L	L	L
Z	Z	L	H	H
Z	Z	H	L	Z
Z	Z	H	H	Z
Z	H	L	L	H
Z	H	L	H	H
Z	H	H	L	Z
Z	H	H	H	Z
L	Z	L	L	L
L	Z	L	H	L
L	Z	H	L	Z
L	Z	H	H	Z

## Recommended Operating Conditions

Parameter	Sym	Min	Max	Units
Output supply voltage	$V_{CC}$	4.5	5.5	V
High level input voltage	$V_{IH}$	4.0	28.0	V
Low level input voltage	$V_{IL}$	-0.5	0.8	V
Input strobe high	$V_{STBH}$	4.5	15.0	V
Input strobe low	$V_{STBL}$	-0.5	0.5	V

L: low level  
H: high level  
Z: high impedance

## Electrical Characteristics ( $T_A = -55$ to $+125^\circ\text{C}$ U.O.S) \*All typical values at $V_{CC}=5V, T_A=25^\circ\text{C}$

Parameter	Symbol	Test Conditions	min	typ*	max	Units
High level output voltage	$V_{OH}$	$V_i=4.0V, V_{CC}=4.5V, I_o=-6mA$	3.7	4.3	-	V
Low level output voltage	$V_{OL}$	$V_i=0.8V, V_{CC}=4.5V, I_o=6mA$	-	0.17	0.4	V
Output supply current	$I_{CC}$	$V_{CC}=5.5V, V_i=5V$	-	5.6	8.0	mA
Tri-state output leakage current	$I_{OZ}$	$V_o=V_{CC}$ or 0, $V_i=0$ or 5.0V	-	±0.01	±10.0	µA
High level input voltage	$V_{IH}$	$V_o=3.7V, V_{CC}=4.5V$	-	-	4.0	V
Low level input voltage	$V_{IL}$	$V_o=0.8V, V_{CC}=5.5V$	0.8	-	-	V
High level input strobe current	$I_{STBH}$	$V_{STBH}=5.5V, V_{(0-7)}=-0.5V$	-	9.0	12.0	mA
Low level input strobe current	$I_{STBL}$	$V_{STBL}=-0.5V, V_{(0-7)}=-5.0V$	-	-10.0	-15.0	mA
Input current	$I_i$	$V_i=6.0V$	-	-	1.5	mA
Input to output isolation voltage	$V_{IO}$	$I_{IO}=1\mu A, T_A=25^\circ\text{C}, R.H.=45\%$	500	-	-	V
Output propagation delay	$t_{PLH}, t_{PHL}$	$V_{CC}=5.0V, V_i=5V, C_L=50pF$	-	-	50	µs

