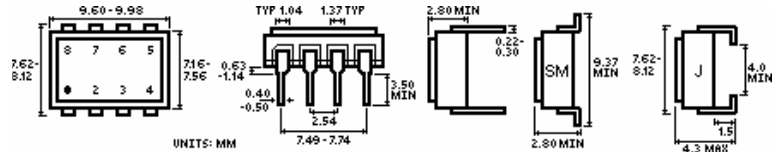


CD650

Dual Channel High Speed Optically Coupled Isolator



Isocom Ltd supplies high reliability devices for applications requiring an operating temperature range of -55°C to $+125^{\circ}\text{C}$ (e.g. military applications).

Devices supplied are approved to BS9400, and have completed rigorous testing. Various high reliability test options are offered.

As a manufacturer of high reliability optocouplers, the Isocom Ltd manufacturing plant in the North East of England has site approval to BS9000 (registration number 1294/M) and CECC20000 (registration 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/IS09000/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.

Features	Applications	
Hermetically sealed ceramic package	Military, high reliability systems	<p>1: Anode Ch1 2: Cathode Ch1 3: Cathode Ch2 4: Anode Ch2 5: Ground 6: CH2 O/P V_{O2} 7: Ch1 O/P V_{O1} 8: V_{CC}</p>
High speed: Typ 10Mbits/S (75nS max)	Telephone ring detection	
TTL compatible I/P and O/P	Microprocessor system interface	
High common mode rejection	Current loop receivers	
1.5kVDC Electrical Isolation	Process control input/output isolation	
Performance guaranteed over -55°C to $+125^{\circ}\text{C}$	System test equipment isolation	

Description

The CD650 is a dual channel device hermetically sealed in a 8 pin ceramic package. It incorporates GaAsP LED emitters and high gain integrated photo detectors. The outputs are open collector Schottky clamped transistors.

Absolute Maximum Ratings

Storage temperature -65°C to +150°C
 Operating temperature -55°C to +125°C
 Lead solder temperature 260°C for 10S
 (1.6mm below seating plane)

Input Diode

Forward DC current 20mA
 Reverse DC voltage 5V
 Peak forward current 40mA
 (≤1 mS duration)
 Power Dissipation 35mW

Output Detector

Supply Voltage V_{CC} 7V(1 Minute max)
 Current I_O 25mA
 Collector Power Dissipation 40mW
 Voltage V_O 7V

Total Package

Power Dissipation 350mW

Electrical Characteristics ($T_A = -55$ to 125°C U.O.S) *All typical values at $T_A = 25^\circ\text{C}$

parameter	symbol	Test Conditions	min	*typ	max	Units
High Level Output Current	I_{OH}	$V_{CC}= 5.5V, V_O= 5.5V, I_F= 250\mu A$		20	250	μA
Low Level Output Voltage	V_{OL}	$V_{CC}= 5.5V, I_F= 5mA, I_{OL}= 13mA$		0.4	0.6	V
High Level Supply Current	I_{CCH}	$V_{CC}= 5.5V, I_F= 0$		15	30	mA
Low Level Supply Current	I_{CCL}	$V_{CC}= 5.5V, I_{F1}=I_{F2}=10mA$		30	38	mA
I/O Insulation Leakage Current	I_{IO}	$RH= 45\%, T_A= 25^\circ C, t= 5S, V_{IO}= 1500VDC$			1.0	μA
Input Forward Voltage	V_F	$I_F= 10mA, T_A= 25^\circ C$		1.5	1.75	V
		$I_F= 10mA$			1.85	V
Input Reverse Breakdown	V_{BR}	$I_R= 10\mu A, T_A= 25^\circ C$	5			V
Propagation Delay to Logic High O/P	t_{PLH}	$C_L= 15PF, R_L= 350\Omega, I_F= 7.5mA, T_A= 25^\circ C$			75	nS
Propagation Delay to Logic Low O/P	t_{PHL}	$C_L= 15PF, R_L= 350\Omega, I_F= 7.5mA, T_A= 25^\circ C$			75	nS
Current Transfer Ratio	CTR	$V_O= 0.6V, I_F= 5MA, V_{CC}= 5.5V$		300		%

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use. Isocom Ltd cannot accept liability for any errors or omissions.

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