



JOCHA21BH-W8

Rev.A.1.0

The products are 1MBd high-speed opto-couplers. The device is a small-outline coupler suitable for surface-mount assembly. It consists of a high-output-power infrared LED optically coupled to a high-speed photodiode-transistor chip. It is housed in a plastic WSOP8 and guarantees a creepage distance of 5 mm, a clearance of 5 mm and an insulation thickness of 0.4 mm. Therefore, it meets the reinforced insulation class requirements of international safety standards. The products are widely used in programmable controllers, industrial inverters and switching power supplies.

High isolation 7500 VRMS

CTI 600

Operating temperature range -40°C to 110°C

REACH & RoHS compliance

	Output Current	I_o	8	mA
	Output Power Dissipation	P_o	100	mW
Total Power Dissipation		P_{tot}	200	mW
Isolation Voltage		V_{iso}	7500	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	
Soldering Temperature		T_{sol}	260	

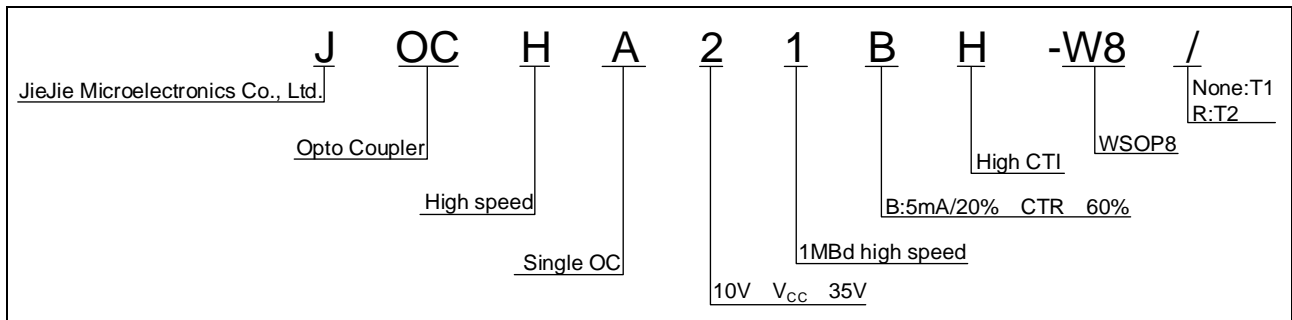
μ

(Temperature=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	$I_F=10mA$	-	1.35	1.6	V
	Reverse Current	I_R	$V_R=6V$	-	-	1	μA
	Input Capacitance	C_{in}	$V=0, f=1MHz$	-	60	-	pF
Output	Current transfer ratio	CTR	$I_F=16mA, V_{CC}=4.5V, V_O=0.4V$	20	-	60	%
	High Level Current	I_{OH}	$I_F=0mA, V_{CC}=5.5V, V_O=5.5V$	-	3	500	nA
			$I_F=0mA, V_{CC}=15V, V_O=15V$	-	-	50	μA
	Low Level Supply Current	I_{CCL}	$V_O=Open, V_{CC}=15V, I_F=16mA$	-	0.5	0.8	mA
	High Level Supply Current	I_{CCH}	$V_O=Open, V_{CC}=15V, I_F=0mA$	-	0.01	2	μA
	Logic Low Output Voltage	V_{OL}	$I_F=16mA, I_o=2.4mA, V_{CC}=4.5V$	-	-	0.4	V
	Isolation Resistance	R_{iso}	DC500V 40~60%R.H.	10^{12}	10^{14}	-	

Floating Capacitance C_A

	Common Mode Transient Immunity at Logic High	CM _H	I _F =0mA, V _{CM} =400Vpp, R _L =4.1k	15	20	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM _L	I _F =16mA, V _{CM} =400Vpp, R _L =4.1k	-15	-20	-	kV/μs



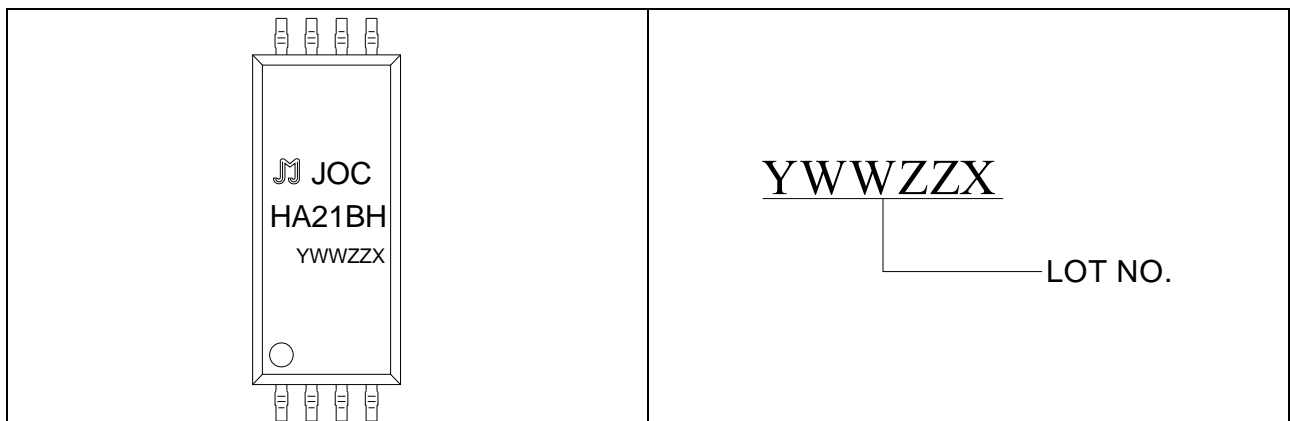


FIG.1: Forward Current vs. Forward Voltage

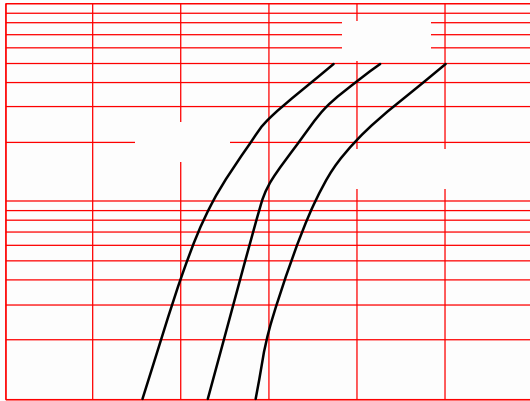


FIG.2: High Level Output Current vs. Ambient Temperature

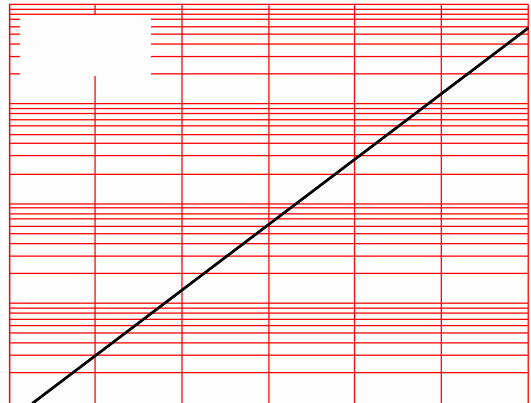


FIG.3: Output Current vs. Forward Current

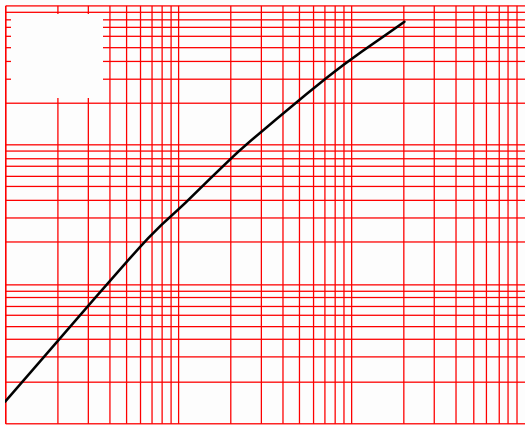


FIG.4: Current Transfer Ratio vs. Forward Current

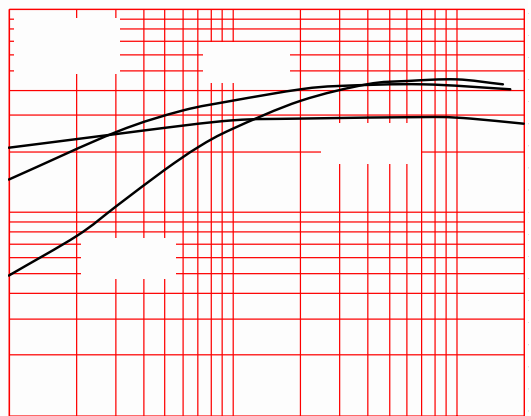


FIG.5: Normalized Current Transfer

$$\beta = \frac{I_C}{I_B} \quad K$$

FIG.7: Low Level Output Voltage vs. Ambient Temperature

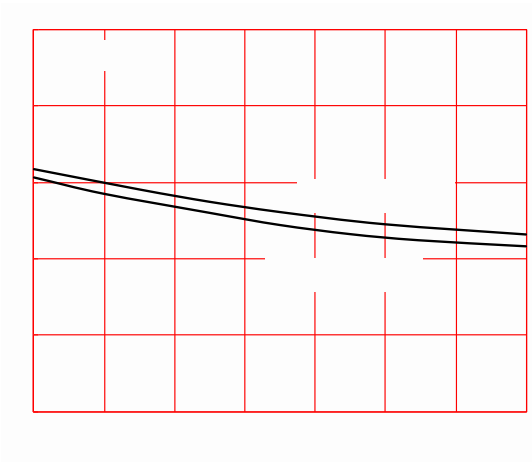


FIG.8: Propagation Delay vs. Load Resistance

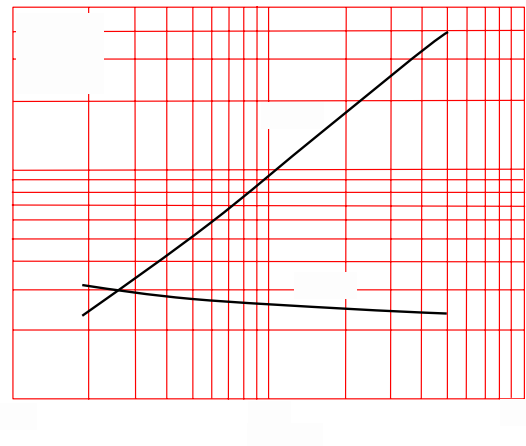


FIG.9: Propagation Delay vs. Ambient Temperature

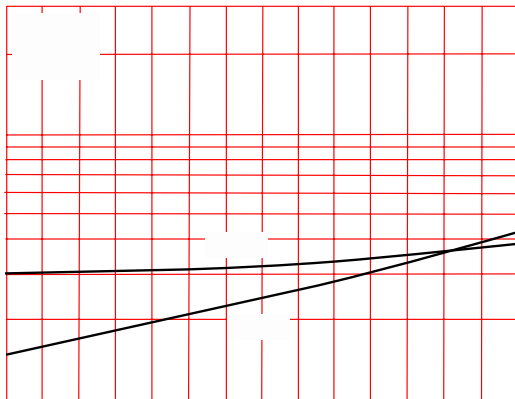
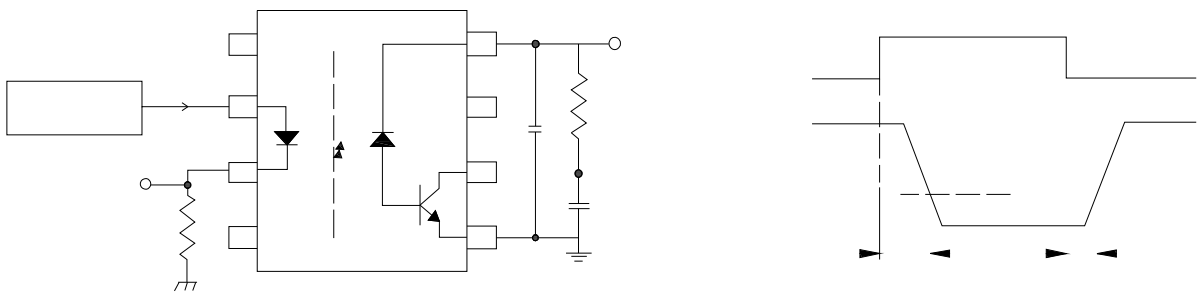
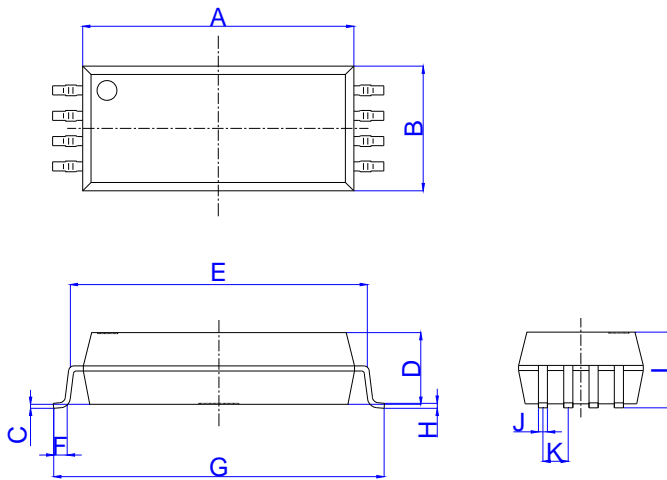
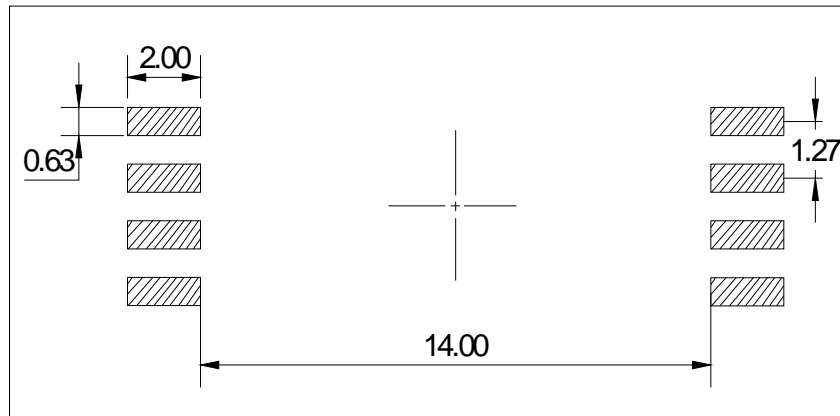


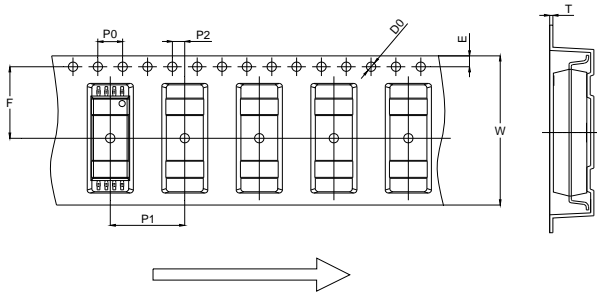
Fig.10: Test Circuit of tPHL, tPLH



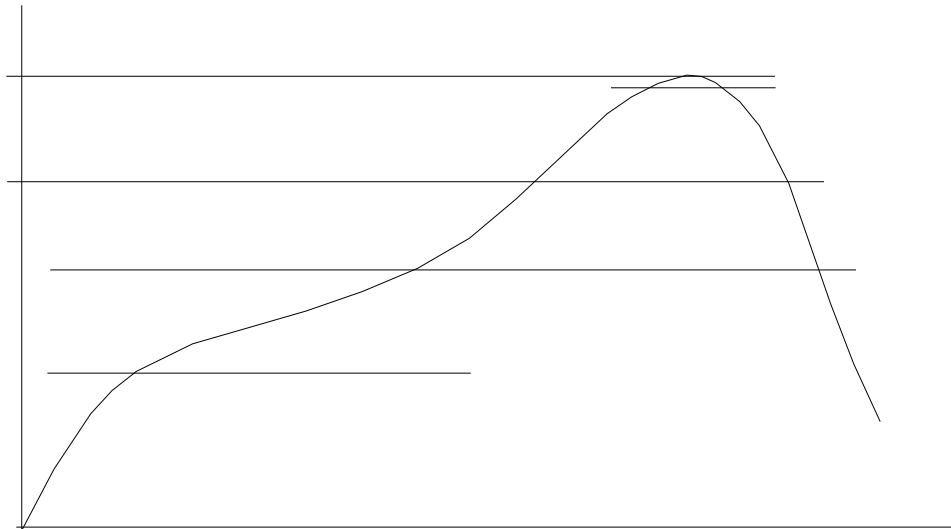
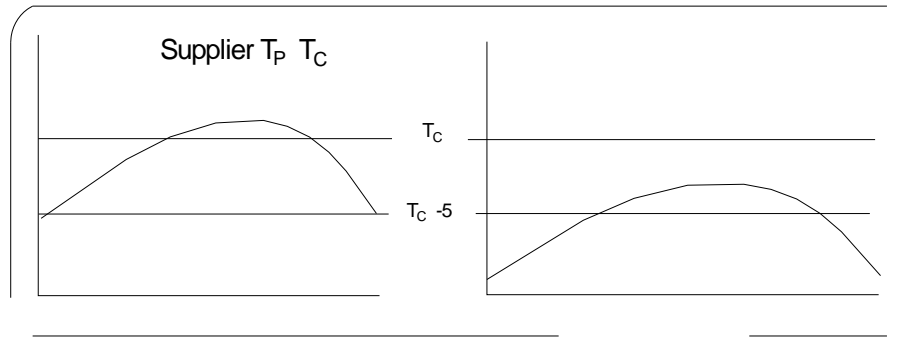


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	13.50		13.70	0.531		0.539
B	6.15		6.35	0.242		0.250
C	0.10		0.30	0.004		0.012
D	3.50		3.70	0.138		0.146
E	14.71		15.31	0.579		0.603
F	0.52		1.02	0.020		0.040
G	16.36		16.86	0.644		0.664
H	0.10		0.40	0.004		0.016
I	3.65		3.95	0.144		0.156
J	0.307		0.607	0.012		0.024
K	1.02		1.52	0.040		0.060





Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0	1.40	1.50	1.60	0.055	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	11.40	11.50	11.60	0.449	0.453	0.457
T	0.35	0.40	0.45	0.014	0.016	0.018
W	23.70	24.00	24.30	0.933	0.945	0.957




Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.
2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum storage temperature.
3. Application of pressure on the epoxy body is prohibited at elevated temperatures. In specific scenarios, any applied force must not exceed 2.5N.
4. Ensure the component has cooled to ambient temperature before proceeding with any subsequent manufacturing steps.
5. The component has a shelf life of one year when stored under standard conditions.
6. Recommend storage Temp.: 0~40°C;
Recommend storage humidity: <60%;
MSL level: MSL 1

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