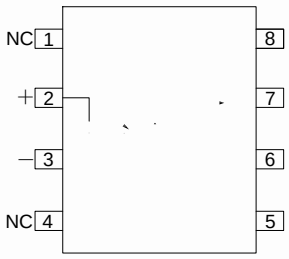
JOCHC15B-W8

Rev.A.1.0

DESCRIPTION:

The products are 15MBd high-speed opto-couplers in a plastic WSOP8 package. The device consists of a 850 nm AlGaAS LED, optically coupled to a very high speed integrated photo-detector logic gate with a strobable output. The output end of the product is a CMOS output, and the product has a strong common mode rejection capability. The coupled parameters are guaranteed over the temperature range of -40°C to +110°C. The products are widely used in communication interface, digital isolation for A/D, D/A conversion, high-voltage power systems, renewable energy inverters, medical imaging and patient monitoring.



MAIN FEATURES

High isolation 7500 VRMS
High speed – 15MBd typical
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

Truth Table

LED	Output
ON	L
OFF	H

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

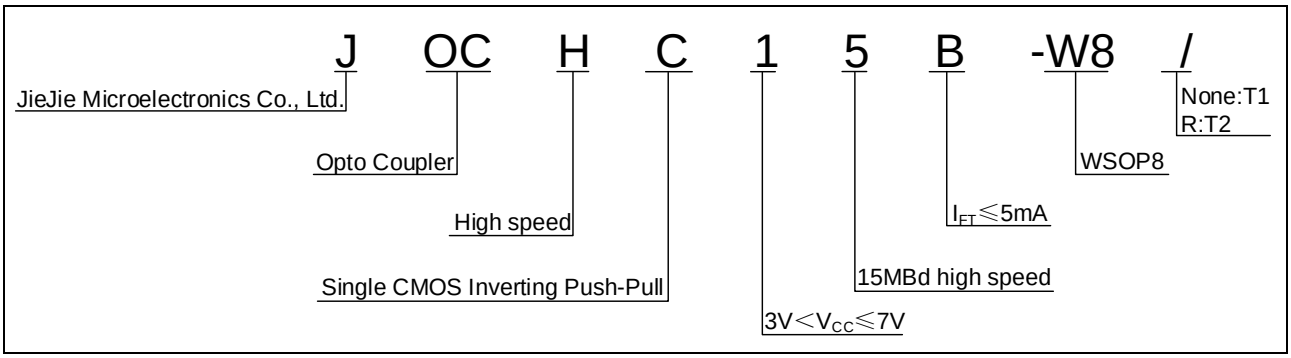
Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1①	A
	Reverse Voltage	V_R	6	V

	Time to Logic Low						
	Propagation Delay Time to Logic High	TPLH	I_F=7mA,C_L=15pF	-	55	100	ns
	Common Mode Transient Immunity at Logic High	CM_H	I_F=0mA, V_{CM}=1000Vpp, C_L=15pF, V_{CC}=5V	20	-	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM_L	I_F=7mA, V_{CM}=1000Vpp, C_L=15pF, V_{DD}=5V	20	-	-	kV/μs

Recommended Operating Conditions

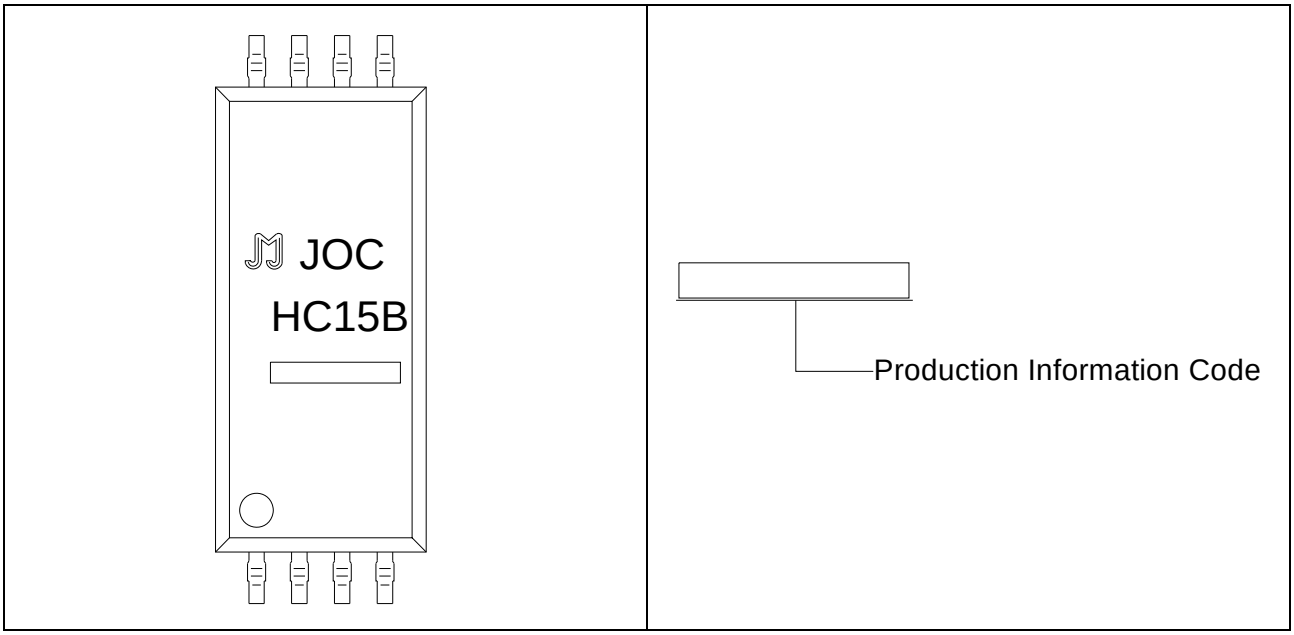
Characteristics	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	T_a	-40	-	105	℃
Supply Voltage	V_{CC}	2.7	-	5.5	V
Low Level Input Current	I_{FL}	0	-	250	μA
High Level Input Current	I_{FH}	8	-	16	mA
Forward Voltage	$V_{F(OFF)}$	-	-	0.8	V

ORDERING INFORMATION



Packing Quantity			
Option	**Quantity**	**Quantity – Inner box**	**Quantity –Outer box**
WSOP8	1200 Units/Reel	1 Reel/Inner box	5 Inner box/Outer box =6k Units

MARKING



Characteristics Curves

FIG.1: Forward Current vs. Forward Voltage

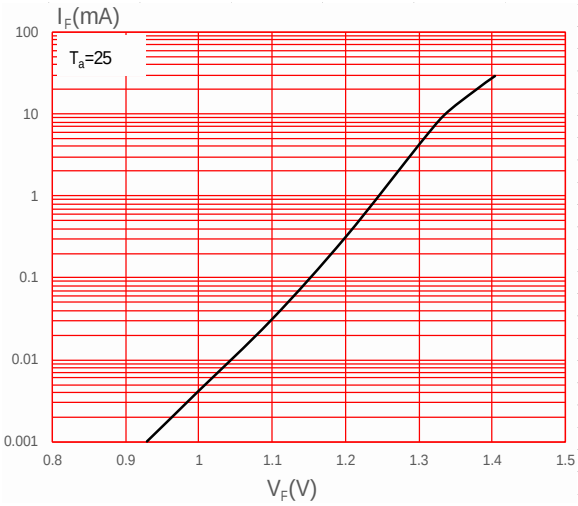


FIG.2: Max. Allowable LED Forward Current vs. Ambient Temperature

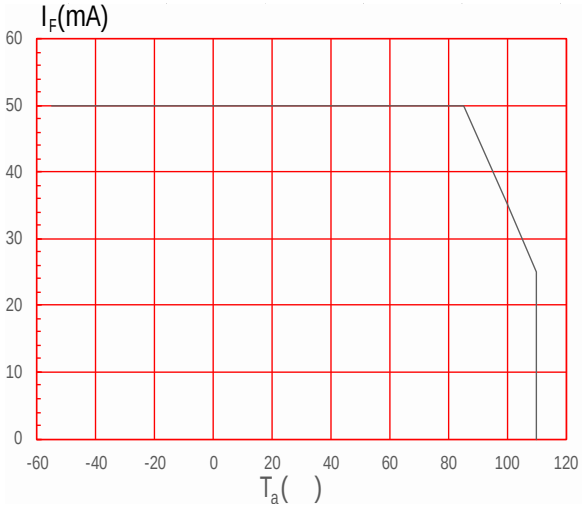


FIG.3: Logic High Output Supply Current vs. Ambient Temperature

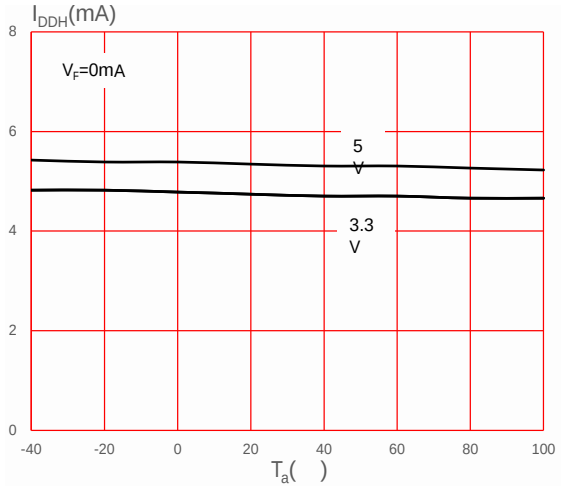


FIG.4: Logic Low Output Supply Current vs. Ambient Temperature

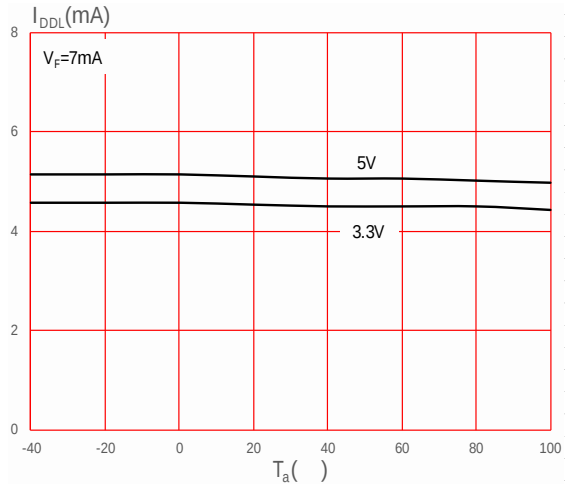


FIG.5: Propagation Delay vs. Ambient Temperature

FIG.6: Input Threshold Current vs. Ambient Temperature

FIG.7: Propagation Delay vs. Ambient Temperature

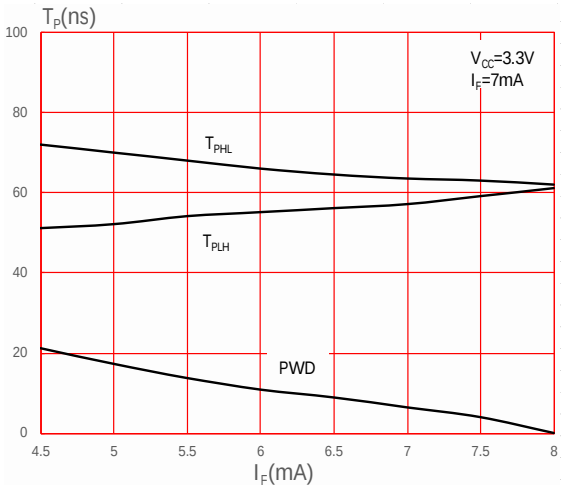
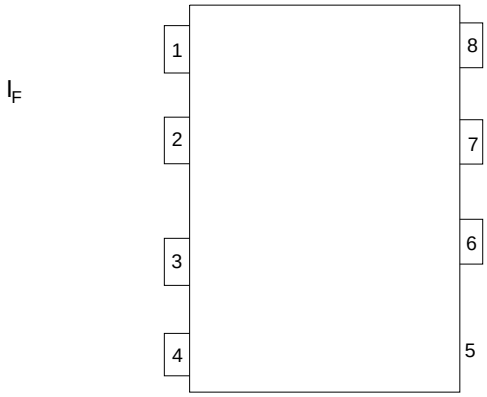


FIG.8: Propagation Delay vs. Ambient Temperature

Fig.10: CMTI Test Circuit Recommendations

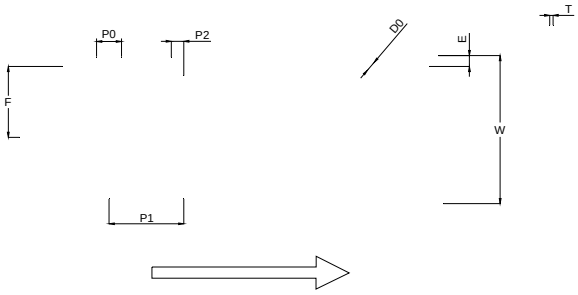


Package Dimension (Unit: mm)

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	13.50		13.70	0.531		0.539
B	6.15		6.35	0.246		0.250
C				0.531		
D	3.50		3.70			0.146
E	14.71		15.31			0.603
F	0.52			0.020		
G	16.36		16.86			0.664
H	0.10		0.40			0.016
I	3.65			0.144		
J			0.607	0.012		
K						

CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

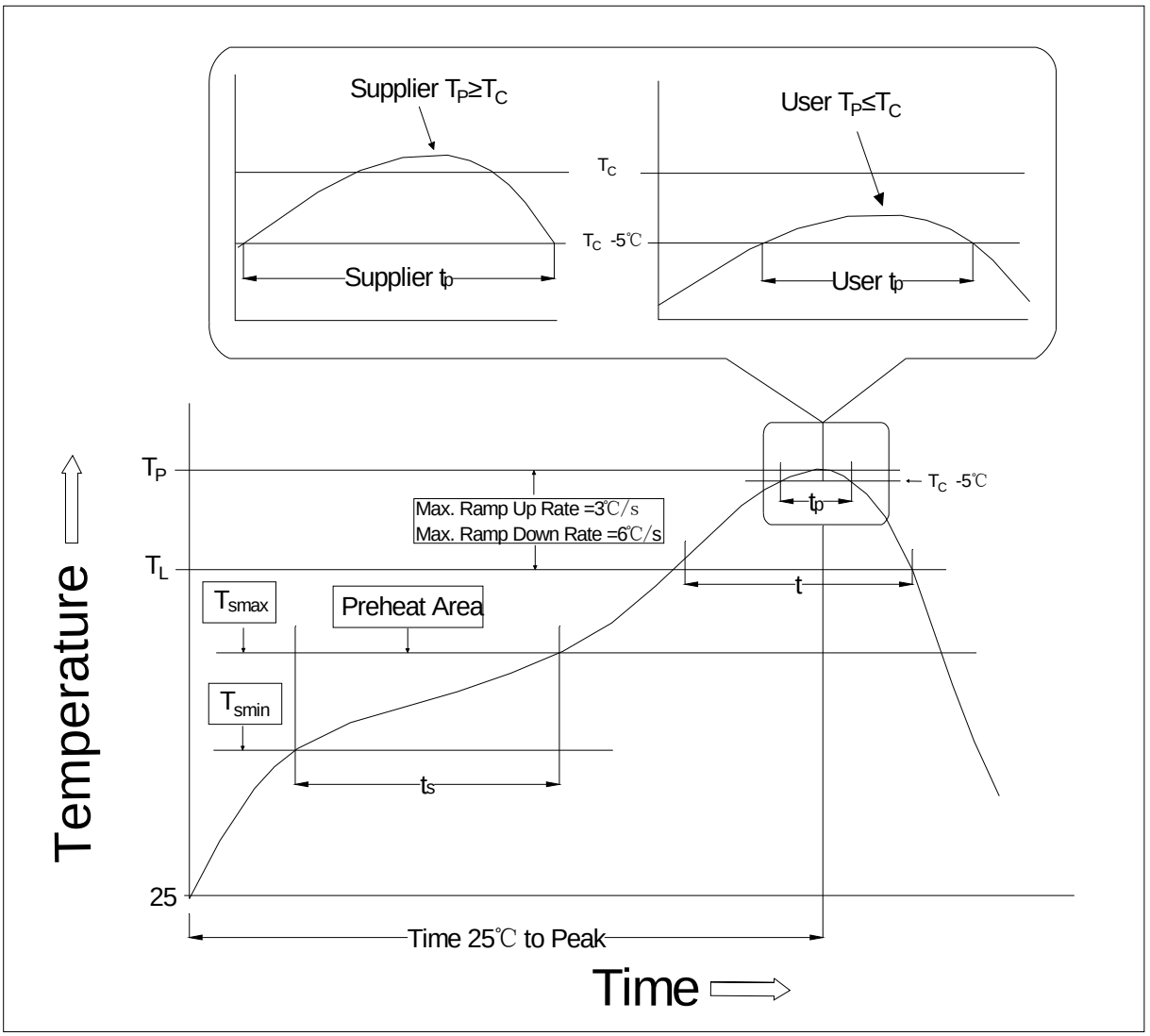
Option None



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90		12.10	0.469		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		11.60	0.449		0.457
T	0.35		0.45	0.014		0.018
W	23.70		24.30	0.933		0.957

0.14 40

REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	100℃	150℃
Temperature Max. (Tsmax)	150℃	200℃
Time (ts) from (Tsmin to Tsmax)	60-120 seconds	60-120 seconds
Ramp-up Rate (tL to tP)	3℃/second max.	3℃/second max.
Liquidus Temperature (TL)	183℃	217℃
Time (tL) Maintained Above (TL)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235℃+0℃/-5℃	260℃+0℃/-5℃
Time (tP) within 5℃ of 260℃	10 seconds	10 seconds
Ramp-down Rate (TP to TL)	3-6℃/second	3-6℃/second
Time 25℃ to Peak Temperature	6 minutes max.	8 minutes max.

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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