JOCHC15B-L5X Series

Rev.A.1.0

DESCRIPTION:

The products are 15MBd high-speed opto-couplers in the LSOP5 and LSOP5W package. The device consists of a 850 nm AlGaAS LED, optically coupled to a very high speed integrated photo-detectorlogic gate. The output end of the device is a CMOS outoput, and the device has a strong common mode rejection capability. The products are widely used in communication interface, digital isolation for A/D,D/A conversion, renewable energy inverters, medical imaging and patient monitoring.

MAIN FEATURES

High isolation 5000 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 V_O
ON	L
OFF	H

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

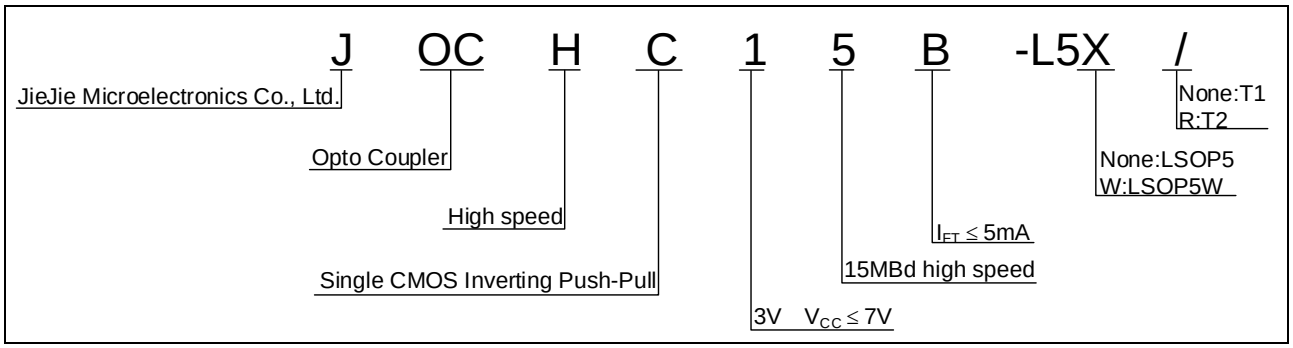
Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Input Power Dissipation	P_D	100	mW
Output	Supply Voltage	V_{CC}	7	V

	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_{CC}=5V	20	-	-	kV/μs
	Output Rise Time	t_r	I_F=7mA,C_L=15pF	-	10	-	ns
	Output Fall Time	t_f		-	10	-	

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	-	Î	

ORDERING INFORMATION



Packing Quantity	
Option	**Quantity**

MARKING

Characteristics Curves

FIG.1: Forward Current vs. Forward Voltage

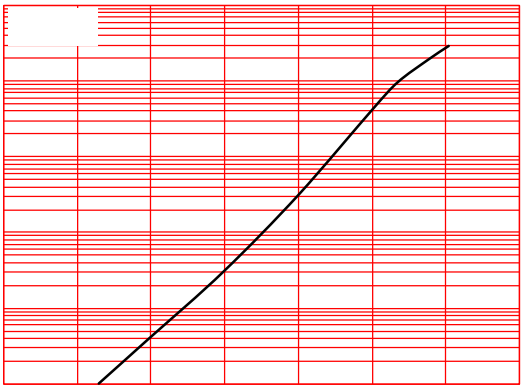


FIG.2: Max. Allowable LED Forward Current vs. Ambient Temperature

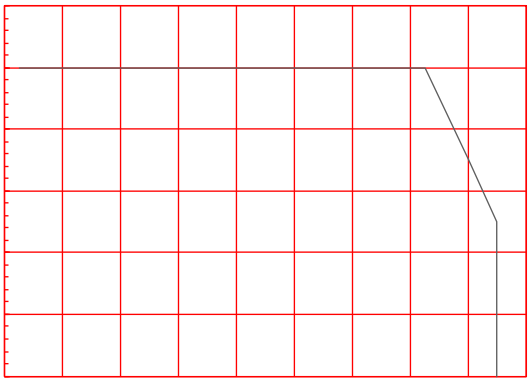


FIG.3: Logic High Output Supply Current vs.

Logic Higi ʃ utput Sm ᵐ ɔ ᶠ M ɻ ᵠ r en vs.

FIG.7: Propagation Delay vs. Ambient Temperature

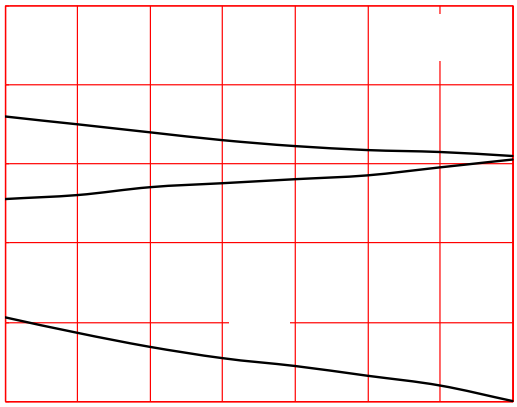
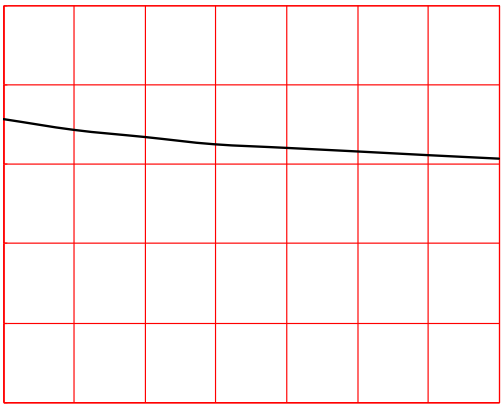
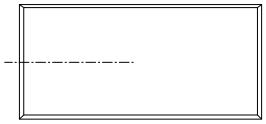


FIG.8: Propagation Delay vs. Ambient Temperature



Package Dimension (Unit: mm)

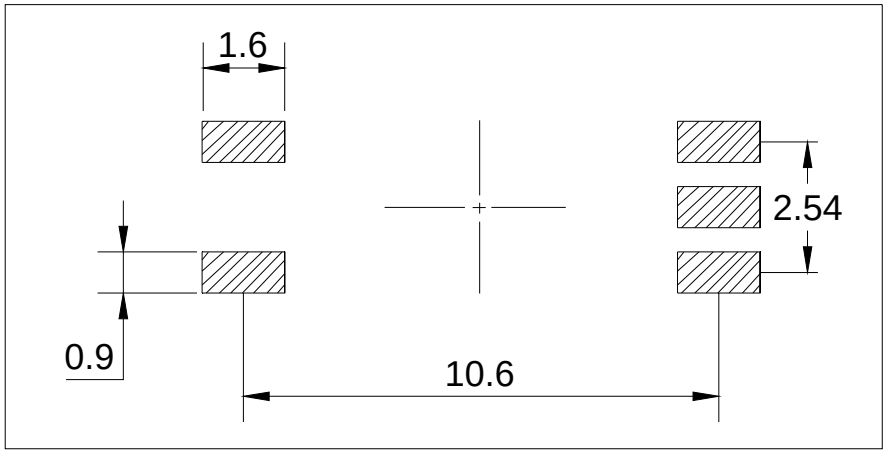
LSOP5



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.40		7.80	0.291		0.307
B	3.40		3.80	0.134		0.150
C	0.00		0.20	0.000		0.008
D	1.80		2.20	0.071		0.087
E	8.10		8.70	0.319		0.343
F	0.40		1.00	0.016		0.039
G	9.90		10.50	0.390		0.413
H	0.10		0.30	0.004		0.012
I	1.80		2.40	0.071		0.094
J	0.25		0.55	0.010		0.022
K						

RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)

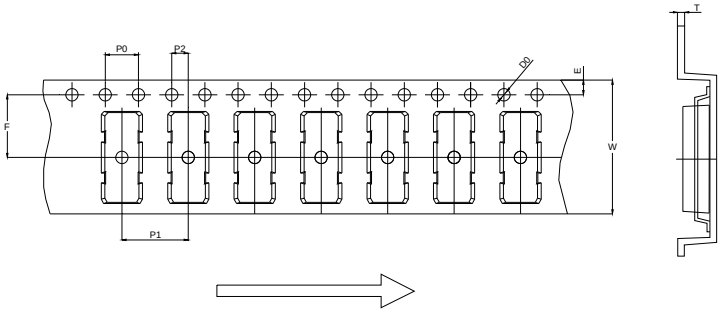
LSOP5



LSOP5W

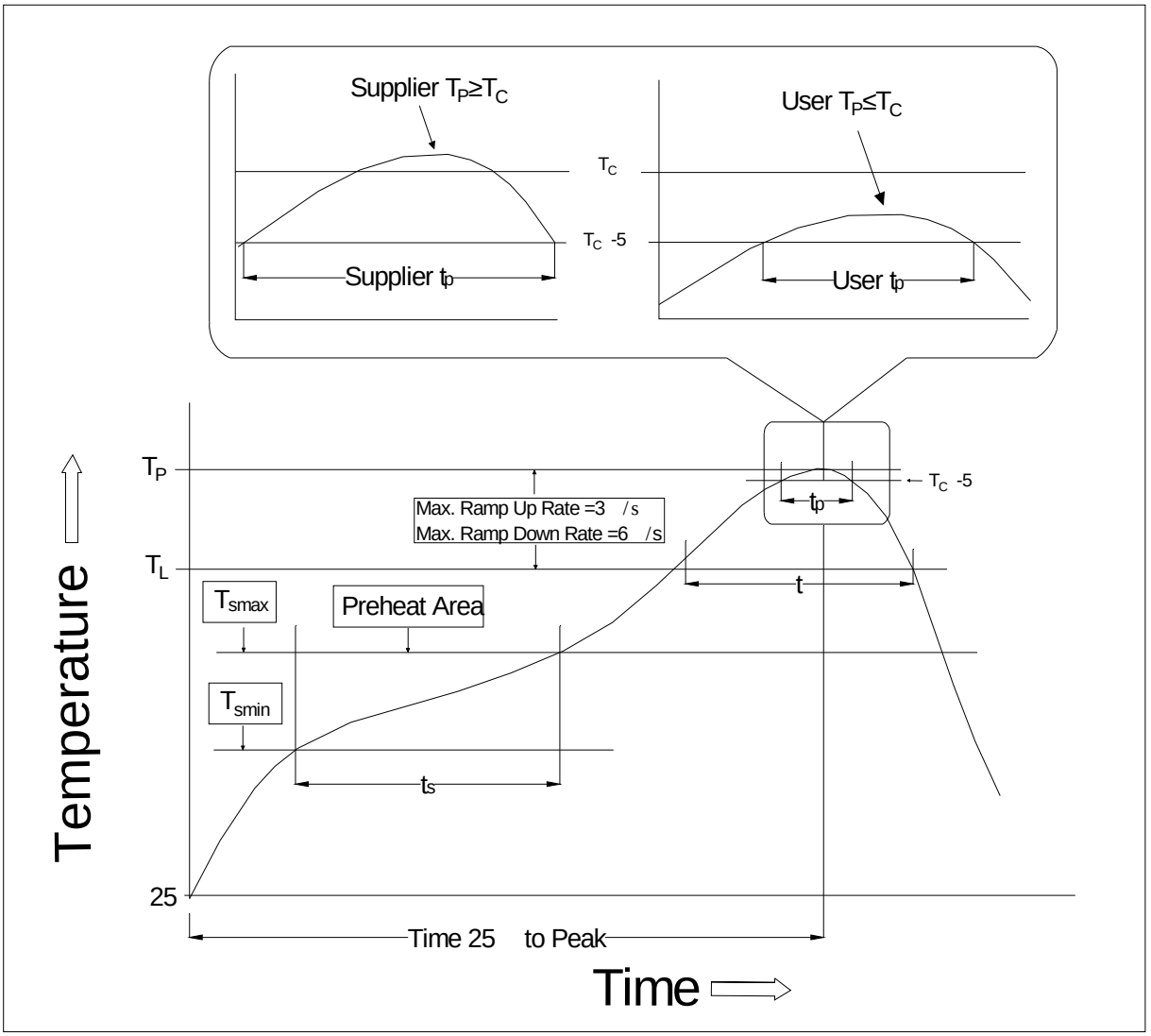
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None/R



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0	1.50	1.55	1.60	0.059	0.061	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	7.90	8.00	8.10	0.311	0.315	0.319
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	7.40	7.50	7.60	0.291	0.295	0.299
T	0.35	0.40	0.45	0.014	0.016	0.018
W	15.80	16.00	16.20	0.622	0.630	0.638

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

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