

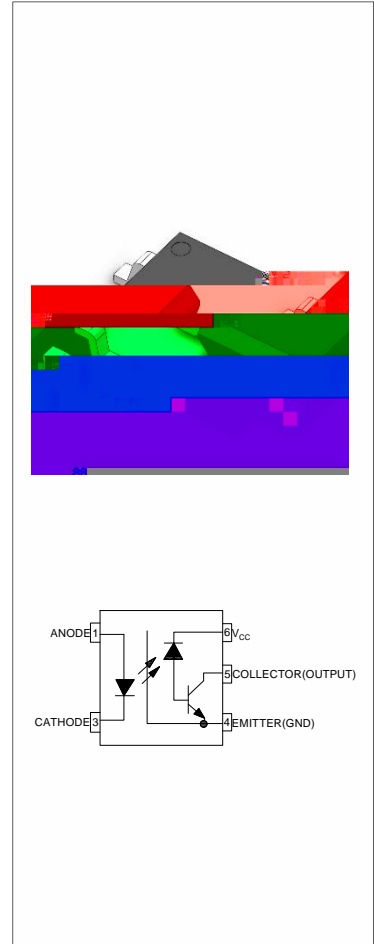


## JOCHA21X-M5 Series

Rev.A.1.0

### DESCRIPTION:

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 the SOP5 package 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.



### MAIN FEATURES

- High isolation 3750 VRMS
- High speed – 1MBd 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	$I_{FP}$	1 <sup>7</sup>	A
	Reverse Voltage	$V_R$	6	V
	Input Power Dissipation	$P_D$	100	mW
Output	Supply Voltage	$V_{CC}$	35	V
	Output Voltage	$V_O$	20	V

Output Current

Io

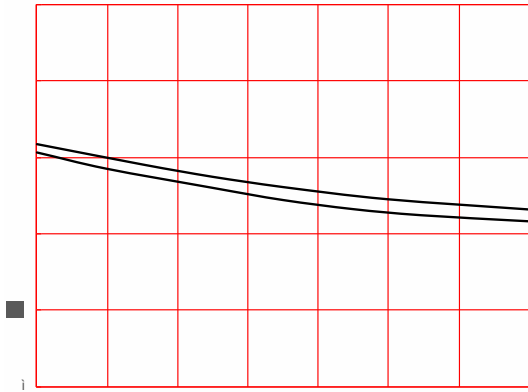
	Common Mode Transient Immunity at Logic High	CM <sub>H</sub>	I <sub>F</sub> =0mA, V <sub>CM</sub> =400Vpp, R <sub>L</sub> =4.1k	15	20	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM <sub>L</sub>	I <sub>F</sub> =16mA, V <sub>CM</sub> =400Vpp, R <sub>L</sub> =4.1k	-15	-20	-	kV/μs

ORDERING INFORMATION

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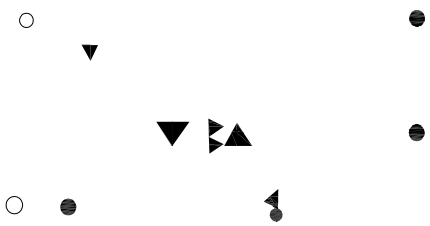
**FIG.7:** Low Level Output Voltage vs. Ambient Temperature



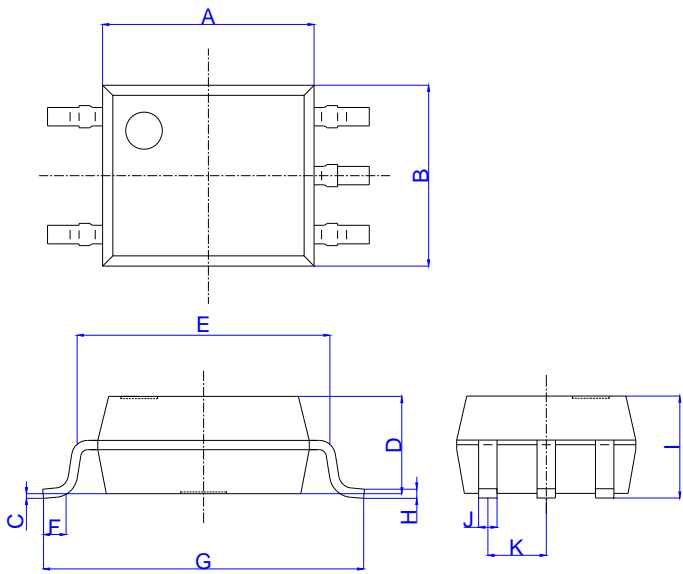
**FIG.8:** Propagation Delay vs. Load Resistance

TEST CIRCUITS

Fig.10: Switching Time Test Circuit and Waveform

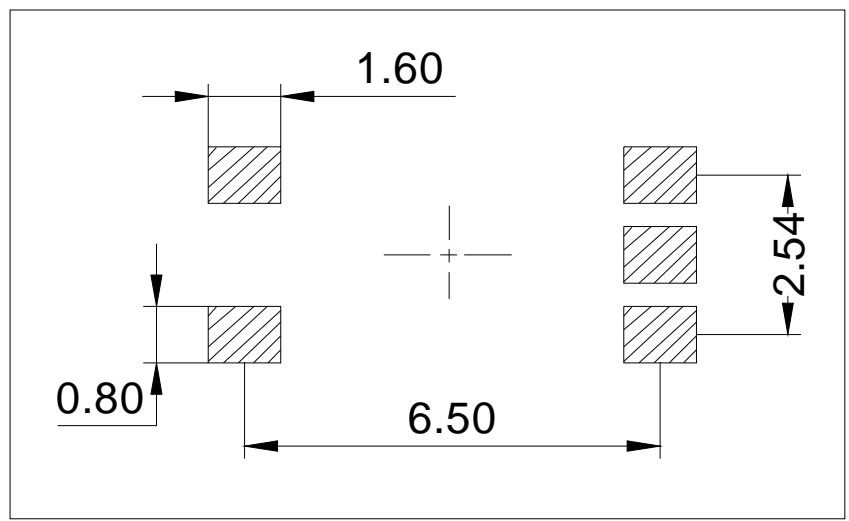


Package Dimension (Unit: mm)



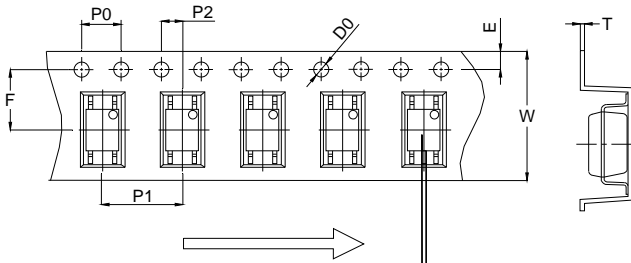
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	3.60		4.20	0.142		0.165
C	0.00		0.20	0.000		0.008
D	1.90		2.30	0.075		0.091
E	5.00		5.60	0.197		0.220
F	0.34		0.94	0.013		0.037
G	6.70		7.30	0.264		0.287
H	0.10		0.30	0.004		0.012
I	2.00		2.40	0.079		0.094
J	0.25		0.55	0.010		0.022
K	1.02		1.52	0.040		0.060

RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)



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	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	4.40	4.50	4.60	0.173	0.177	0.181
T	0.25	0.30	0.35	0.010	0.012	0.014
W	11.90	12.00	12.30	0.469	0.472	0.484



**JOCHA21X**