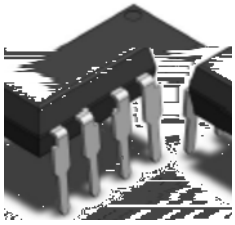
JOCHA22B-D8P/S Series

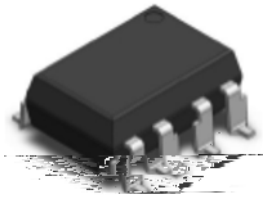
Rev.A.1.0

DESCRIPTION:

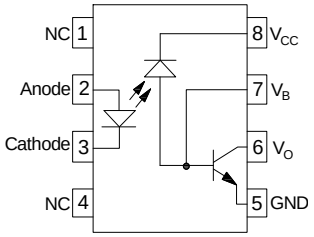
The products are 2MBd high-speed opto-couplers. The device is a small-outline coupler suitable for surface-mount assembly. It consists of a high-output-power infrared LED optically coupled to a high-speed photodiode-transistor chip. It is housed in a plastic DIP8 package with different lead forming options 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.



JOCHA22B-D8P



JOCHA22B-D8S



MAIN FEATURES

High isolation 5000 VRMS
High speed – 2MBd 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^{7}	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	I_O	8	mA
	Output Power Dissipation	P_O	100	mW
Total Power Dissipation		P_{tot}	200	mW
Isolation Voltage		V_{iso}	5000 [8]	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	
Soldering Temperature		T_{sol}	260	

NOTE1 100μs pulse, 100Hz frequency

NOTE2 AC for 1minute, R.H.=40~60%

ELECTRICAL CHARACTERISTICS (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 tance tance						

	LED Trigger Current	I_{FT}	I_O=0.75mA, V_O Ø0.8V	-	-	5	mA
	Propagation Delay Time to Logic Low	TPHL	I_F=0 10mA, R_L=20kΩ, C_L=100pF	30	150	400	ns
			I_F=0 10mA, R_L=20kΩ, C_L=10pF	-	70	-	ns
Switching Characteristics	Propagation Delay Time to Logic High	TPLH	I_F=10 0mA, C				

ORDERING INFORMATION

J OC H A 2 2 B -D8P/S /

Characteristics Curves

FIG.1: Forward Current vs. Forward Voltage

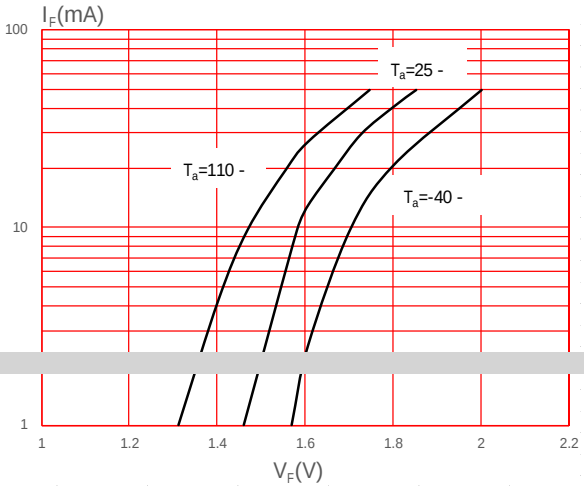


FIG.2: High Level Output Current vs. Ambient Temperature

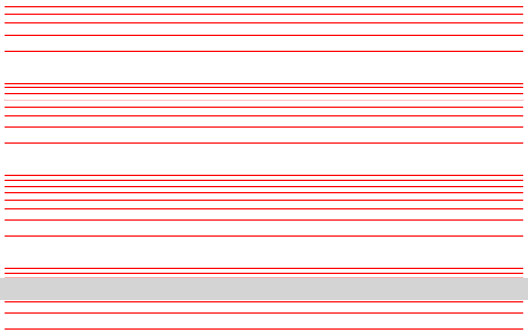


FIG.7: Propagation Delay vs. Load Resistance

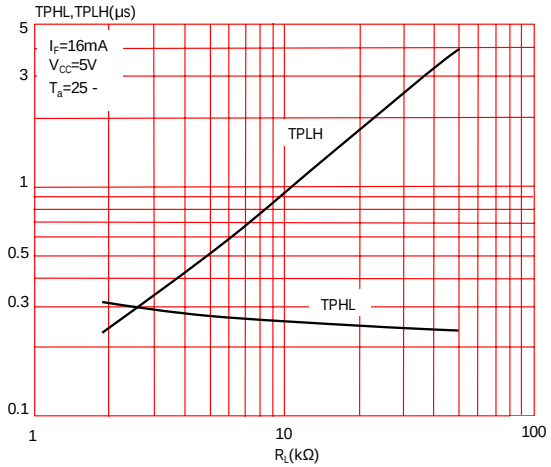
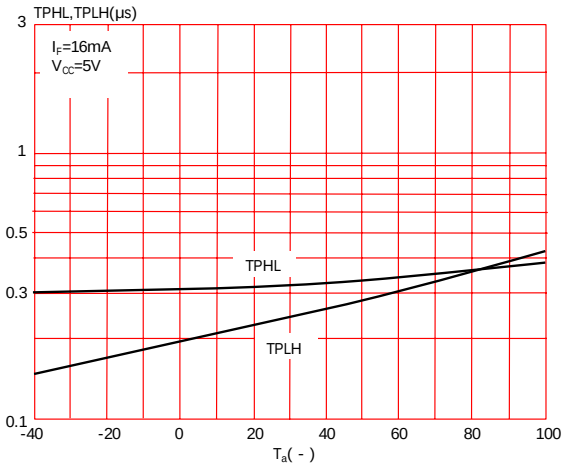


FIG.8: Propagation Delay vs. Ambient Temperature

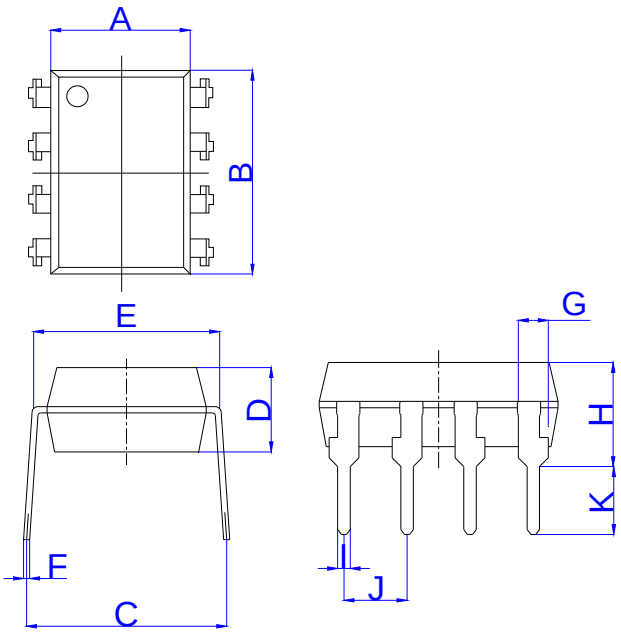


TEST CIRCUITS

Fig.9: Switching Time Test Circuit and Waveform

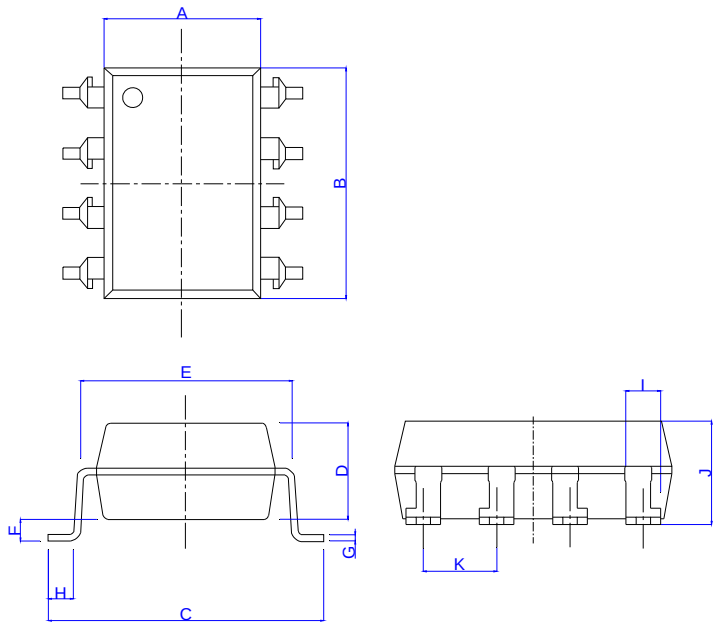
Package Dimension (Unit: mm)

Standard DIP Type:



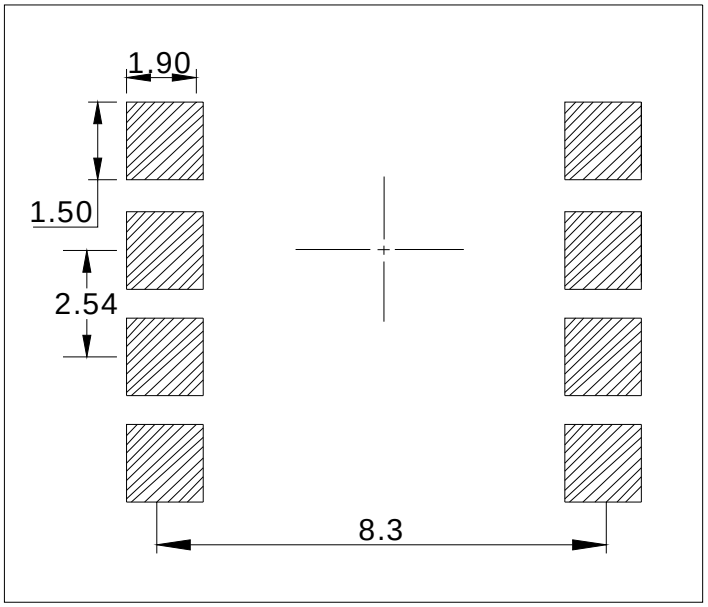
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	7.15		8.95	0.281		0.352
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.15		0.35	0.006		0.014
G	0.90		1.50	0.035		0.059
H	3.90		4.50	0.154		0.177
I	0.40		0.60	0.016		0.024
J	2.29		2.79	0.090		0.110
K	2.24		3.24	0.088		0.128

Option SMD Type:



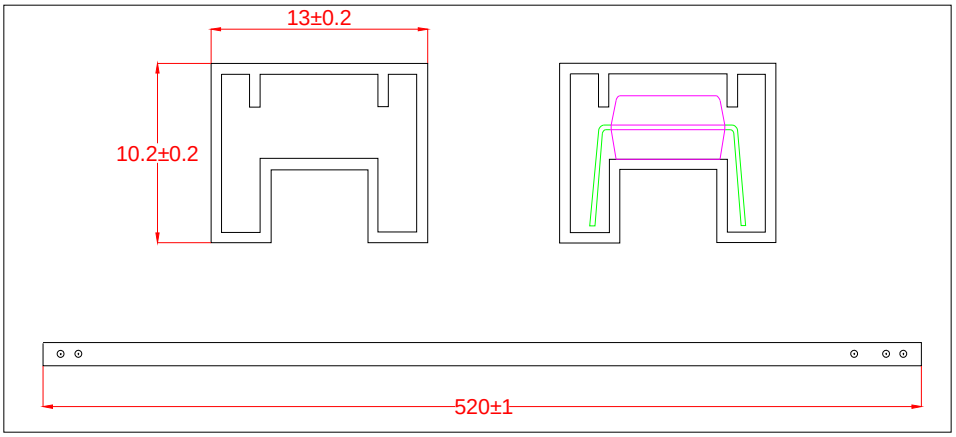
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	9.50		10.50	0.374		0.413
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.05		0.35	0.002		0.014
G	0.16		0.36	0.006		0.014
H	0.60		1.40	0.024		0.055
I	0.90		1.50	0.035		0.059
J	3.30		3.90	0.130		0.154
K	2.29		2.79	0.090		0.110

RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)



TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Standard DIP

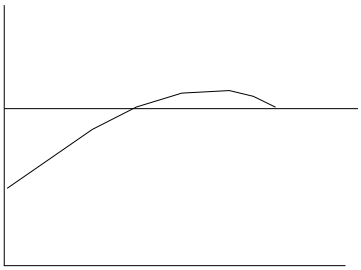


CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option S

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	12.00	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	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	15.90	16.00	16.20	0.626	0.630	0.638

REFLOW INFORMATION



JOCHA22B

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