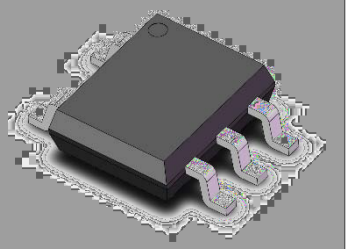
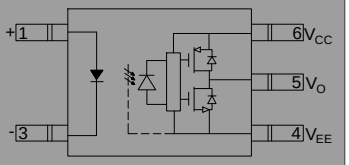
JOCDA3AB-M5

Rev.A.1.0

The products are gate driver opto-couplers in the SOP5 package. The device consists of an infrared LED optically coupled to an integrated high-gain, high-speed photodetector IC chip. It provides guaranteed performance and specifications at temperature up to 110 . It is physically smaller and compliant with international safety standards for reinforced insulation. It thus provides a smaller footprint solution for applications that require safety standard certification. An internal noise shield provides a guaranteed common-mode transient immunity of ±35 kV/μs. It is ideal for small class IGBT and power MOSFET gate drive. The products are widely used in industrial inverters, IGBT gate drivers, MOSFET gate drivers, induction cooktop and home appliances.





3A maximum peak output current
High isolation 3750 VRMS
Buffer logic type
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

LED	V_{CC}-V_{EE} (Positive Going)	V_{CC}-V_{EE} (Negative Going)	Output
OFF	0-30V	0-30V	Low
ON	0-12.1V	0-11.1V	Low
ON	12.1V-13.5V	11.1V-12.4V	TRANSITION
ON	13.5V-30V	12.4V-30V	HIGHT

(Temperature=25°C)

Parameter		Symbol	Value	Unit
LED	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	100	mW
Detector	Output Voltage	V_O	35	V
	Supply Voltage	V_{CC}	35	V
	Power Dissipation	P_C	400	mW
Isolation Voltage		V_{iso}	3750	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	
Total Power Dissipation		P_{tot}	500	mW
Soldering Temperature		T_{sol}	260	

μ

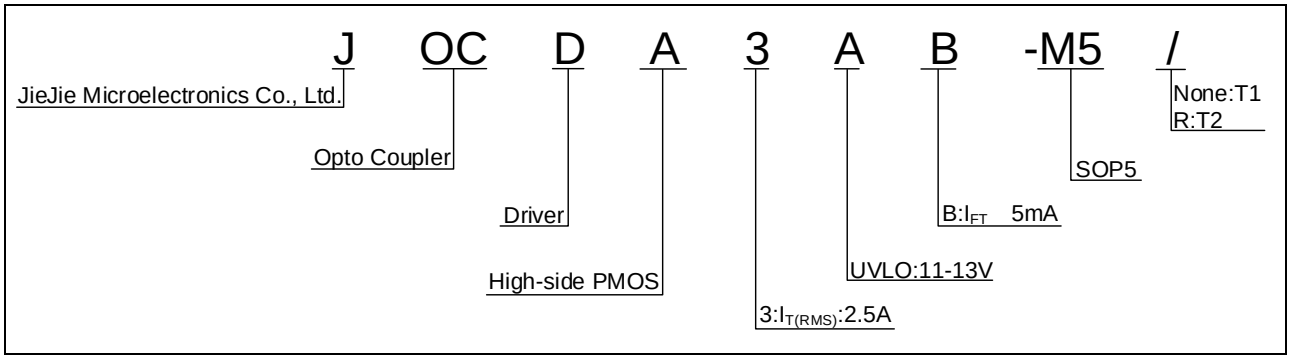
(Temperature=25°C)

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
	Terminal Capacitance	C_t	V=0,f=1MHz	-	60	-	pF
Output	Peak High-level Output Current	I_{OPH}	V_O=V_{CC}-4V, Pulse width≤50μs	-1	-	-	A
			V_O=V_{CC}-15V, Pulse width≤10μs	-3	-	-	A
	Peak Low-level Output Current	I_{OPL}	V_O=V_{EE}+2.5V, Pulse width≤50μs	1	-	-	A
			V_O=V_{EE}+15V, Pulse width≤10μs	3	-	-	A
	High Level Supply Current	I_{CCH}	I_F=10mA V_{CC}=30V, V_O=Open	-	1.2	2	mA
	Low Level Supply Current	I_{CCL}	I_F=0mA , V_{CC}=30V, V_O=Open	-	1.1	2	mA

	High Level Output Voltage	V_{OH}	I_O=-100mA	V_{CC}-0.3	V_{CC}-0.2	-	V
	Low Level Output Voltage	V_{OL}	I_O=100mA	-	-	0.2	V
	Threshold Input Current	I_{FLH}	V_O 5V	-	2.5	5	mA
	Threshold Input Voltage	V_{FHL}	V_O 5V	0.8	-	-	V
	Supply Voltage	V_{CC}	-	15	-	30	V
	UVLO Threshold	VUVLO+	V_O 5V, I_F=10mA	12.1	12.8	13.5	V
		VUVLO-	V_O 5V, I_F=10mA	11.1	11.8	12.4	V

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Propagation Delay Time to High Output Level	t_{PLH}	R_g=10Ω, C_g=25nF, f=20kHz, Duty Cycle=50%, I_F=7mA, V_{CC}=30V	50	-	200	ns
Propagation Delay Time to Low Output Level	t_{PHL}		50	-	200	
Pulse Width Distortion	PWD		-	-	70	
Propagation Delay Difference Between Any Two Parts	t_{PHL}- t_{PLH}		-100	-	100	
Output Rise Time (10 to 90%)	t_r	R_g=10Ω, C_g=25nF, I_F=0→7mA, V_{CC}=30V	-	50	-	
Output Fall Time (90 to 10%)	t_f	R_g=10Ω, C_g=25nF, I_F=7→0mA, V_{CC}=30V	-	50	-	
Common Mode Transient Immunity at High Level Output	$\|CM_H\|$	I_F=7mA V_{CC}=30V, T_a=25 , V_O(min)=26V V_{CM}=1500Vpp	±35	-	-	kV/μs
Common Mode Transient Immunity at Low Level Output	$\|CM_L\|$	I_F=0mA V_{CC}=30V, T_a=25 , V_O(max)=1V V_{CM}=1500Vpp	±35	-	-	kV/μs

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Input On-state Current	$I_{F(ON)}$	7	-	10	mA
Input Off-state Voltage	$V_{F(OFF)}$	0	-	0.8	V
Supply Voltage	V_{CC}	15	-	30	V
Operating Frequency	f	-	-	50	kHz


J OC D A 3 A B -M5 /
JieJie Microelectronics Co., Ltd.
Opto Coupler
Driver
High-side PMOS
3:I$_{T(RMS)}$:2.5A
UVLO:11-13V
B:I$_{FT}$ 5mA
SOP5
None:T1
R:T2

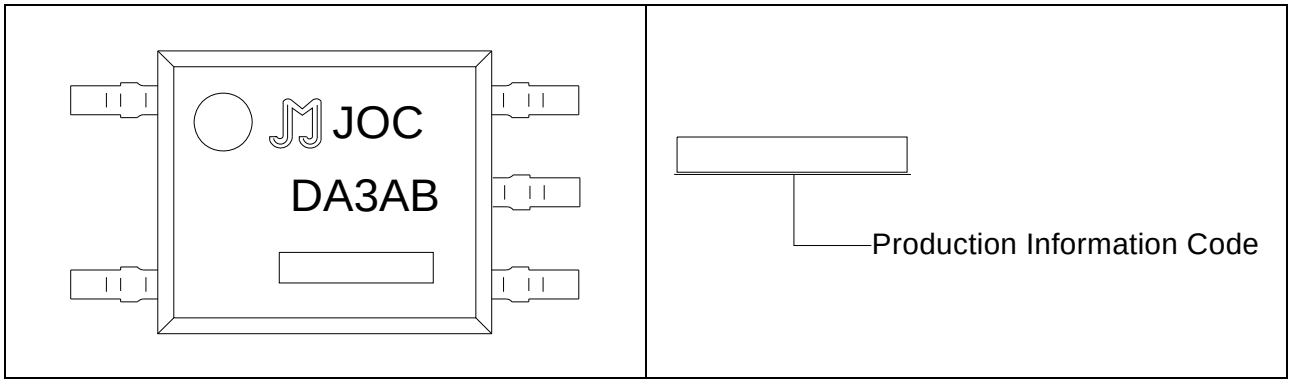

JOC
DA3AB
Production Information Code

FIG.1: Forward Current vs. Forward Voltage

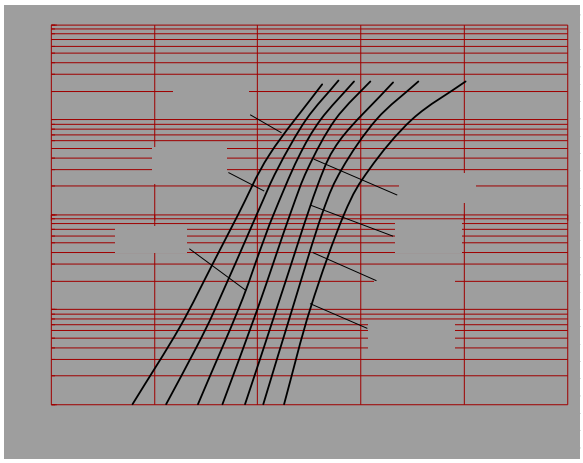
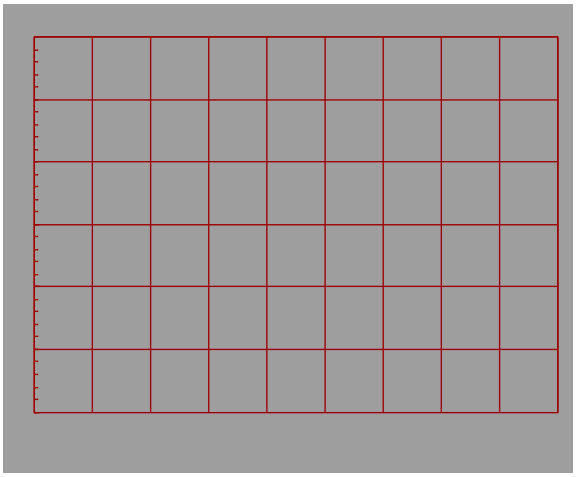


FIG.2: Max. Allowable LED Forward Current vs. Ambient Temperature



JOCDA3AB

FIG.13: Propagation Delay Time vs. Supply Voltage

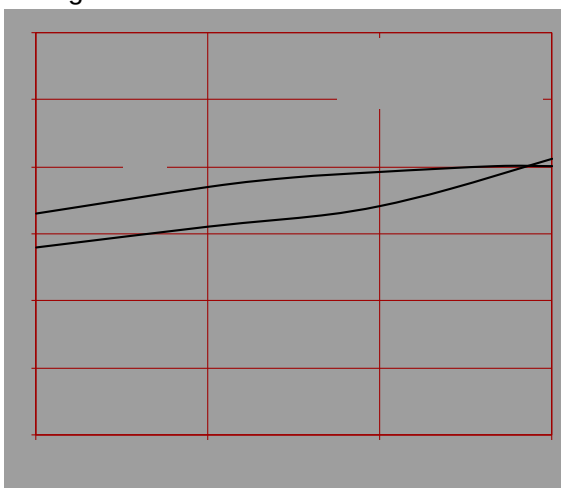
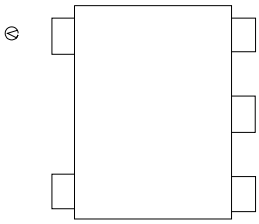
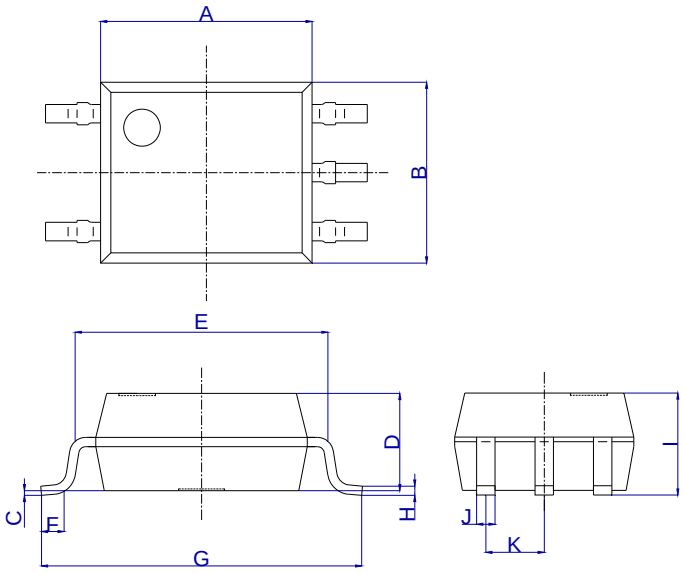
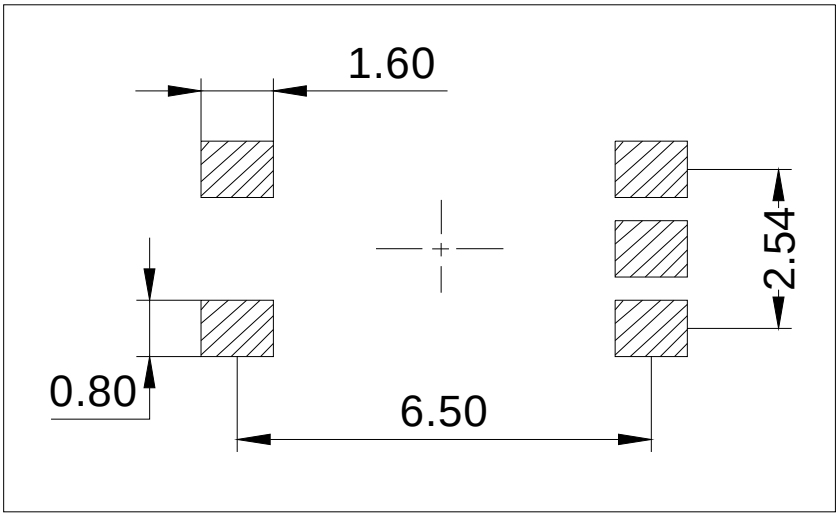


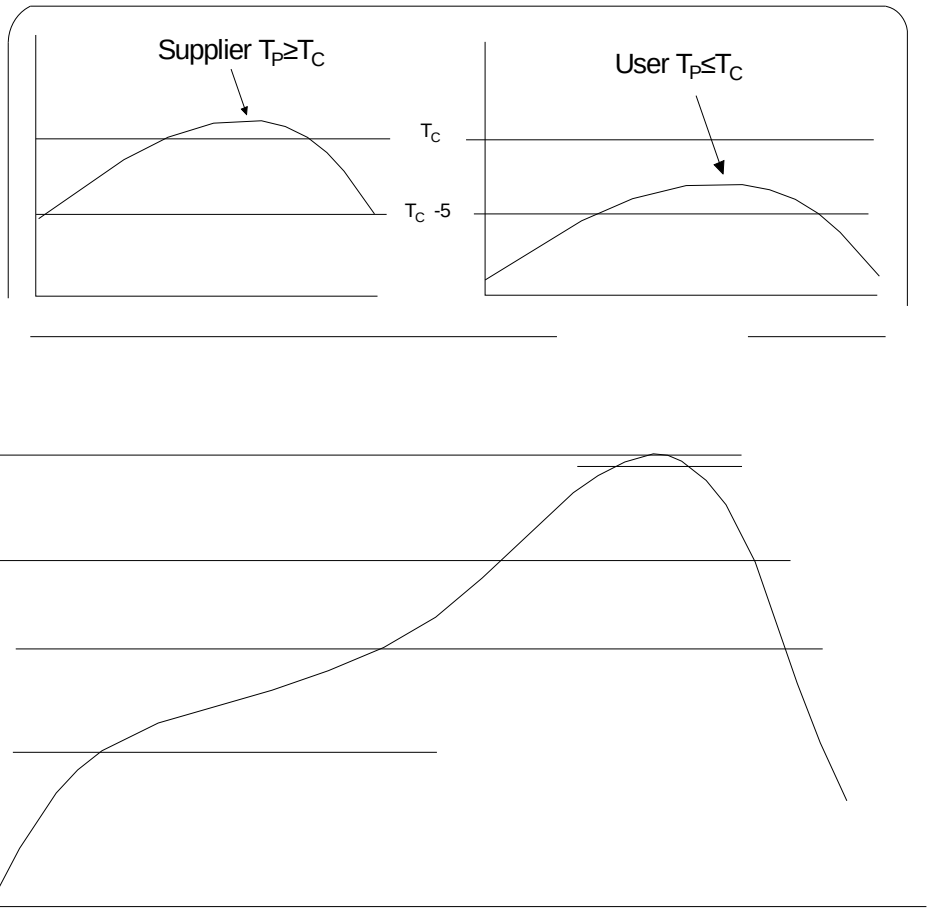
FIG.14: Switching Time Test Circuit and Waveform





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




Supplier $T_P \geq T_C$
User $T_P \leq T_C$
T_C
T_C -5

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

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information. This document supersedes and replaces all information previously supplied.

is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright © 2026 Jiangsu JieJie Microelectronics Co., Ltd. All rights reserved.