



DESCRIPTION:

The products are 10MBd high-speed opto-couplers in the SOP5 package. The device consists of a high efficient AlGaAs Light Emitting Diode and a high speed optical detector. This design provides excellent AC and DC isolation between the input and output sides of the optocoupler. The output of the optical detector features an open collector Schottky clamped transistor. The enable function allows the optical detector to be strobed. A guaranteed common mode transient immunity is up to 10kV/ μ s at 3.3V. The optocoupler operational parameters are guaranteed over the temperature range from -40°C ~ $+110^{\circ}\text{C}$. The products are widely used in isolation in line receivers, digital isolation for A/D,D/A conversion, ground loop elimination, feedback element in switching mode power supplier, pulse transformer replacement, power transistor isolation in motor drives, interface between microprocessor system, computer and their peripheral.

MAIN FEATURES

High isolation 3750 VRMS

High speed – 10MBd typical

Operating temperature range -40°C to 110°C

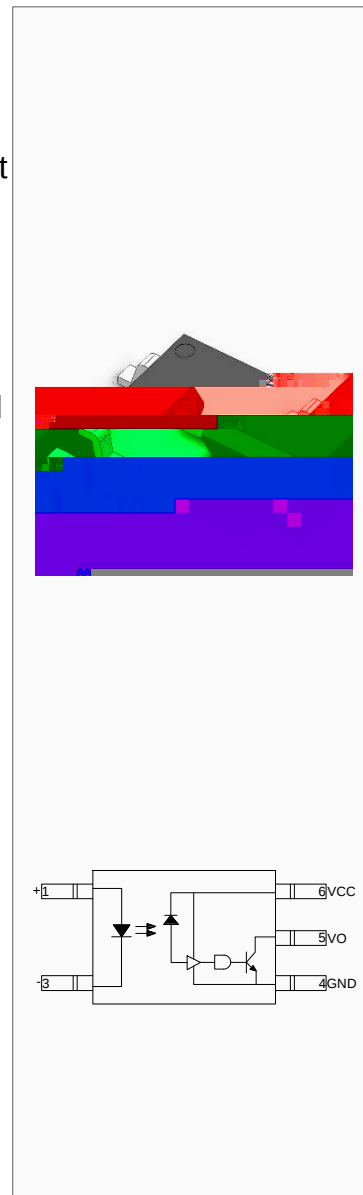
REACH & RoHS compliance

HBM: H3A; MM: M4; CDM: C3

CQC approved

VDE approved

UL approved



Truth Table

INPUT	OUTPUT
H	L
L	H

	Isolation Resistance	R_{ISO}	DC500V 40~60%R.H.	-	10^{12}	-	Ω
	Floating Capacitance	C_{IO}	V=0, f=1MHz	-	1	-	pF
Switching Characteristics	Trigger LED Current	I_{FT}	$V_{CC}=5V$, $V_O=V_{OL}$	-	-	5	mA
	Propagation Delay Time to Logic Low	t_{PHL}	$C_L=15pF$, $R_L=350\Omega$, $I_F=7.5mA$	-	-	60	ns
	Propagation Delay Time to Logic High	t_{PLH}		-	-	60	ns
	Pulse width distortion	$ t_{PHL}-t_{PLH} $		-	-	35	ns
	Common Mode Transient Immunity at Logic High	CM_H	$V_{CC}=3.3V$, $I_F=0mA$, $V_{CM}=1000V$, $R_L=350\Omega$	10	15	-	kV/ μs
	Common Mode Transient Immunity at Logic Low	CM_L	$V_{CC}=3.3V$, $I_F=10mA$, $V_{CM}=1000V$, $R_L=350\Omega$	10	15	-	kV/ μs
	Rise Time	t_r	$C_L=15pF$, $R_L=350\Omega$, $I_F=7.5mA$	-	30	-	ns

Output Pull-up Resistor	R_L	330	-	4k	Ω
Fan Out (at $R_L=1k\Omega$ per channel)	N	-	-	5	TTL Loads

ORDERING INFORMATION

 JieJie Microel

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Characteristics Curves

FIG.1: High Level Output Current vs. Ambient Temperature

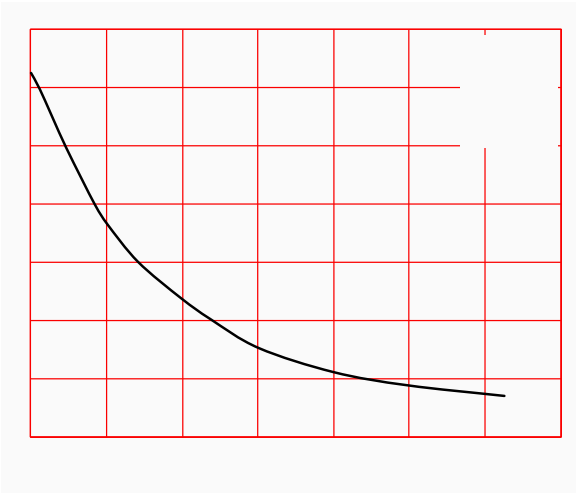


FIG.3: Input Threshold Current vs. Ambient Temperature

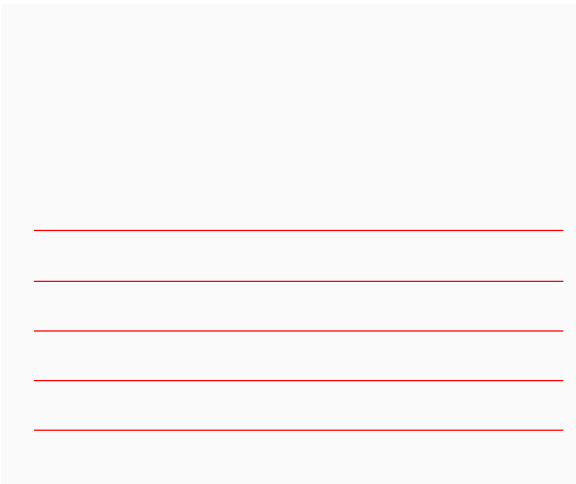


FIG.2: High Level Output Current vs. Ambient Temperature

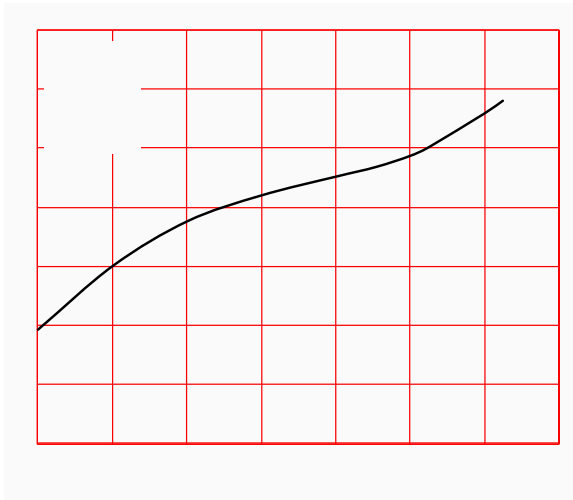


FIG.4: Input Threshold Current vs. Ambient Temperature

FIG.7: Low Level Output Current vs. Ambient Temperature

FIG.8 Low Level Output Current vs. =

FIG.13: Pulse Width Distortion vs. Ambient Temperature

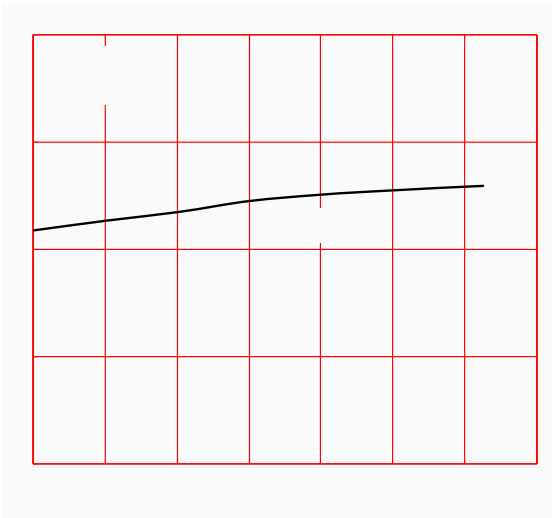
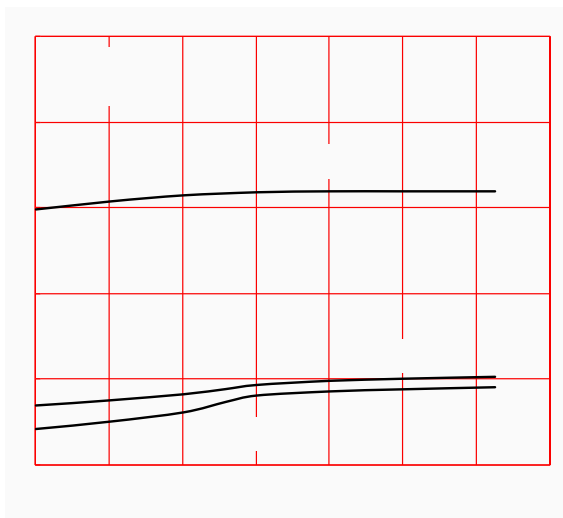
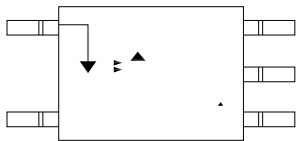


FIG.14: Pulse Width Distortion vs. Ambient Temperature

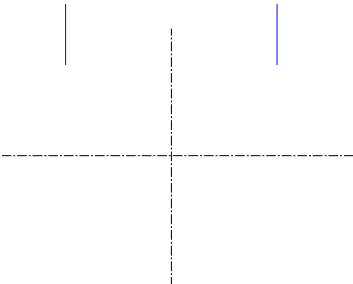


TEST CIRCUITS

Fig.15: Test Circuit and Waveform of t_{PHL} , t_{PLH}



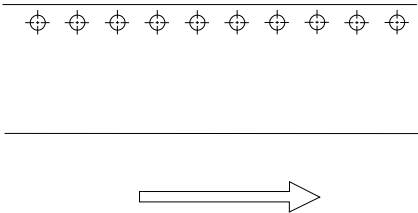
Package Dimension (Unit: mm)



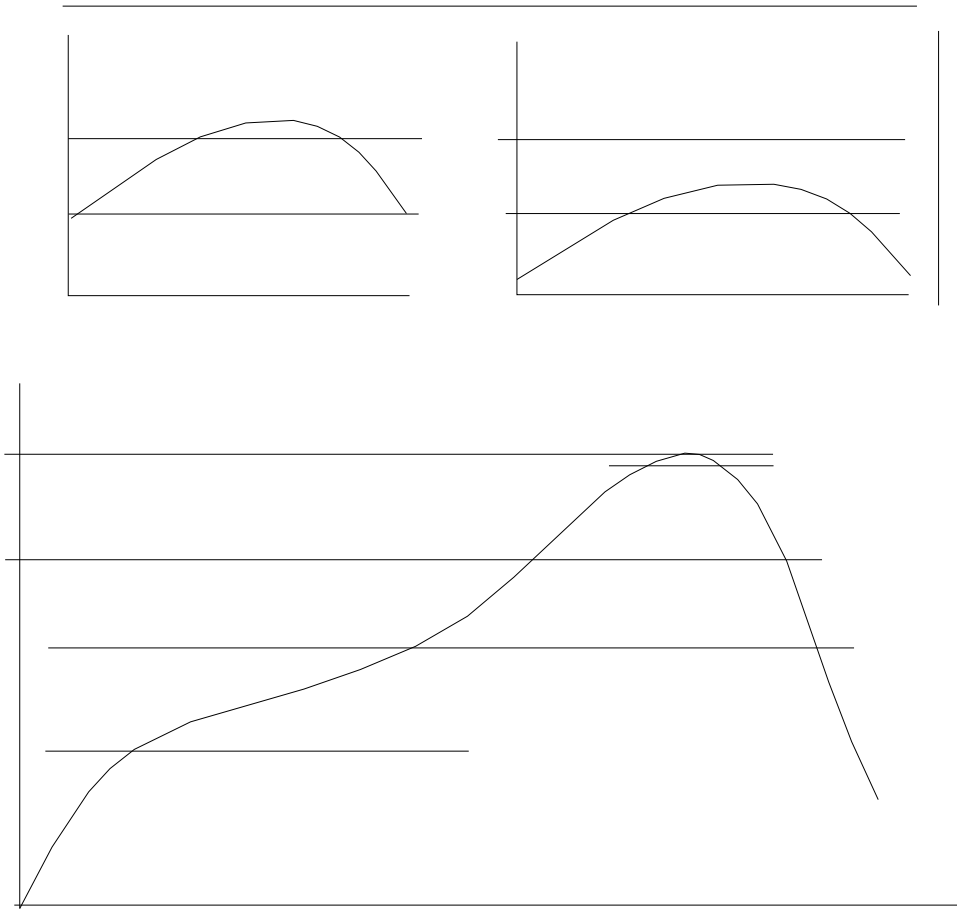
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	3.60		4.20	0.142		0.165
C	0.00		0.20	0.000		0.008
D	1.90		2.30	0.075		0.091
E	5.00		5.60	0.197		0.220
F	0.34		0.94	0.013		0.037
G	6.70		7.30	0.264		0.287
H	0.10		0.30	0.004		0.012
I	2.00		2.40	0.079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

CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None



REFLOW INFORMATION



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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