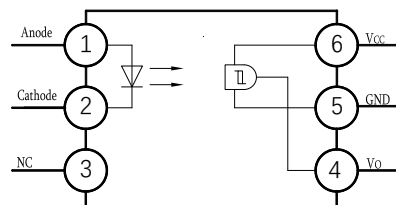


Features

- High data rate, 2MHz typical (NRZ)
- High isolation voltage between input and output (Viso =5000V rms)
- Operating Temperature: -55°C~100°C
- Wide supply voltage capability, compatible with all popular logic systems

HF

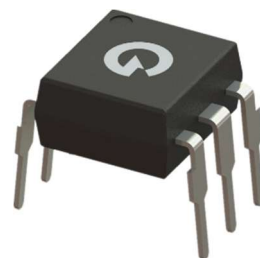


Applications

- Logic to logic isolator
- Programmable current level sensor
- Line receiver - eliminate noise and transient problems
- AC to TTL conversion - square wave shaping
- Digital programming of power supplies
- Interfaces computers with peripherals

Mechanical Data

- Case: DIP-6L, SMD-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Truth Table:

Input	Output
H	L
L	H

Ordering Information

BL H11L(X) (M) (G) - (U) (N) (Y)

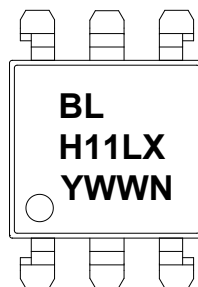
① ② ③ ④ ⑤ ⑥ ⑦

- ① Brand(BL)
- ② Product series(H11L1, H11L2, H11L3)
- ③ Package type(DIP-6L:None, SMD-6L:S)
- ④ Halogen option(None :Halogen free)
- ⑤ Lead frame (None: Copper)
- ⑥ Customer option 1 (0-9 or A-Z or none)
- ⑦ Customer option 2 (0-9 or A-Z or none)

Part Number	Package	Shipping Quantity	Marking Code
BLH11L1	DIP-6L	65 pcs / Tube	BLH11L1
BLH11L1S	SMD-6L	1000 pcs / Tape & Reel	BLH11L1

Marking Information

- "BL" denotes brand
- "X" denotes Product series : 1,2,3.
- "Y" denotes Year : A(2024), B(2025), C(2026)
- "WW" denotes Week's number
- "N" denotes the day of Week.



Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter		Symbol	Value	Unit
Input	Forward Current	I _F	60	mA
	Reverse Voltage	V _R	6	V
	Power Dissipation	P _D	120	mW
Output	V ₄₅ Allowed Range	V _O	0 to 16	V
	V ₆₅ Allowed Range	V _{CC}	3 to 16	V
	Output Current	I _O	50	mA
	power dissipation	P _D	150	mW

Thermal Characteristics

Parameter	Symbol	Value	Unit
Total Power Dissipation	P_{TOT}	250	mW
Isolation Voltage ^{*2}	V_{ISO}	5000	V _{rms}
Operating Temperature	T_{OPR}	-55 ~ +100	°C
Storage Temperature Range	T_{STG}	-55 ~ +125	°C
Soldering Temperature ^{*3}	T_{SOL}	260	°C

Notes:

1. Pulse width ≤ 1μs, Duty ratio: 0.001
2. 40 to 60% RH, AC for 1 minute. At this time, pins 1, 2 & 3 are shorted, and pins 4, 5 & 6 are shorted together.
3. For 10 seconds

Electrical Characteristics (@ $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	$I_F = 10\text{mA}$	-	1.24	1.5	V
	Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	μA
	Input Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{kHz}$	-	-	100	pF
Output	Operation Voltage Range	V_{CC}		3	-	15	V
	Supply Current	$I_{CC(off)}$	$I_F = 0\text{mA}$, $V_{CC} = 5\text{V}$	-	0.62	1.5	mA
	Output Current, High	I_{OH}	$I_F = 0\text{mA}$, $V_{CC} = V_O = 15\text{V}$	-	-	100	μA
	Isolation Resistance	R_{ISO}	$V_{I-O} = 500\text{VDC}$	10^{11}	-	-	Ω
Transfer Characteristics	Supply Current	$I_{CC(on)}$	$I_F = 10\text{mA}$, $V_{CC} = 5\text{V}$	-	0.67	1.5	mA
	Output Voltage .low	V_{OL}	$V_{CC} = 5\text{V}$, $I_F = I_{Fon(max.)}$ $R_L = 270\Omega$	--	-	0.4	V
	Turn on Threshold Current	QXH11L1	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$	-	-	1.6	mA
		QXH11L2		-	-	10	
		QXH11L3		-	-	5	
	Turn off Threshold Current	I_{Foff}	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$	-	1	-	mA
	Hysteresis Ratio	I_{Foff} / I_{Fon}	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$	0.5	-	0.9	
	Turn on Time	t_{on}	$V_{CC} = 5\text{V}$, $I_F = I_{Fon}$, $R_L = 270\Omega$	-	-	4	μs
	Fall Time	t_f		-	0.1	-	μs
	Turn off Time	t_{off}		-	-	4	μs
	Rise Time	t_r		-	0.1	-	μs
	Data Rate			-	2	-	MHz

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Fig.1 Forward Current vs. Forward Voltage

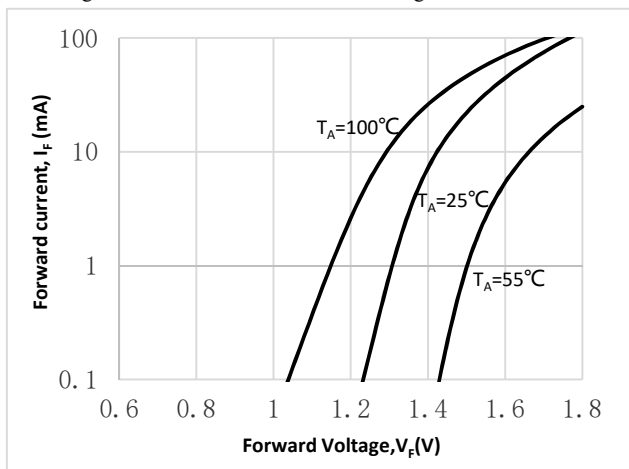


Fig.2 Transfer characteristic

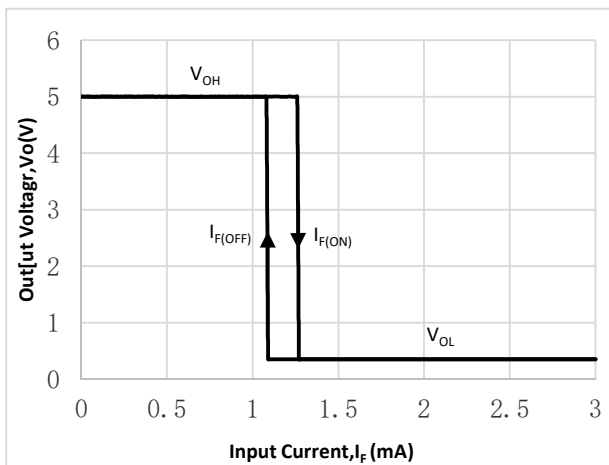


Fig.3 Turn On Threshold Current vs Supply Voltage

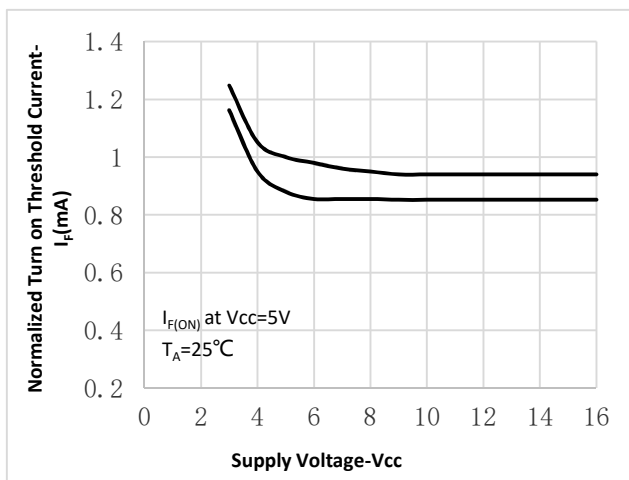


Fig.4 Turn On Threshold Current vs Ambient temperature

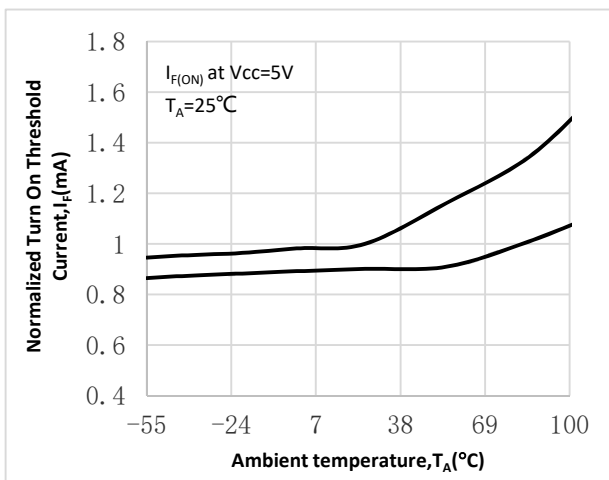


Fig.5 Low Level Output Voltage vs Load Current

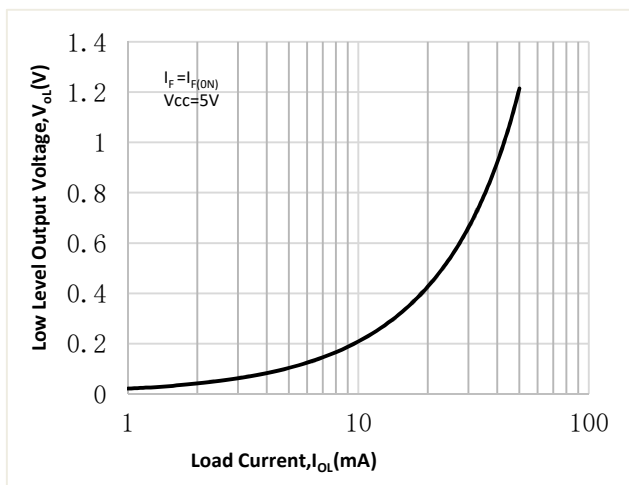


Fig.6 Supply current vs Supply Voltage

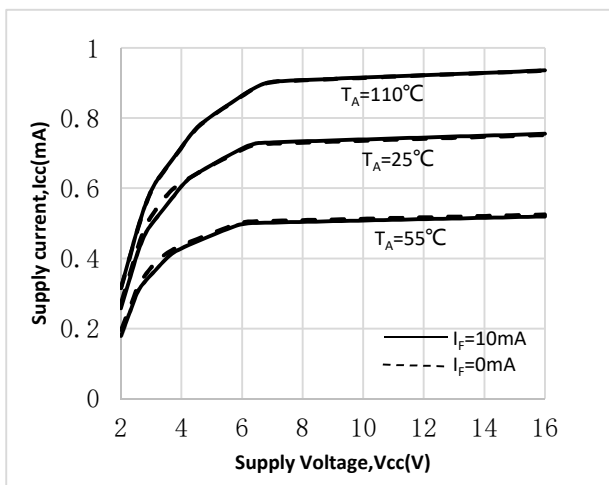
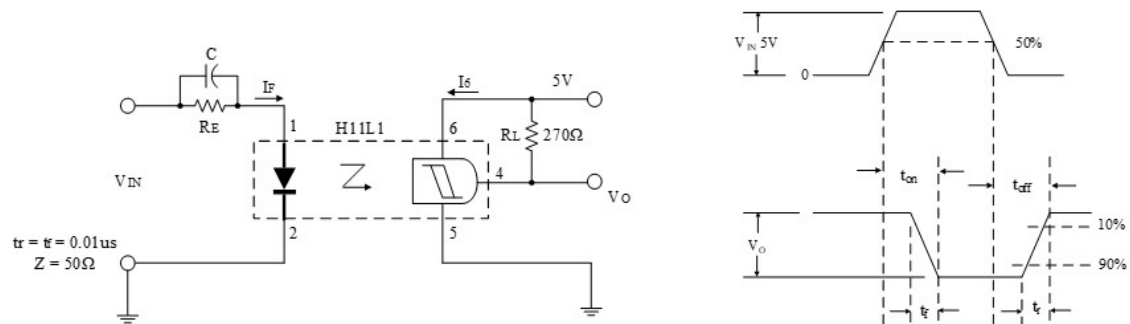
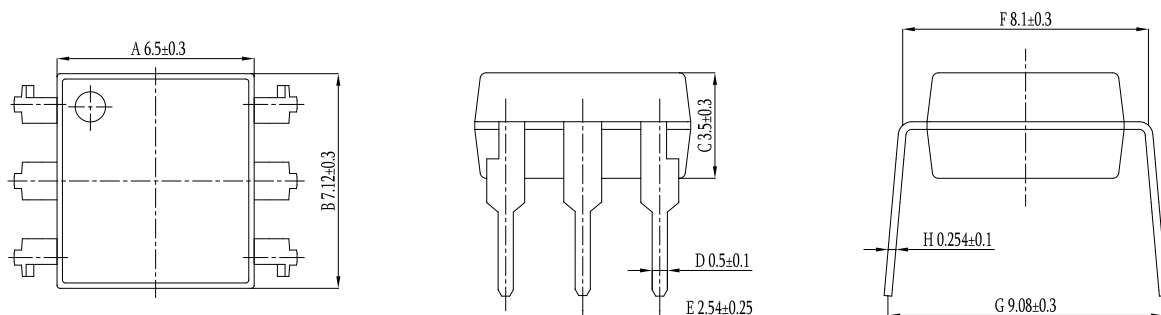


Fig.7 Switching Time Test Circuit & Waveforms

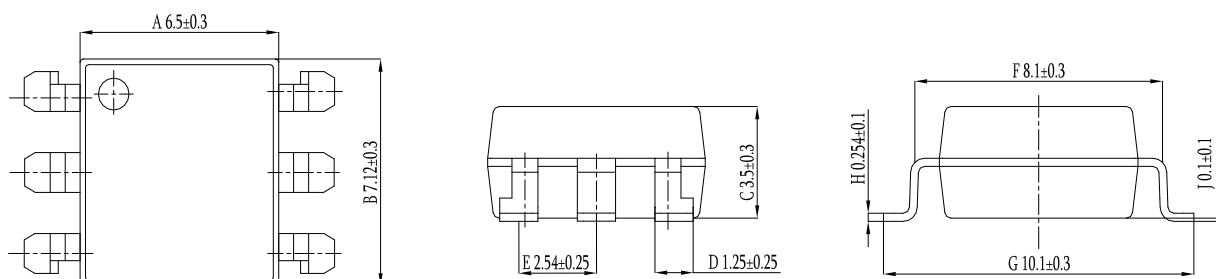


Package Outline Dimensions (unit: mm)

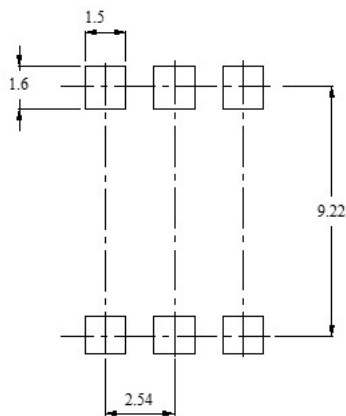
DIP-6L



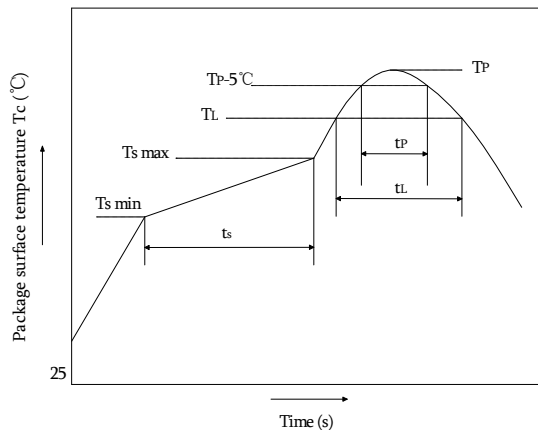
SMD-6L



SOLDERING FOOTPRINT (unit: mm)



Reflow soldering

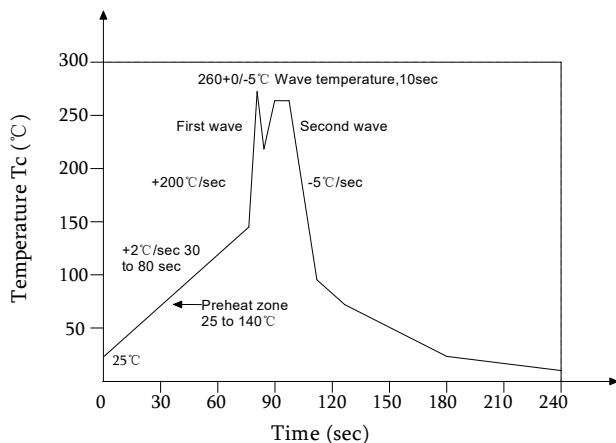


	Symbol	Min	Max	Unit
Preheat temperature	T_s	150	200	°C
Preheat time	t_s	60	120	s
Ramp-up rate(T_L to T_P)			3	°C/s
Liquidus temperature	T_L	217		°C
Time above T_L	t_L	60	150	s
Peak temperature	T_P		260	°C
Time during which T_c is between (T_P-5) and T_P	t_p		30	s
Ramp-down rate(T_P to T_L)			6	°C/s

Note:

Reflow soldering is recommended at the temperatures and times shown, no more than three times.

Wave soldering



Profile feature	
Average ramp-up rate	~200°C/s
Heating rate during preheat	1°C/s to 2°C/s typical; 4°C/s maximum
Final preheat temperature T_s	~130°C
Preheat time (25°C to T_s)	>60s
Peak temperature T_P	260°C
Time within peak temperature t_p	10s
Ramp-down rate	5°C/s maximum

Soldering with hand soldering iron

- Hand soldering iron is only used for product rework or sample testing.
- Hand soldering iron requirements: Temperature: 360 °C+5°C within 3s.

Packing

Package Type	Packing Form	Quantity per Tube & Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
DIP-6L	Tube(500mm)	65 pcs/tube	25 tubes /box	12 boxes /ctn	190*670mm	520*105*50mm	545*372*235mm	Straight insert type material tube
SMD-6L	Reel(ϕ 330mm)	1000 pcs/reel	2 reels /box	5 boxes /ctn	380*420mm	350*340*60mm	365*330*370mm	Guard band 200mm /min.

■ Summary table

■ DIP-6L (Tube)

Qty/ tube : 65 pcs. Qty/box: 1.625 pcs.

Qty/ctn : 19500 pcs.

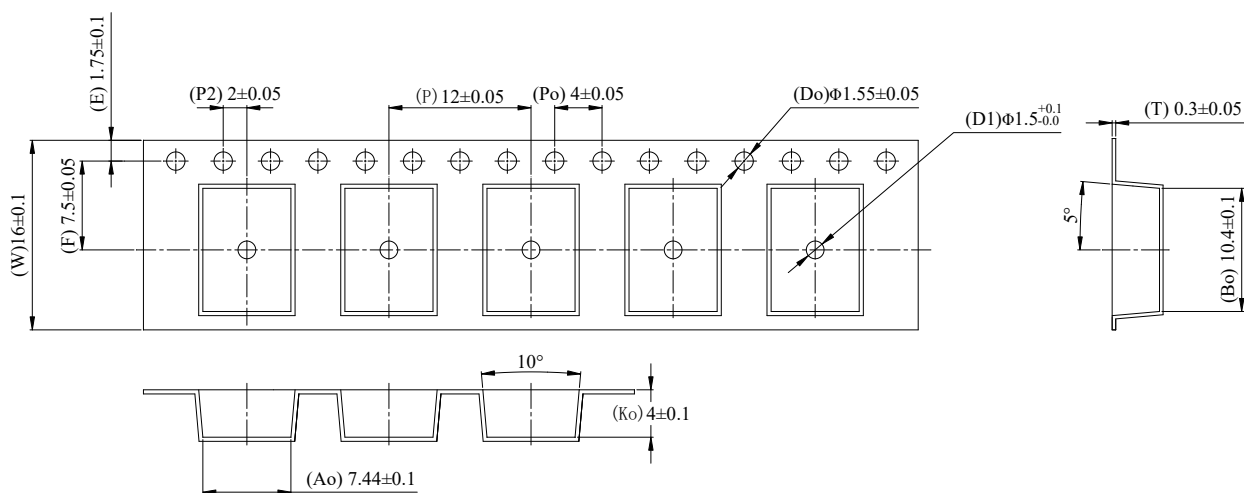
Schematic: (unit:mm)

■ SMD-6L (Reel)

Qty/reel: 1000 pcs. Qty/box: 2000 pcs.

Qty/ctn : 10000 pcs.

Schematic: (unit:mm)



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