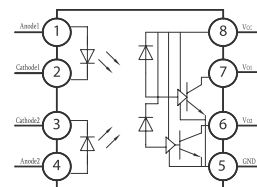




Features:

- High speed: 10MBit/s
- 10kV/μs min. common mode transient immunity
- High isolation voltage between input and output (Viso =5000V rms)
- Operating Temperature: -40°C to 100°C
- Logic gate output

**RoHS
Compliant**



Applications:

- Ground loop elimination
- LSTTL to TTL, LSTTL or 5-volt CMOS
- Line receiver, data transmission
- Data multiplexing
- Switching power supplies
- Pulse transformer replacement
- Computer-peripheral interface
- High speed logic ground isolation

Mechanical Data

- Case: DIP-8L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Truth Table (Positive Logic)

Input	Output
H	L
L	H

Maximum Ratings: @ T_A 25°C unless otherwise specified.

Parameter		Symbol	Value	Unit
Input	Forward Current	I _F	20	mA
	Reverse Voltage	V _R	5	V
	Power Dissipation	P _D	40	mW
Output	Power dissipation	P _C	60	mW
	Output Current	I _O	50	mA
	Supply Voltage	V _{CC}	7	V
	Output Voltage	V _O	7	V

Thermal Characteristics

Parameter	Symbol	Value	Unit
Output Power Dissipation	P _O	85	mW
Isolation Voltage ^{*2}	V _{ISO}	5000	V _{rms}
Operating Temperature	T _{OPR}	-40 ~ +100	°C
Storage Temperature Range	T _{STG}	-55 ~ +125	°C
Soldering Temperature ^{*3}	T _{SOL}	260	°C

Notes

1. 40 to 60% RH, AC for 1 minute, In this test, pins 1, 2, 3 & 4 are shorted together, and pins 5, 6, 7 & 8 are shorted together
2. For 10 seconds

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Electrical Characteristics @ TA = 25°C unless otherwise specified

Parameter		Symbol	Test conditions	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F = 10mA	-	1.4	1.8	V
	Reverse Voltage	V _R	I _R =10μA	5	-	-	V
	Capacitance	C _{in}	V _R = 0V, f = 1MHz	-	60	-	pF
	Diode Temperature Coefficient	ΔV _F /ΔT _A	I _F =10mA	-	-1.8	-	mV/°C
Output	High Level Supply Current	I _{CC} H	V _{CC} =5.5V, I _F =0mA	-	12.5	18	mA
	Low Level Supply Current	I _{CC} L	V _{CC} =5.5V, I _F =10mA	-	14.5	21	mA
Transfer Characteristics	High Level Output Current	I _{OH}	V _{CC} =5.5V, V _O =5.5V I _F = 250μA	-	2.1	100	μA
	Low Level Output Voltage	V _{OL}	V _{CC} =5.5V, I _F =5mA I _{CL} =13mA	-	0.35	0.6	V
	Input Threshold Current	I _{FT}	V _{CC} =5.5V, V _O =0.6V I _{OL} =13mA	-	2.5	5	mA

Switching Characteristics: (@ TA = -40°C - 100°C, VCC= 5V, I_F= 7.5mA, unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Propagation Delay Time to Output HIGH Level	T _{PLH}	C _L =15pF R _L =350Ω T _A =25°C	-	35	100	ns
Propagation Delay Time to Output Low Level	T _{PHL}		-	40	100	
Pulse Width Distortion	T _{PHL} -T _{PLH}		-	5	35	
Output Rise Time (10–90%)	t _r		-	40	-	
Output fall Time (90–10%)	t _f		-	10	-	
Common Mode Transient Immunity (at Output HIGH Level) BL2630	C _{MH}	T _A =25°C, I _F =0mA V _{CM} =1KV (Peak) V _{OH} =2.0V, R _L =350Ω	5000	-	-	V/μs
Common Mode Transient Immunity (at Output HIGH Level) BL2631			10000	20000	-	
Common Mode Transient Immunity (at Output LOW Level) BL2630	C _{ML}	I _F =7.5mA, V _{OL} =0.8V V _{CM} =1KV (Peak) R _L =350Ω, T _A =25°C	5000	-	-	
Common Mode Transient Immunity (at Output LOW Level) BL2631			10000	20000	-	

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

Fig.1 Typical High Level Output Current vs. Temperature

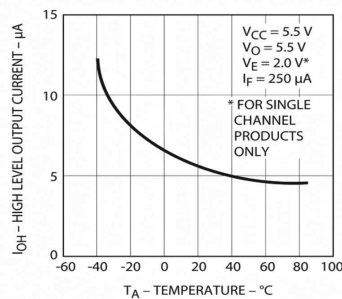


Fig.2 Typical Output Voltage vs. Forward Input Current

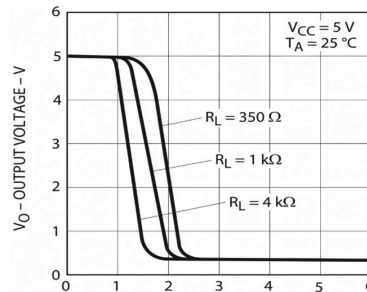


Fig.3 Typical Input Threshold Current vs. Temperature

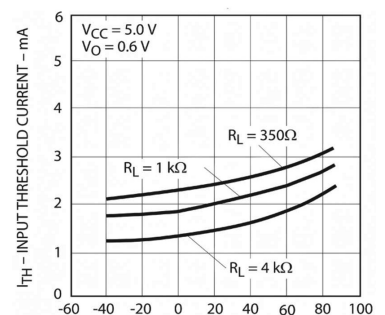


Fig.4 Typical Low Level Output Voltage vs. Temperature

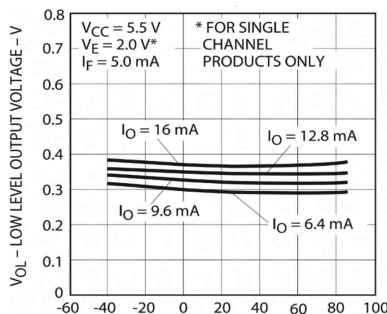


Fig.5 Typical Low Level Output Current vs. Temperature

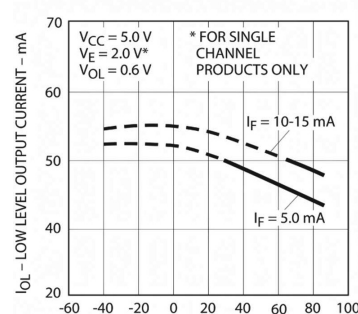


Fig.6 Typical Input Diode Forward Characteristic

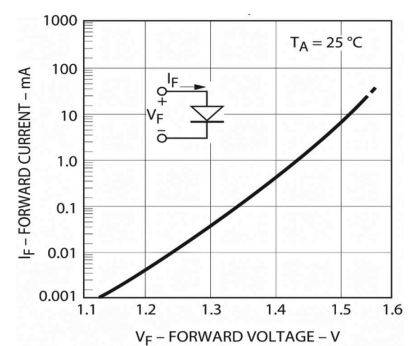


Fig.7 Typical Temperature Coefficient of Forward Voltage vs. Input Current

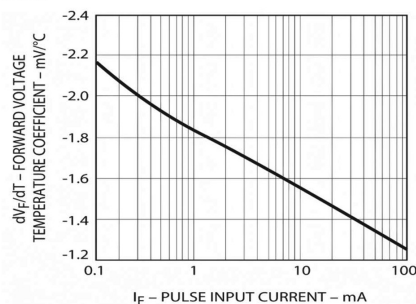


Fig.8 Propagation Delay vs. Temperature

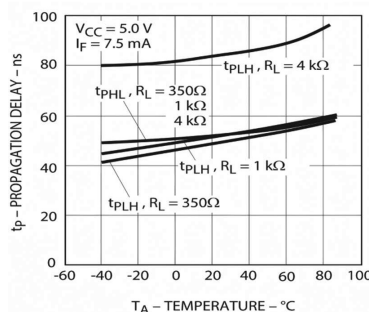


Fig.9 Propagation Delay vs. Pulse Input Current

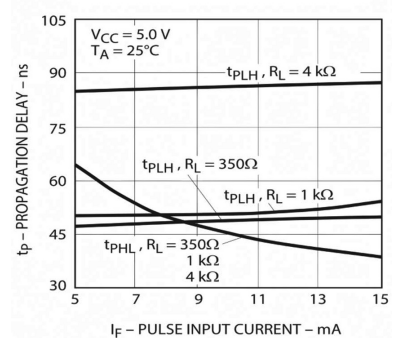


Fig.10 Pulse Width Distortion vs. Temperature

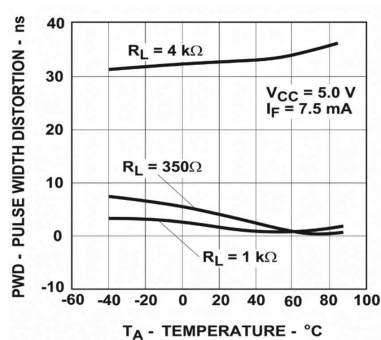
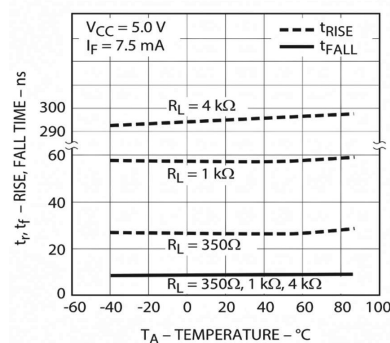
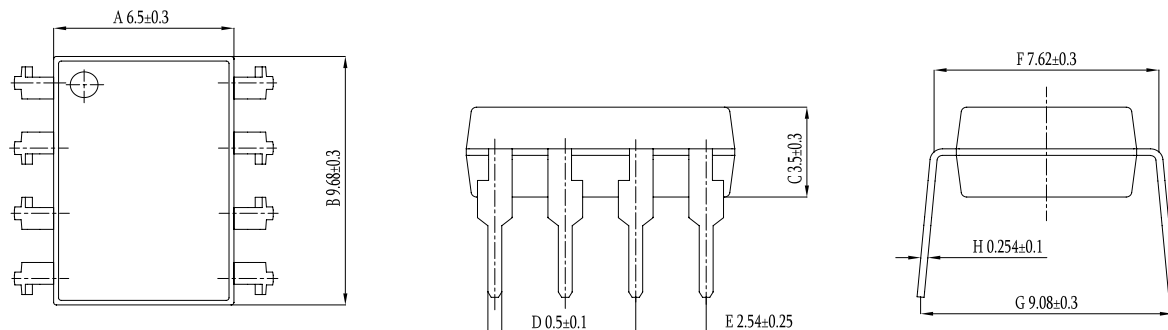


Fig.11 Typical Rise and Fall Time vs. Temperature



Outline Dimensions



Part Number Table

Description	Part Number
Optocoupler, High Speed, 20mA, 5V, 5000Vrms, DIP 8L	BL2630

Dimensions : Millimetres

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