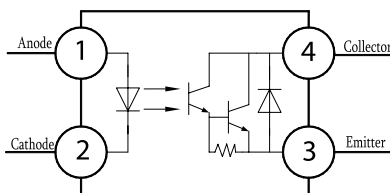


**RoHS
Compliant**



Features:

- Current transfer ratio
- (CTR $\geq 1000\%$ at $I_F = 1\text{mA}$, $V_{CE} = 2\text{V}$)
- High isolation voltage between input and output (Viso = 5000V rms)
- Collector - emitter breakdown voltage $BV_{CEO} \geq 80\text{V}$
- Operating Temperature: $-55^\circ\text{C} \sim 110^\circ\text{C}$

Applications:

- Switching power supply, intelligent meter
- Industrial control, measuring instruments
- Office equipment such as copiers
- Household appliances: such as air conditioners, fans, water heaters, etc.

Mechanical Data

- Case: DIP-4L, DIP-4L(M), SMD-4L, SMD-4L(SS)
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

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

	Parameter	Symbol	Value	Unit
Input	Forward Current	I_F	60	mA
	Peak Forward Current *1	I_{FM}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	100	mW
Output	Collector Power Dissipation	P_C	150	mW
	Collector Current	I_O	150	mA
	Collector-Emitter Voltage	V_{CEO}	350	V
	Emitter-Collector Voltage	V_{ECO}	0.1	V

Thermal Characteristics

Parameter	Symbol	Value	Unit
Total Power Dissipation	P _{TOT}	350	mW
Isolation Voltage ^{*2}	V _{ISO}	5000	Vrms
Operating Temperature	T _{OPR}	-55 ~ +110	°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
3. For 10 seconds

Electrical Characteristics @ TA = 25°C unless otherwise specified

	Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F = 10mA	-	1.2	1.4	V
	Reverse Current	I _R	V _R = 4V	-	-	10	μA
	Input Capacitance	C _{in}	V _R = 0V, f = 1kHz	-	50	-	pF
Output	Collector-Emitter Dark Current	I _{CEO}	V _{CE} = 200V	-	-	100	nA
	Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C = 0.1mA, I _F = 0	350	-	-	V
	Emitter-Collector Breakdown Voltage	BV _{ECO}	I _E = 10μA, I _F = 0	0.1	-	-	V
	Current Transfer Ratio	C _{TR}	I _F = 1mA, V _{CE} = 2V	1000	-	-	%
	Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _F = 20mA, I _C = 1000mA	-	1.2	1.5	V
	Isolation Resistance	R _{ISO}	V _{IO} = 500V DC 40~60% R.H.	5×10 ¹⁰	1×10 ¹¹	-	Ω
	Floating Capacitance	C _{IO}	V _{IO} = 0, f = 1MHz	-	0.6	-	pF
Transfer Characteristics	Cut-off frequency	f _C	V _{CE} = 2V, I _C = 2mA R _L = 100Ω, -3dB	-	7	-	kHz
	Turn On Time	T _{on}	V _{CE} = 2V, R _L = 100Ω		80	250	μs
	Turn Off Time	T _{off}	I _C = 20mA		10	100	

Fig.1 Collector-Emitter Saturation Voltage vs. Ambient Temperature

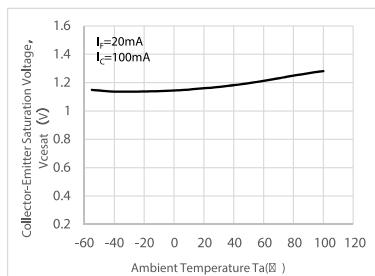


Fig.2 Forward Current vs. Forward Voltage

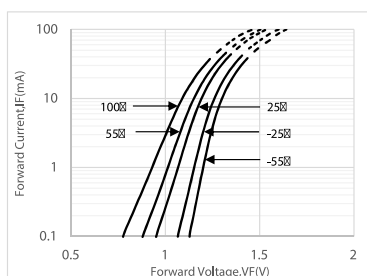


Fig.3 Current Transfer Ratio vs. Forward Current

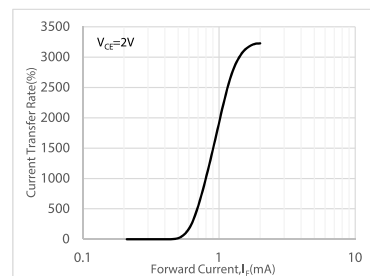


Fig.4 Relative Current Transfer Ratio vs. Ambient Temperature

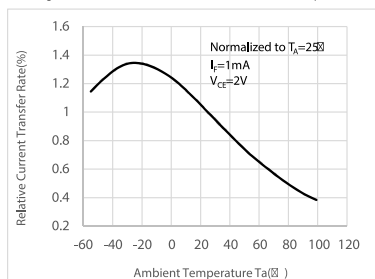


Fig.5 Collector-Emitter Dark Current vs. Ambient Temperature

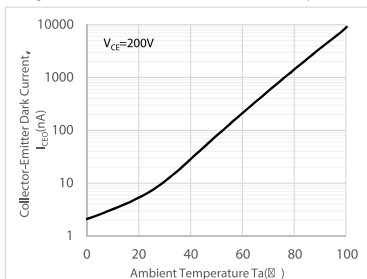


Fig.6 Collector Current vs. Collector-Emitter Voltage

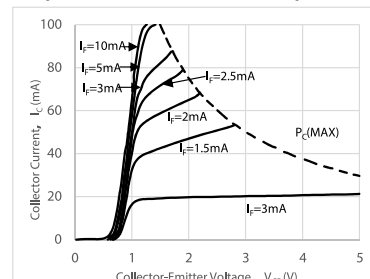


Fig.7 Response time vs. Load resistor

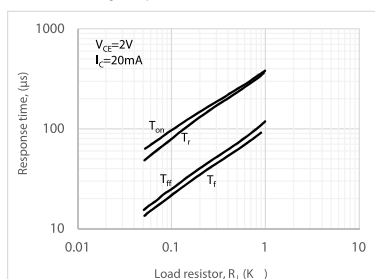


Fig.8 Forward Current vs. Collector-Emitter Saturation Voltage

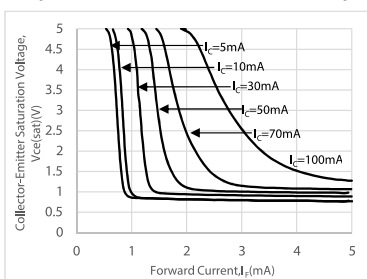


Fig.9 Frequency response

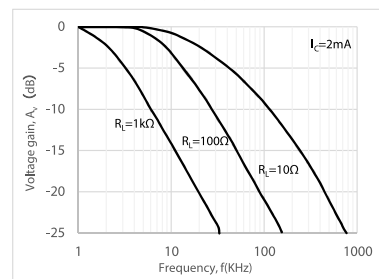
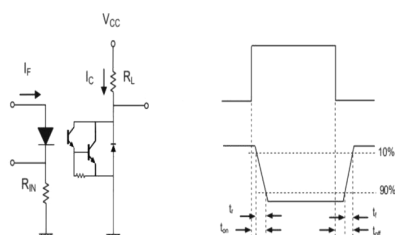
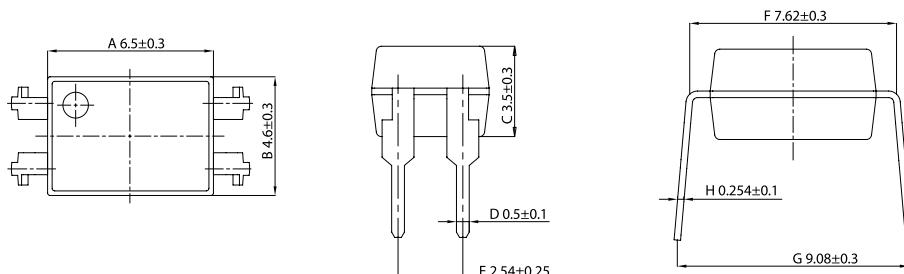


Fig.10 Switching Time Test Circuit & Waveforms



Outline Dimensions



Part Number Table

Description	Part Number
Optocoupler, Darlington output, 60mA, 6V, 5000Vrms, DIP4L	BL852

Dimensions : Millimetres

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