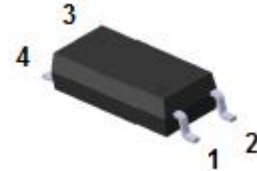
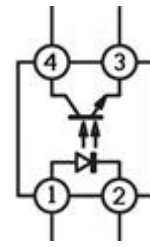


Features

- Current Transfer Ratio
(CTR: 50~600% at $I_F = 5\text{mA}$, $V_{CE} = 5\text{V}$)
(CTR: 63~320% at $I_F = 10\text{mA}$, $V_{CE} = 5\text{V}$)
- High Isolation Voltage Between Input and Output ($V_{iso} = 5000\text{V rms}$)
- Wide operating temperature range:
 - BL101XG Series (Top=-55°C to 110°C)
 - BL101XHG Series (Top=-55°C to 125°C)

HF



LSOP-4L

Applications

- Programmable Controllers
- System Appliances, Measuring Instruments
- Telecommunication Equipments
- Home Appliances, Such as Fan Heaters, etc
- Signal Transmission Between Circuits of Different Potentials and Impedances

Mechanical Data

- Case: LSOP-4L
- Molding Compound, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping	Marking Code
BL101X(H)G	LSOP-4L	3000 pcs / Tape & Reel	BL101X(H)

X: CTR Rank (0, 2, 3, 4, 7, 8 or 9)

H: is for Top=-55°C to 125°C.

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

Parameter		Symbol	Value	Units
Input	Forward Current	I_F	60	mA
	Peak Forward Current (1us, pulse)	I_{FP}	1.5	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	100	mW
Output	Power Dissipation	P_C	150	mW
	Collector Current	I_C	50	mA
	Collector-Emitter Voltage	V_{CEO}	80	V
	Emitter-Collector Voltage	V_{ECO}	7	V

Thermal Characteristics

Parameter	Symbol	Values	Units
Total Power Dissipation	P_{TOT}	250	mW
Isolation Voltage ^(Note1)	V_{ISO}	5000	V _{rms}
Operating Temperature	T_{OPR}	BL101XG	-55 to 110 °C
		BL101XHG	-55 to 125 °C
Storage Temperature Range	T_{STG}	BL101XG	-55 to +125 °C
		BL101XHG	-55 to +135 °C
Soldering Temperature ^(Note2)	T_{SOL}	260	°C

Notes:

1. AC for 1 minute, R.H.= 40 ~ 60% R.H. In this test, pins 1, 2 are shorted together, and pins 3, 4 are shorted together.
2. For 10 seconds.

Electrical Characteristics-TR1 (@TA=25°C unless otherwise specified)

Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Input	Forward Voltage	BL101XG	$I_F=50mA$	-	1.30	1.5	V	
		BL101XHG		-	1.50	1.7	V	
	Reverse Current		I_R	$V_R=6V$	-	-	10	uA
	Input Capacitance		C_{in}	$V_R=0V, f=1kHz$	-	50	-	pF
Output	Collector-Emitter Dark Current		I_{CEO}	$V_{CE}=20V, I_F=0mA$	-	-	100	nA
	Collector-Emitter Breakdown Voltage		BV_{CEO}	$I_C=0.1mA$	80	-	-	V
	Emitter-Collector Breakdown Voltage		BV_{ECO}	$I_E=0.1mA$	7	-	-	V
Transfer Characteristics	Current Transfer Ratio	BL1010(H)G	CTR	$I_F=5mA, V_{CE}=5V$	50	-	600	%
		BL1017(H)G			80	-	160	
		BL1018(H)G			130	-	260	
		BL1019(H)G			200	-	400	
	Current Transfer Ratio	BL1012(H)G	CTR	$I_F=10mA, V_{CE}=5V$	63	-	125	%
		BL1013(H)G			100	-	200	
		BL1014(H)G			160	-	320	
		BL1012(H)G			22	-	-	
	Current Transfer Ratio	BL1013(H)G	CTR	$I_F=1mA, V_{CE}=5V$	34	-	-	%
		BL1014(H)G			56	-	-	
		Collector-Emitter Saturation Voltage			$V_{CE(sat)}$	$I_F=10mA, I_C=1mA$	-	
	Isolation Resistance		R_{IO}	$V_{IO}=500Vdc, 40\sim60\%$ R.H.	5×10^{10}	-	-	Ω
	Floating Capacitance		C_{IO}	$V_{IO}=0, f=1MHz$	-	-	1.0	pF
Turn On Time		T_{on}	$V_{CE}=5V$ $I_C=5mA$ $RL=100\Omega$	-	4	-	us	
Turn Off Time		T_{off}		-	3	-		
Rise Time		t_r		-	-	18		
Fall Time		T_f	-	-	18	us		

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

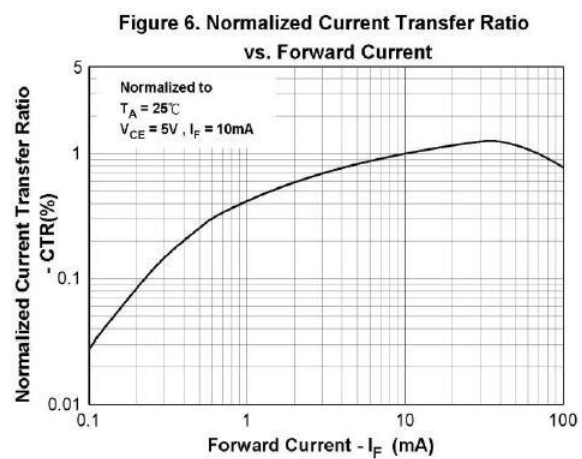
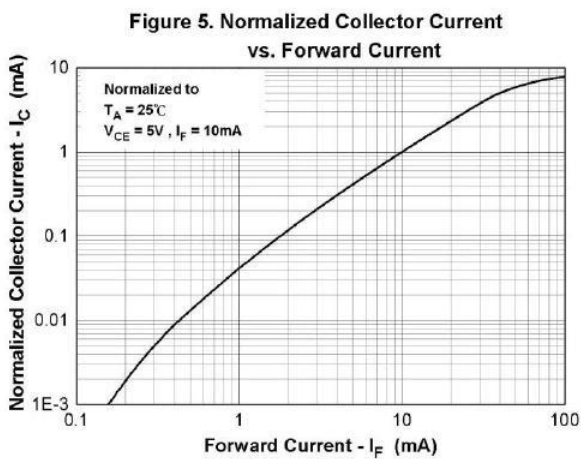
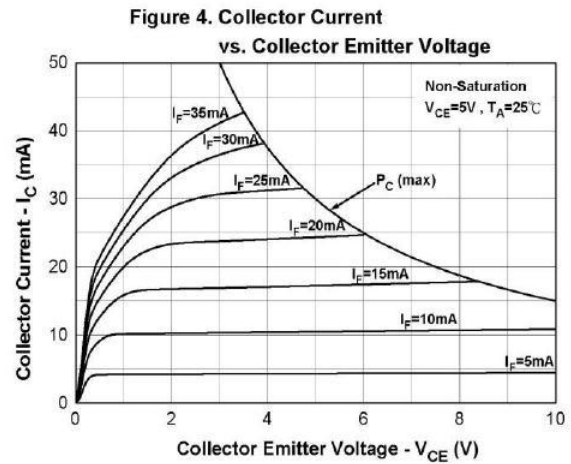
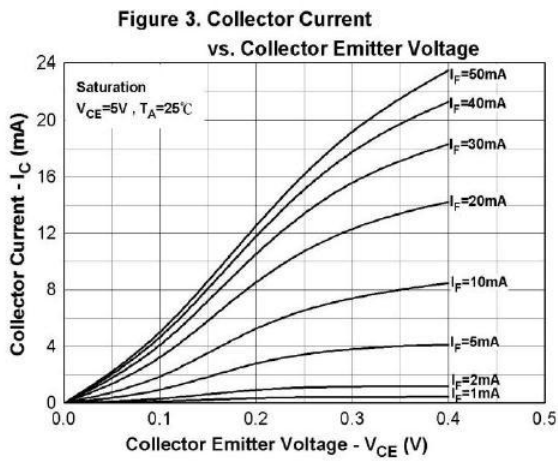
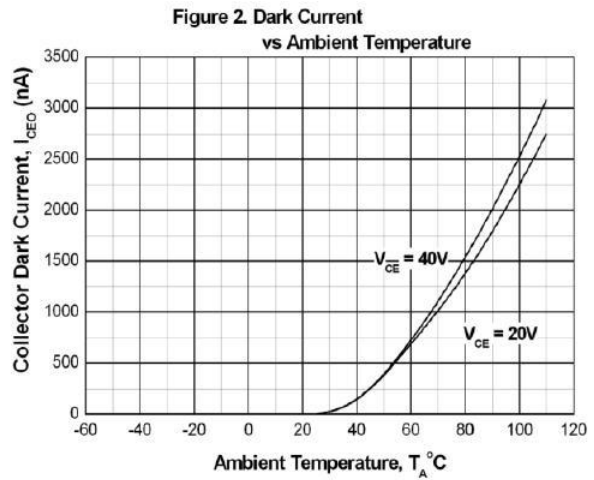
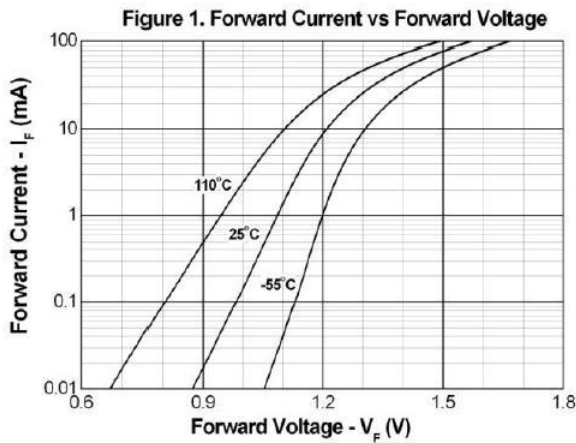


Figure 7. Normalized Current Transfer Ratio vs. Ambient Temperature

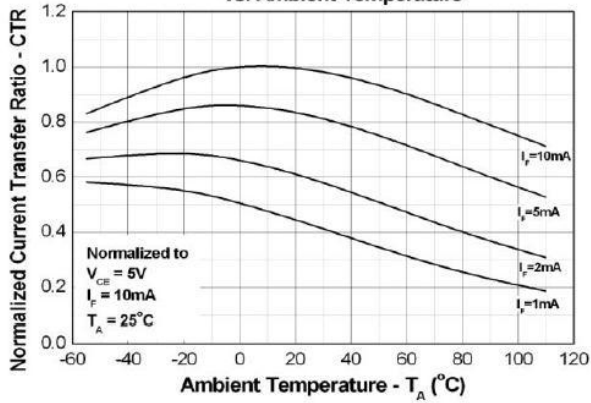


Figure 8. Normalized Current Transfer Ratio vs. Ambient Temperature

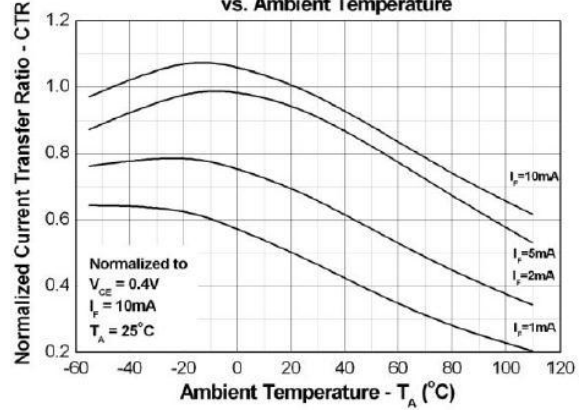


Figure 9. Turn on/off Time vs. Collector Current

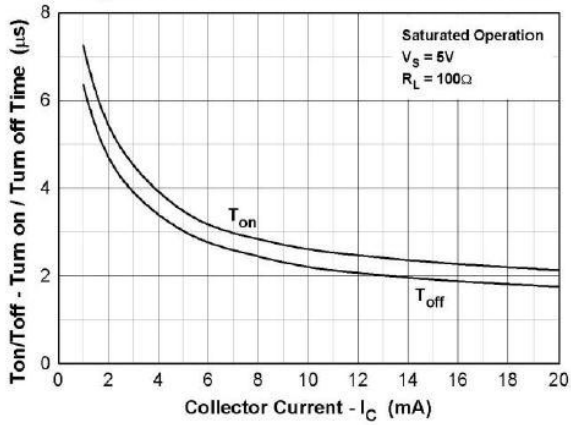
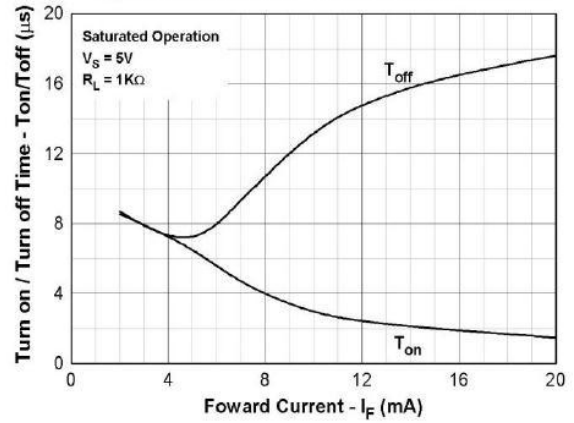
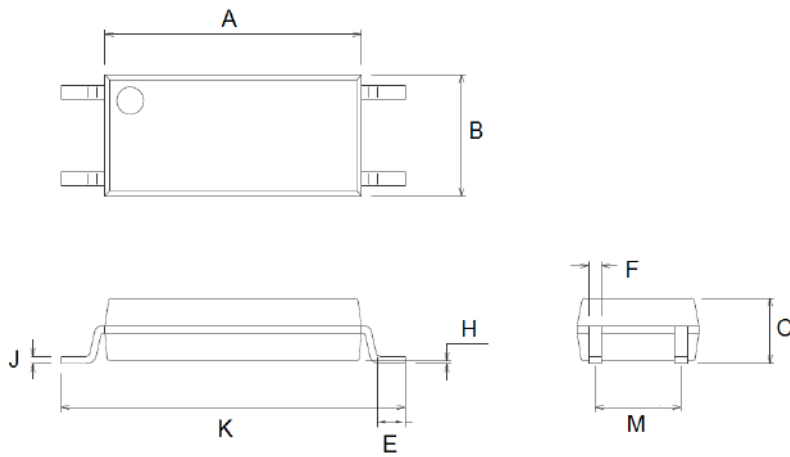


Figure 10. Turn on/off Time vs. Forward Current



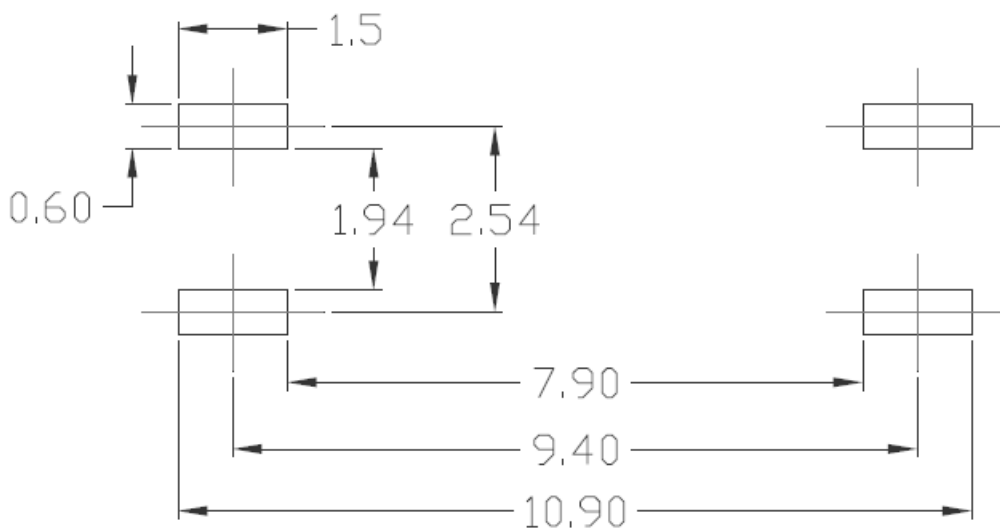
Package Outline Dimensions (unit: mm)

LSOP-4L



LSOP-4L		
Dim	Min	Max
A	7.40	7.80
B	3.40	3.80
C	1.90	2.10
E	0.45	0.65
F	0.30	0.50
H	0.02	0.15
J	0.15	0.35
K	9.90	10.50
M	2.44	2.64

SOLDERING FOOTPRINT (unit: mm)



IMPORTANT NOTICE

Galaxy Microelectronics (GME) reserves the right to make changes without further notice to any product herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.