

Features

- Open voltage: 7 V (min)
- Short current: 12 μ A (min)
- High isolation voltage between input and output (Viso =3750V rms)
- Operating Temperature: -55°C~110°C

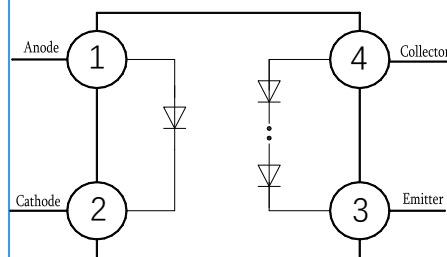
HF

Applications

- Measuring Instruments
- MOSFET Gate Drivers

Mechanical Data

- Case: SOP4
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

BL 3906 (M) (G) (X) - (U) (N) (Y)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Brand(BL)
- ② Product series(3906)
- ③ Package type(None:SOP4)
- ④ Halogen option(None :Halogen free)
- ⑤ CTR Bank(None)
- ⑥ Lead frame (None: Copper)
- ⑦ Customer option 1 (0-9 or A-Z or none)
- ⑧ Customer option 2 (0-9 or A-Z or none)

Part Number	Package	Shipping Quantity	Marking Code
BL3906	SOP4	3000 pcs / Tape & Reel	BL3906

Marking Information

- "BL" denotes brand
- "3906" denotes Product series.
- "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	30	mA
	Peak Forward Current *1	I _{FM}	1	A
	Reverse Voltage	V _R	6	V
	Power Dissipation	P _D	50	mW
Output	Output power dissipation	P _O	0.5	mW
	Output forward current	I _{FD}	50	uA
	Output reverse voltage	V _{RD}	10	V

Thermal Characteristics

Parameter	Symbol	Value	Unit
Isolation Voltage ^{*2}	V _{ISO}	3750	V _{rms}
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 (@ T_A = 25°C unless otherwise specified)

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F = 10mA	-	1.3	1.4	V
	Peak Forward Voltage	V _{FM}	I _{FM} = 0.5A	-	-	3.0	V
	Reverse Current	I _R	V _R = 3V	-	-	10	μA
	Input Capacitance	C _{in}	V _R = 0V, f = 1kHz	-	30	-	pF
Output	Trigger LED current	I _{FT}	V _{OC} > 5V	-	-	3	mA
	Open voltage	V _{OC}	I _F = 10mA,	7	9	-	V
	Short-circuit current	I _{SC}	I _F = 10mA,	12	-	-	μA
	Turn on time	T _{on}	I _F = 10mA, C _L = 1000 pF	-	0.1	1	ms
	Turn off time	T _{off}		-	0.03	1	ms

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

Fig.1 Forward Current vs. Forward Voltage

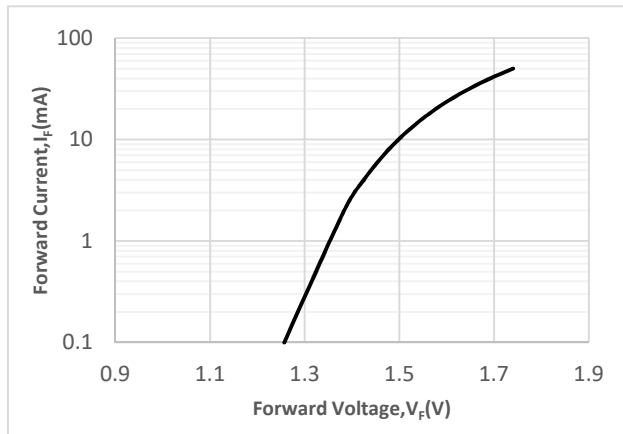


Fig.2 Short-circuit current vs. Open voltage

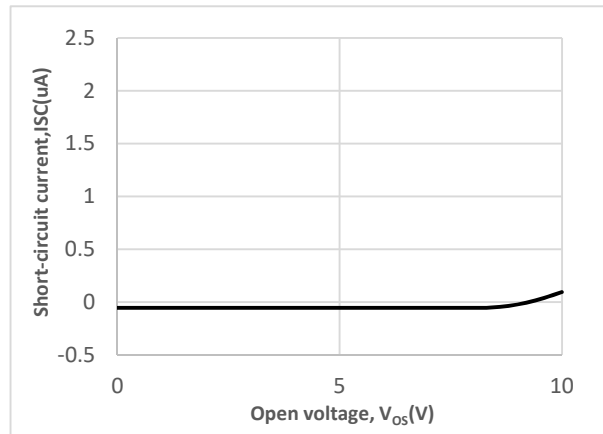


Fig.3 Response Time vs. Load Capacitance

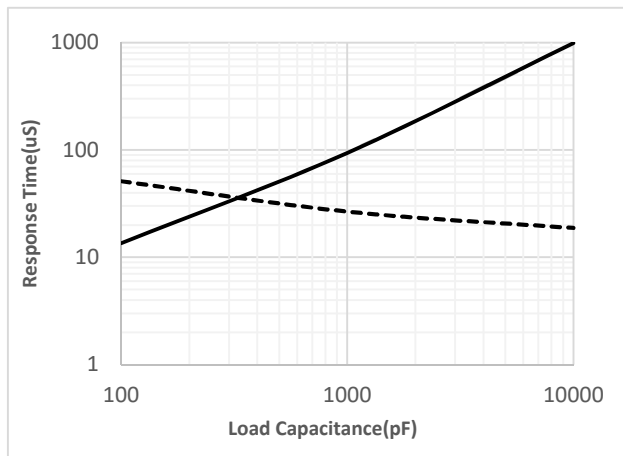


Fig.4 Open voltage vs. Forward Voltage

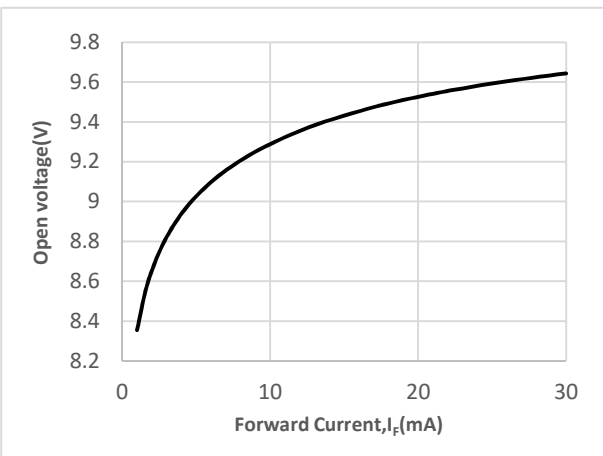


Fig.5 Short-circuit current vs. Forward Current

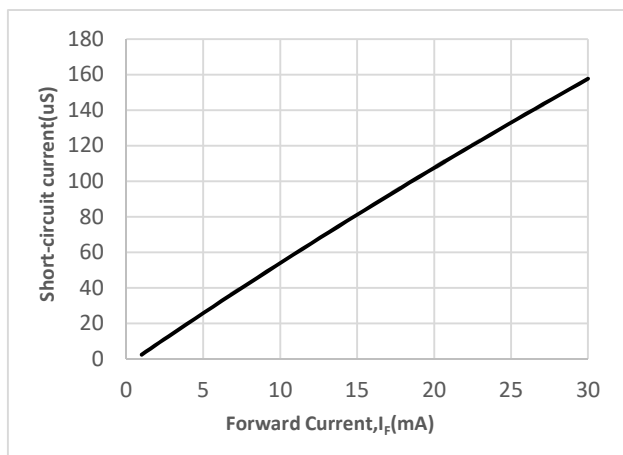


Fig.6 Open voltage vs. Ambient Temperature

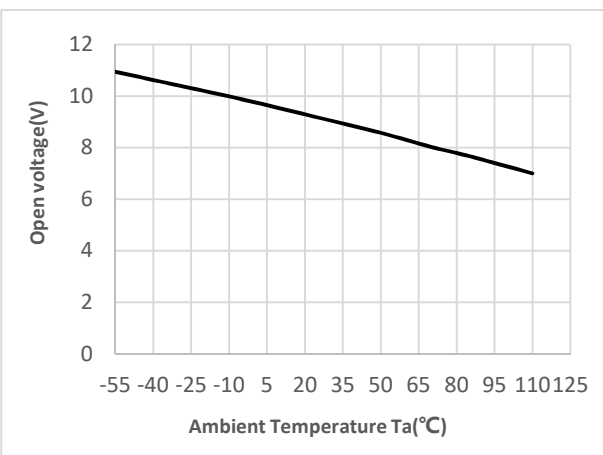


Fig.7 Short-circuit current vs. Ambient Temperature

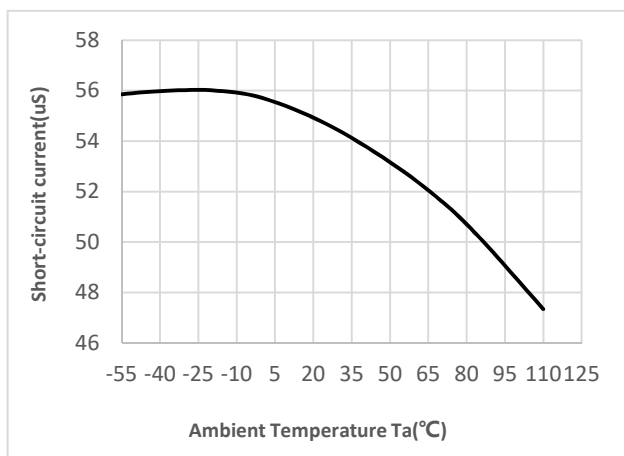


Fig.8 Response Time vs. Ambient Temperature

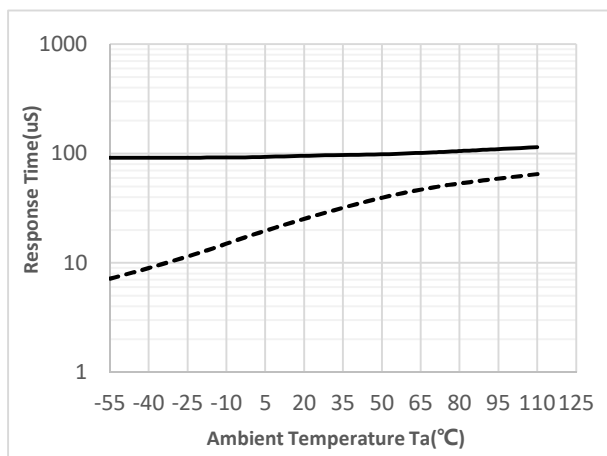
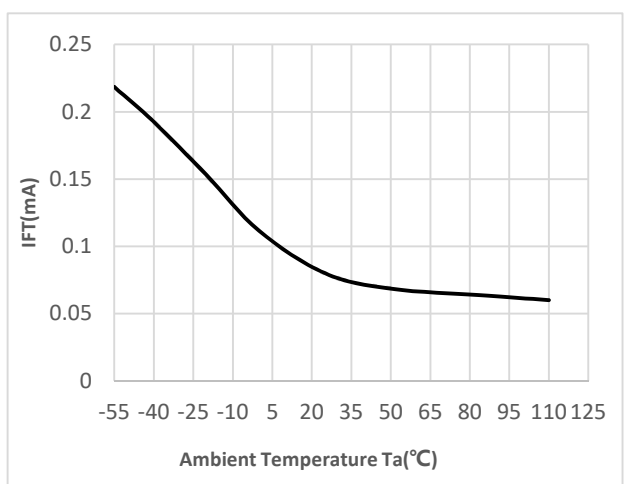
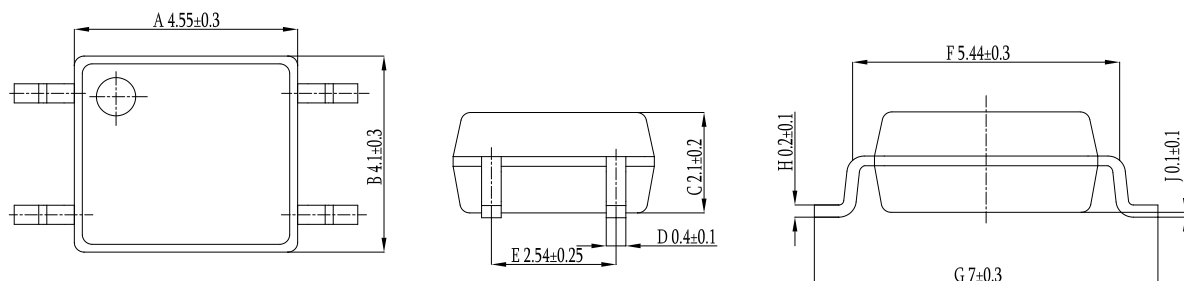


Fig.9 Trigger LED current vs. Ambient Temperature

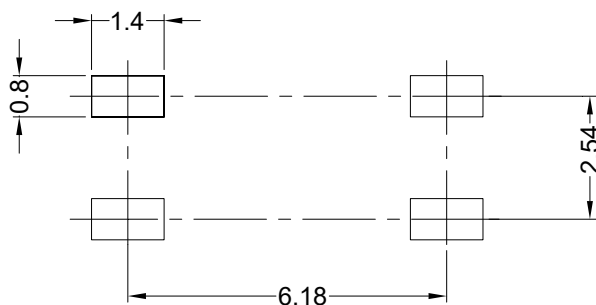


Package Outline Dimensions (unit: mm)

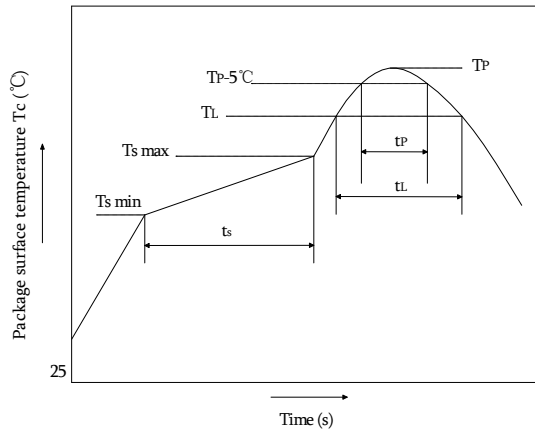
SOP4



SOLDERING FOOTPRINT (unit: mm)



Reflow soldering

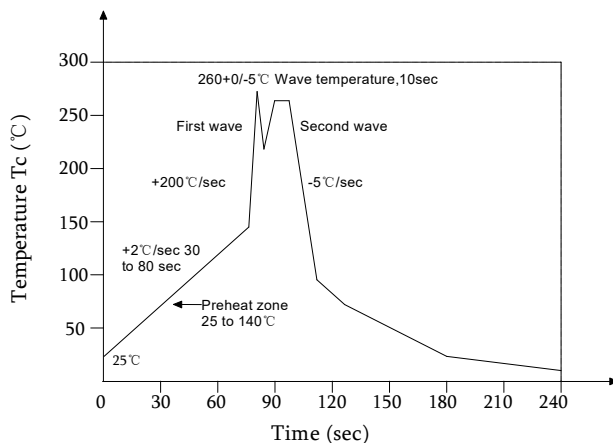


	Symbol	Min	Max	Unit
Preheat temperature	Ts	150	200	°C
Preheat time	ts	60	120	s
Ramp-up rate(T _L to T _P)			3	°C/s
Liquidus temperature	T _L	217		°C
Time above T _L	t _L	60	150	s
Peak temperature	T _P		260	°C
Time during which T _c is between (T _P -5) and T _P	t _p		30	s
Ramp-down rate(T _P to T _L)			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 Ts	~130°C
Preheat time (25°C to Ts)	>60s
Peak temperature Tp	260°C
Time within peak temperature tp	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.

Pcaking

Package Type	Packing Form	Quantity per Tube & Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
SOP4	Reel($\phi 330$ mm)	3000 pcs/reel	2 reels /box	5 boxes /ctn	/	350*340*60mm	365*330*370mm	Guard band 200mm /min.

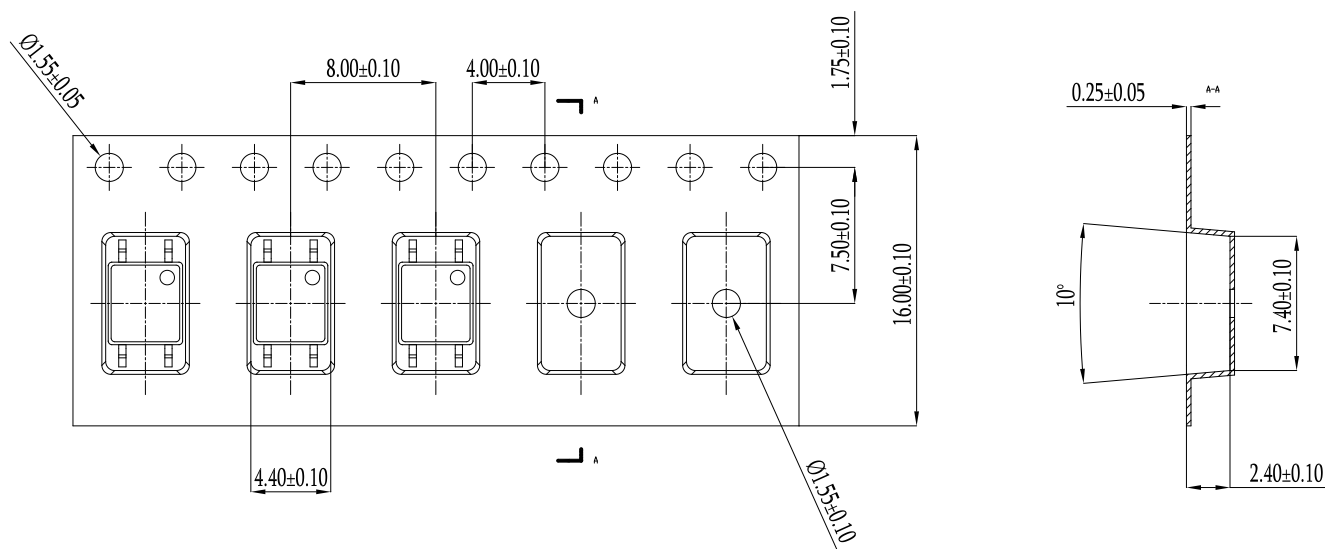
■Summary table

■SOP4 (Reel)

Qty/reel: 3000 pcs. Qty/box: 6000 pcs.

Qty/ctn : 30000 pcs.

Schematic: (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.