



## Features

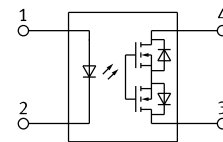
- SOP package 4 Pin type in miniature design (4.4×4.3×2.1mm / .173×.169×.083inch)
- Low driver power requirements (TTL/CMOS Compatible)
- No moving parts
- High reliability
- Arc-Free with no snubbing circuits
- 2500Vrms Input/Output isolation
- Tape & Reel version available

## Applications

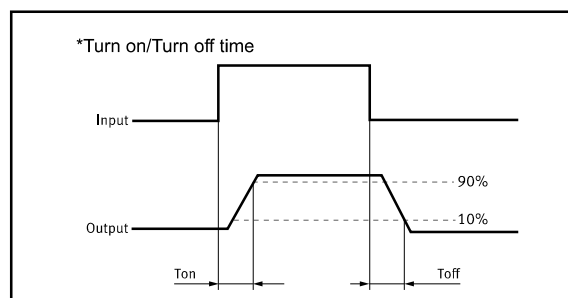
- Telecommunications (PC, Electronic notepad)
- Measuring and Testing equipment
- Industrial control
- Security equipments
- High speed inspection machine Arc-Free with no snubbing circuits



SOP-4



1. LED Anode
2. LED Cathode
- 3, 4. Drain (MOS FET)



## TYPES

Category	Output rating <sup>*1</sup>		Part No.	Packing quantity
	Load voltage	Load current	SOP	Tape and reel
AC/DC	200V	400 mA	GAQY237S	1-reel:2000pcs

### Absolute Maximum Ratings (Ambient Temperature: 25°C)

Item		Symbol	Value	Units	Note
Input	Continuous LED Current	$I_F$	50	mA	
	Peak LED Current	$I_{FP}$	1000	mA	f=100Hz, duty=1%
	LED Reverse Voltage	$V_R$	5	V	
	Input Power Dissipation	$P_{In}$	75	mW	
Output	Load Voltage	$V_L$	200	V(AC peak or DC)	
	Load Current	$I_L$	400	mA	
	Peak Load Current	$I_{Peak}$	1.0	A	100ms(1 pulse)
	Output Power Dissipation	$P_{out}$	450	mW	
Total Power Dissipation		$P_T$	500	mW	
I/O Breakdown Voltage		$V_{I/O}$	2500	Vrms	RH=60%, 1min
Operating Temperature		$T_{Opr}$	-40 to +85	°C	
Storage Temperature		$T_{Stg}$	-40 to +100	°C	
Pin Soldering Temperature		$T_{Sol}$	260	°C	10 sec max.

### Electrical Specifications (Ambient Temperature: 25°C)

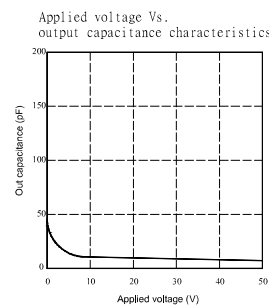
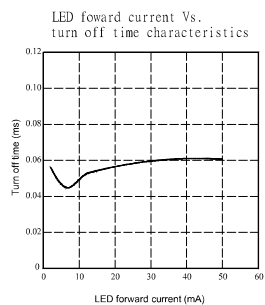
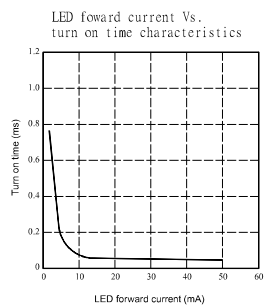
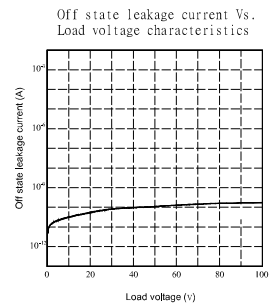
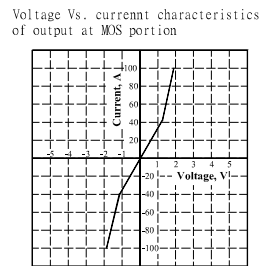
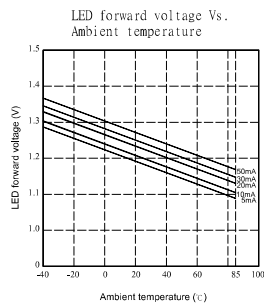
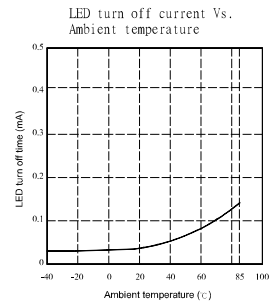
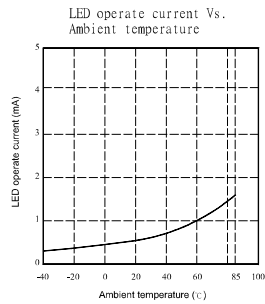
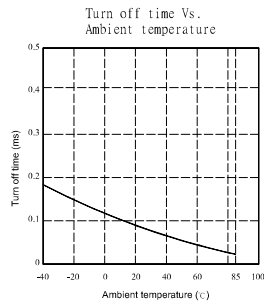
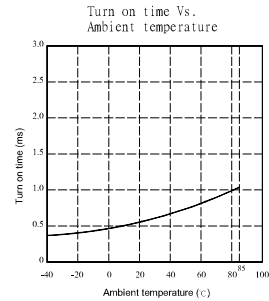
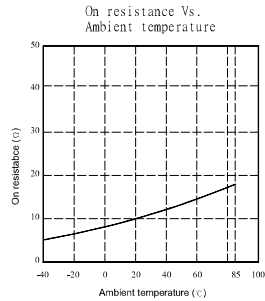
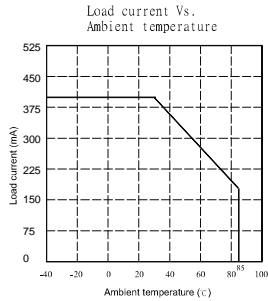
Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	$V_F$		1.2	1.4	V	$I_F=10mA$
	Operation LED Current	$I_{F On}$		0.5	2.0	mA	
	Recovery LED Current	$I_{F off}$		0.35	0.5	mA	
	Recovery LED Voltage	$V_{F Off}$	0.7			V	
Output	On-Resistance	$R_{On}$		1.8	3.5	$\Omega$	$I_F=5mA, I_L=100mA$ , Time to flow is within 1 sec.
	Off-State Leakage Current	$I_{Leak}$		0.2	1	$\mu A$	$V_L=Rating$
	Output Capacitance	$C_{Out}$		74		pF	$V_L=0, f=1MHz$
Transmis sion	Turn-On Time	$T_{On}$		0.05	0.2	ms	$I_F=5mA, I_L=100mA$ ,
	Turn-Off Time	$T_{Of}$		0.02	0.2	ms	
Coupled	I/O Isolation Resistance	$R_{I/O}$	$10^{10}$			$\Omega$	DC500V
	I/O Capacitance	$C_{I/O}$		0.8	1.5	pF	f=1MHz

Please obey the following conditions to ensure proper device operation and resetting. Input LED current (Recommended value):  $I_F \geq 5mA$  and  $\leq 30mA$ .

Examples of resistance value to control LED forward current ( $I_F=5mA$ , INPUT VOLTAGE="E", RESISTORS="R")

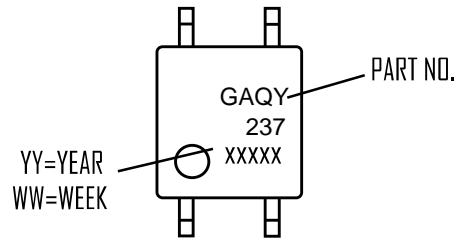
"E"=3.3V,"R"=330 $\Omega$ ; "E"=5V,"R"=640 $\Omega$ ; "E"=12V,"R"=1.9K $\Omega$ ; "E"=15V,"R"=2.5K $\Omega$ ; "E"=24V,"R"=4.1K $\Omega$ ;

## Reference Data

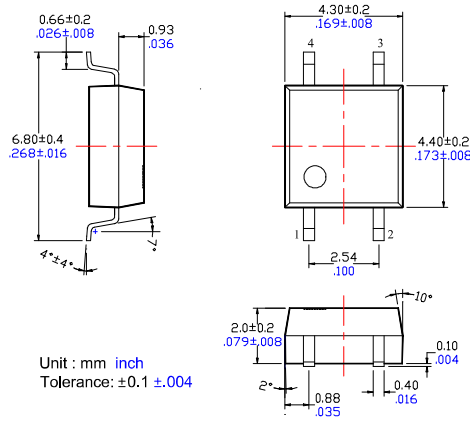


## Dimensions

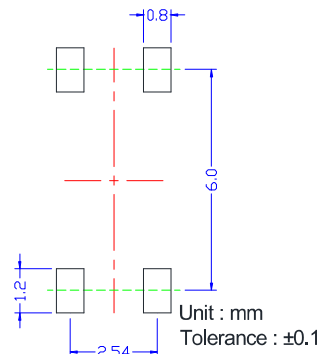
### 4-SOP



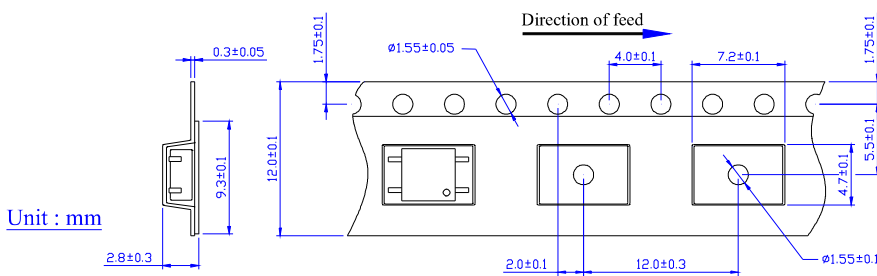
Surface mount terminal type



Recommended mounting pad (Top view)



Tape dimensions



Dimensions of tape reel

