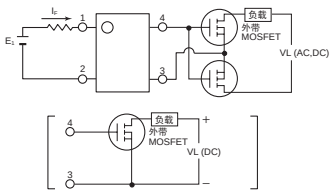
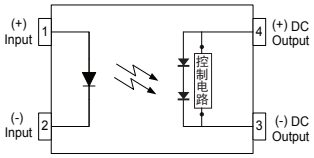
Parameter	Symbol	Rating	Units
Short circuit current	Isc	8	uA
Drop-out voltage	Voc	8	V
Turn-On Time	T_{on}	0.23	ms
I/O Isolation Voltage	V/Io	2500	Vrms





1. LED Anode
2. LED Cathode
3. Cathode
4. Anode

(Unit: mm)

SOP-4

Function

1. High-speed switching
Since release time is 0.1 ms, the MOSFET or other load can be turned off quickly in urgent situations.

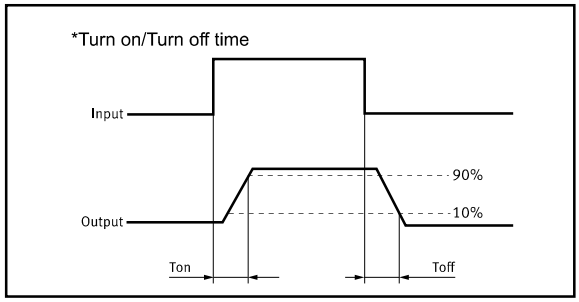
2. Space saving
With a built-in control circuit, an external resistor is not needed. This contributes to making substrates more compact.

Applications

MOSFET driver
Power supply (Vcc) for electronic circuits

TPYES

Category	Output Rating		Package	Part No.	Packing Quantity
	Drop-out voltage (Typ.)	Short circuit current (Typ.)			
Driver	8V	8uA	SOP-4	GAQV1122S	2000pcs /reel



Absolute Maximum Ratings (Ta = 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	
I/O Isolation Voltage		$V_{I/O}$	2500	Vrms	RH=60%, 1min
Operating Temperature		T_{Opr}	-40 to +85	℃	
Storage Temperature		T_{Stg}	-40 to +100	℃	

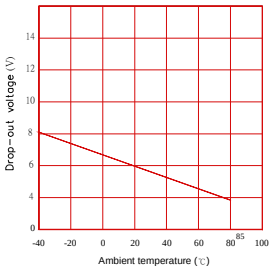
Electrical Characteristics (Ta = 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V_F		1.2	1.4	mA	I_F=10mA
	Operation LED Current	$I_{F\ On}$		0.5	3.0	mA	Voc=5V
	Recovery LED Current	$I_{F\ Off}$		0.35	0.6	mA	Voc=1V
Output	Drop-out Voltage	Vcc	6	8		V	I_F=10mA
	Short Circuit Current	I_{sc}	3	8		uA	I_F=10mA
Transmission	Turn-On Time	T_{On}		0.23		ms	I_F=10mA
	Turn-Off Time	T_{off}		0.03		ms	C_L=1000pF
Coupled	I/O Isolation Resistance	$R_{I/O}$	10^{10}			Ω	DC500V
	I/O Capacitance	$C_{I/O}$		0.8	1.5	pF	f=1MHz

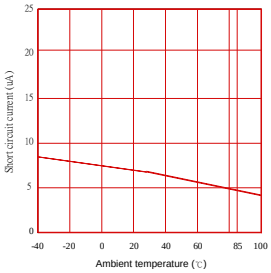
Please obey the following conditions to ensure proper device operation and resetting. Input LED current (Recommended value): IF ≥10mA and ≤30mA

Engineering Data

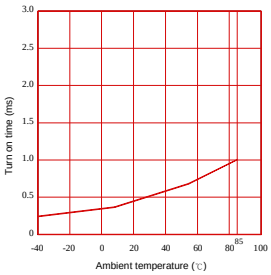
Drop-out voltage Vs.
Ambient temperature



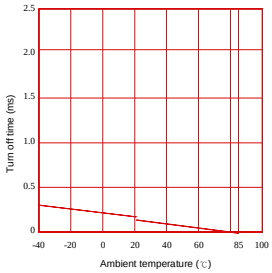
Shotr circuit current Vs.
Ambient temperature



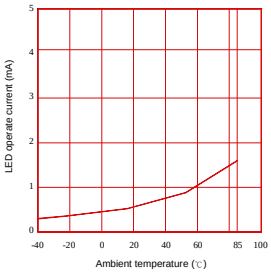
Turn on time Vs.
Ambient temperature



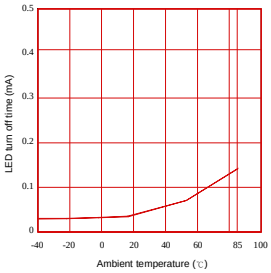
Turn off time Vs.
Ambient temperature



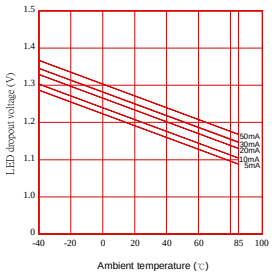
LED operate current Vs.
Ambient temperature



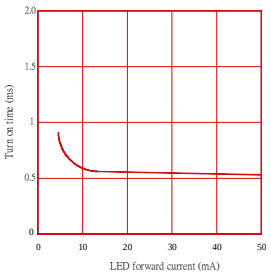
LED turn off current Vs.
Ambient temperature



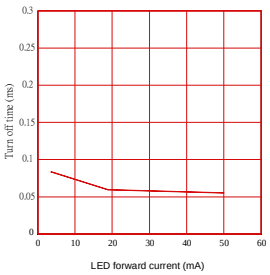
LED dropout voltage Vs.
Ambient temperature



Turn on time Vs.
Forward current characteristics

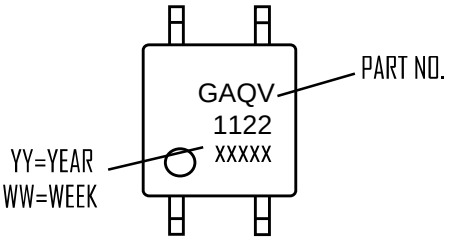


Turn off time Vs.LED forward
current characteristics

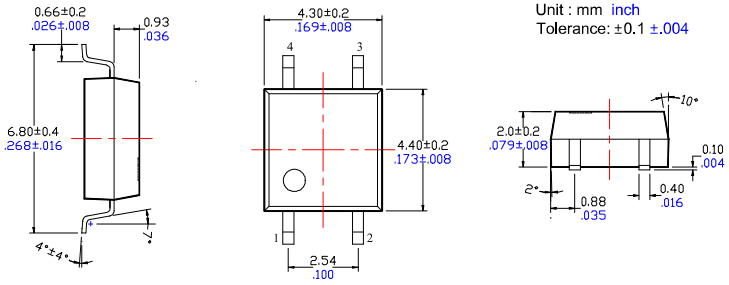


Dimensions and Package

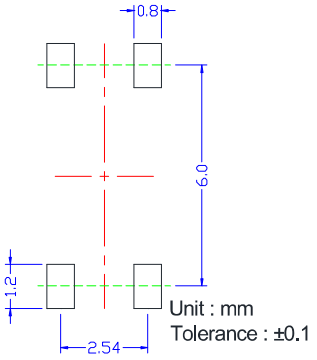
Marking



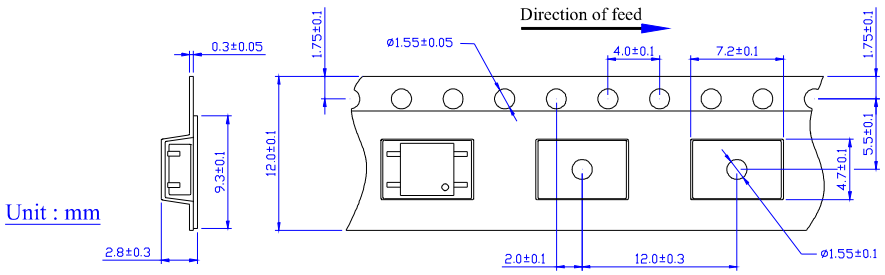
Surface mount terminal type



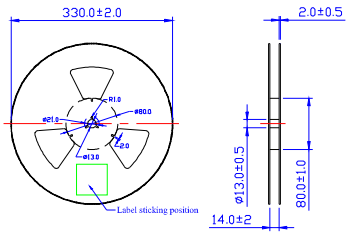
Recommended mounting pad (Top view)

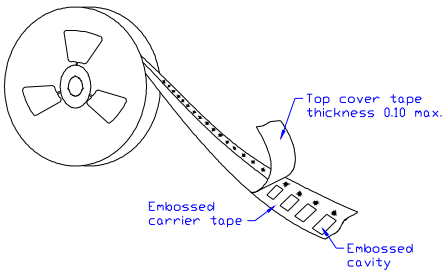


Tape dimensions



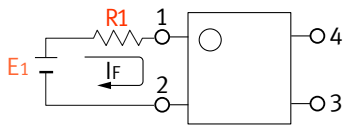
Dimensions of tape reel





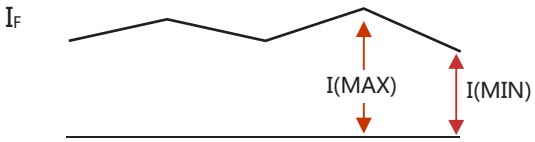
Using Methods

Examples of resistance value to control LED forward current (I_F=20mA)



E1	R1 (Approx)
3.3V	100 Ω
5.0V	180 Ω
12V	500 Ω
24V	1.1K Ω

LED forward current must be more than 10mA , at I(MIN) ,and less than 30mA , at I(MAX) .



Recommended Operating Conditions

Please obey the following conditions to ensure proper device operation and resetting. Input LED current (Recommended value):

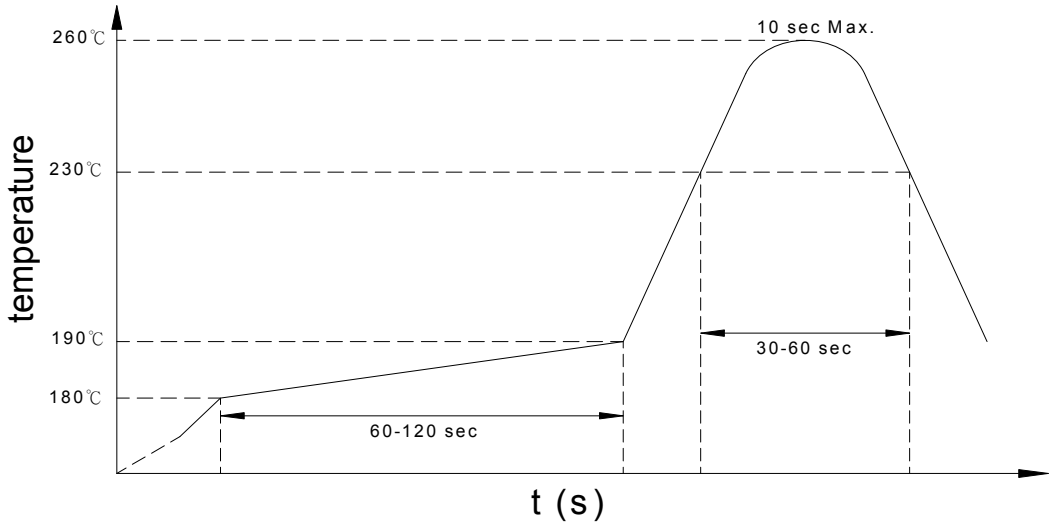
Characteristic	Symbol	Min	Typ.	Max	Unit
Forward current	I_F	10	20	30	mA

Recommended Soldering Conditions

(a) Infrared reflow soldering：

- Peak reflow soldering： 260℃ or below (package surface temperature)
- Time of peak reflow temperature： 10 sec
- Time of temperature higher than 230℃： 30-60 sec
- Time to preheat temperature from 180~190℃： 60-120 sec
- Time(s) of reflow： Two
- Flux： Rosin flux containing small amount of chlorine (The flux with a maximum chlorine content of 0.2 Wt% is recommended.)

Recommended Temperature Profile of Infrared Reflow



(b) Wave soldering：

- Temperature： 260℃ or below (molten solder temperature)
- Time： 10 seconds or less
- Preheating conditions： 120℃ or below (package surface temperature)
- Time(s) of reflow： One
- Flux： Rosin flux containing small amount of chlorine (The flux with a maximum chlorine content of 0.2 Wt% is recommended.)

(c) Cautions：

- Fluxes： Avoid removing the residual flux with freon-based and chlorine-based cleaning solvent.
- Avoid shorting between portion of frame and leads.