



### Features

- Low driver power requirements (TTL/CMOS Compatible)
- Contact form: Normally-Off (2b)
- Load voltage: 400V max.
- On-Resistance: 50Ω max.
- 3750Vrms Input/Output isolation
- Tape & Reel version available

### Applications

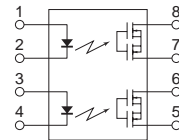
- Telecommunications (PC, Electronic notepad)
- Measuring and Testing equipment
- Industrial control
- Security equipments
- High speed inspection machine



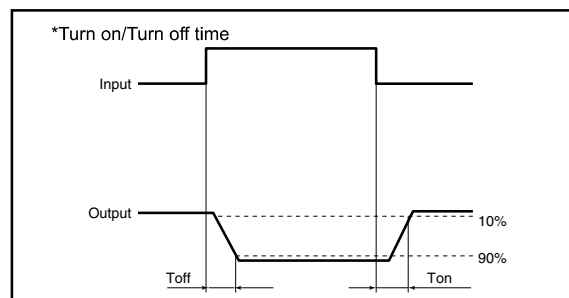
SMD8



DIP8



- 1,3. LED Anode
- 2,4. LED Cathode
- 5,6. Drain (MOS FET)
- 7,8. Drain (MOS FET)



### TYPES

Category	Output rating		Part No.	Package	Packing quantity
	Load voltage	Load current			Tape and reel
AC/DC	400V	120mA	GAQW414E	DIP-8	25pcs/Tube
			GAQW414EH	SMD-8	1000pcs/1reel

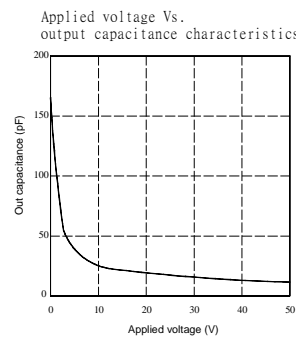
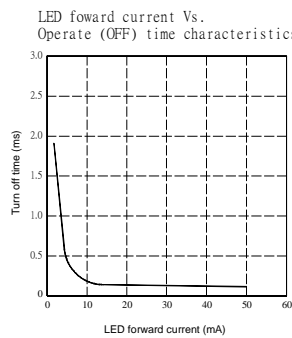
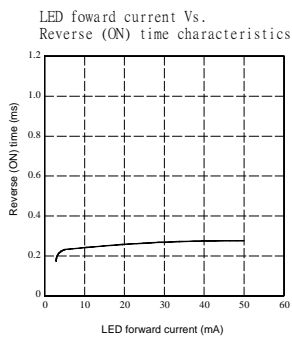
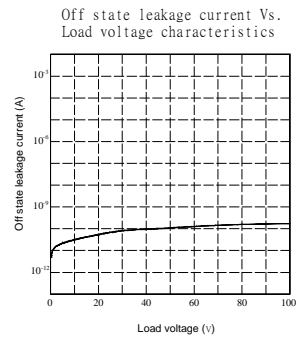
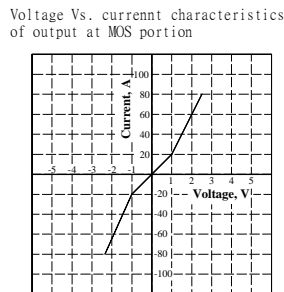
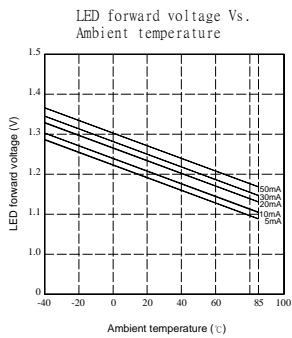
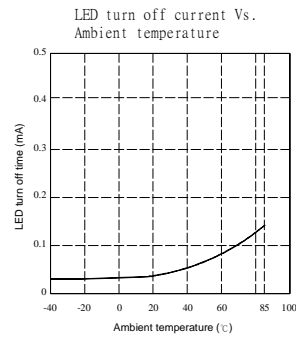
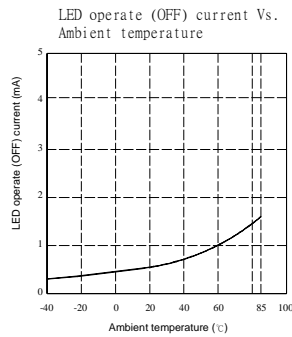
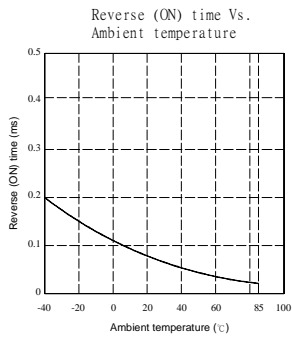
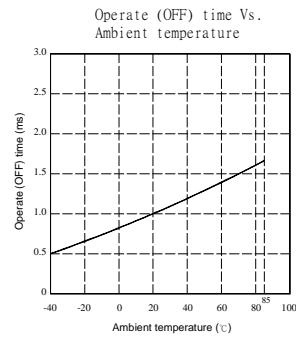
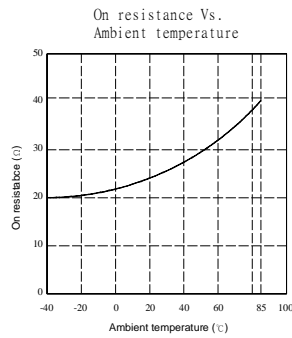
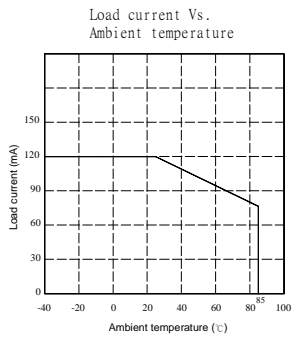
#### Absolute Maximum Ratings (Ambient Temperature: 25°C)

Item		Symbol	Value	Units	Note
Input	Continuous LED Current	I <sub>F</sub>	50	mA	
	Peak LED Current	I <sub>FP</sub>	500	mA	f=100Hz, duty=1%
	LED Reverse Voltage	V <sub>R</sub>	5	V	
	Input Power Dissipation	P <sub>In</sub>	75	mW	
Output	Load Voltage	V <sub>L</sub>	400	V(AC peak or DC)	
	Load Current	I <sub>L</sub>	120	mA	
	Peak Load Current	I <sub>Peak</sub>	0.3	A	1ms(1 pulse)
	Output Power Dissipation	P <sub>Out</sub>	500	mW	
Total Power Dissipation		P <sub>T</sub>	550	mW	
I/O Breakdown Voltage		V <sub>I/O</sub>	3750	V <sub>rms</sub>	RH=60%, 1min
Operating Temperature		T <sub>opr</sub>	-40 to +85	°C	
Storage Temperature		T <sub>stg</sub>	-40 to +100	°C	
Pin Soldering Temperature		T <sub>sol</sub>	260	°C	10 sec max.

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

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V <sub>F</sub>		1.2	1.4	V	I <sub>F</sub> =10mA
	Operation LED Current	I <sub>Fon</sub>		0.5	3.0	mA	
	Recovery LED Current	I <sub>Foff</sub>		0.35	0.5	mA	
	Recovery LED Voltage	V <sub>Foff</sub>	0.5			V	
Output	On-Resistance	R <sub>on</sub>		20	50	Ω	I <sub>F</sub> =0mA, I <sub>L</sub> =50mA, Time to flow is within 1 sec.
	Off-State Leakage Current	I <sub>Leak</sub>			10	uA	I <sub>F</sub> =5mA, V <sub>L</sub> =400V
	Output Capacitance	C <sub>out</sub>		165		pF	I <sub>F</sub> =5mA, V <sub>L</sub> =0, f=1MHz
Transmission	Turn-On Time	T <sub>on</sub>		0.02	1.0	ms	I <sub>F</sub> =5mA, I <sub>L</sub> =50mA
	Turn-Off Time	T <sub>off</sub>		0.5	3.0	ms	
Coupled	I/O Isolation Resistance	R <sub>I/O</sub>	10 <sup>10</sup>			Ω	DC500V
	I/O Capacitance	C <sub>I/O</sub>		0.8		pF	f=1MHz

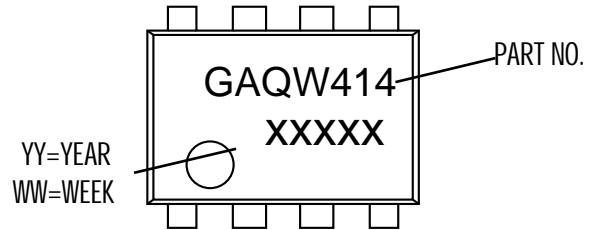
### Reference Data



### 8-DIP

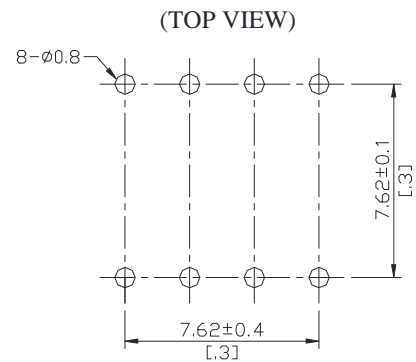
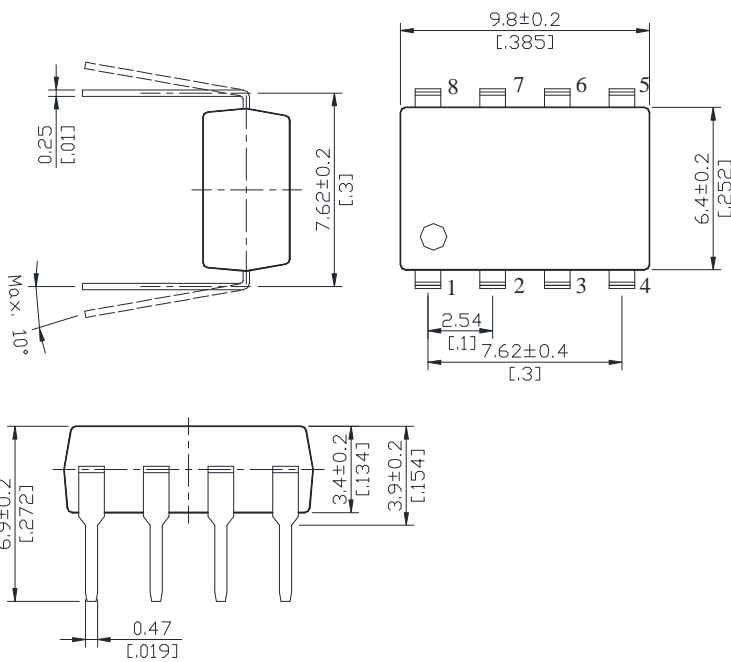
### Dimensions

mm inch



### Through hole terminal type

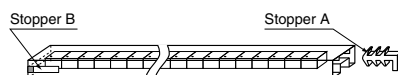
### PC board pattern



Unit : mm inch  
Tolerance: +0.2 +.007

### DIP type

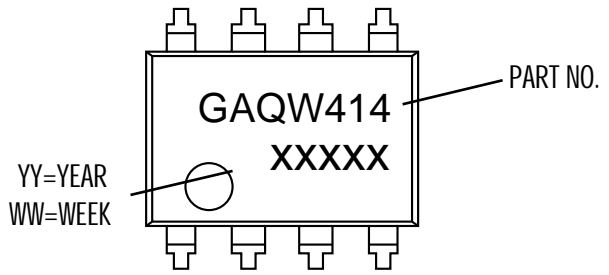
Devices are packaged in a tube so that pin No. 1 is on the stopper B side. Observe correct orientation when mounting them on PC boards.



### 8-SMD

### Dimensions

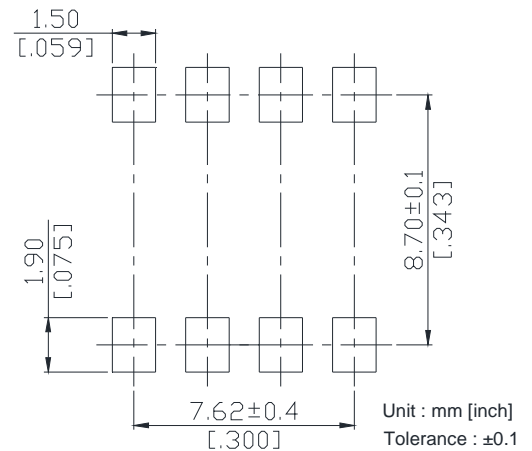
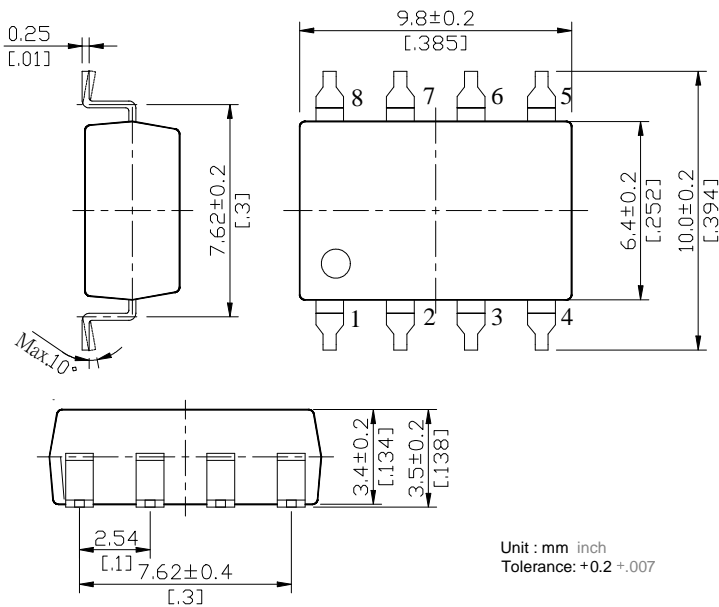
mm inch



Surface mount terminal type

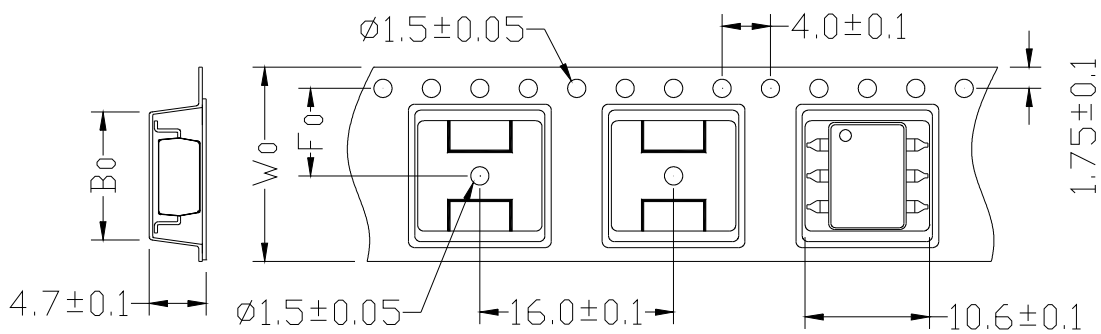
PC board pattern

(Top view)

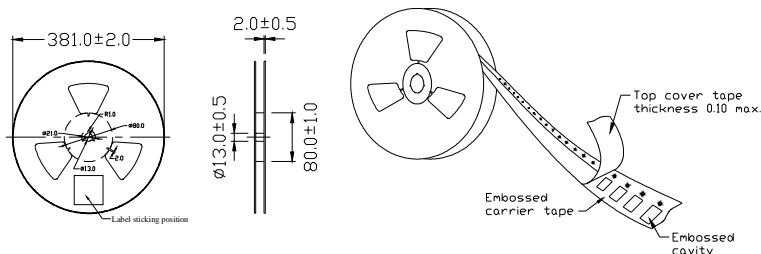


Tape dimensions

Direction of feed



Dimensions of tape reel



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