



Features

- Low driver power requirements (TTL/CMOS Compatible)
- No moving parts
- High reliability
- Arc-Free with no snubbing circuits
- 3750Vrms Input/Output isolation

Applications

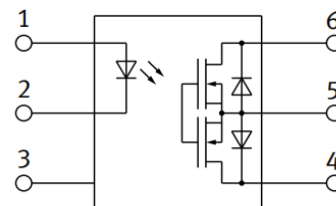
- Telecommunications (PC, Electronic notepad)
- Measuring and Testing equipment
- Industrial control
- Security equipments
- High speed inspection machine Arc-Free with no snubbing circuits



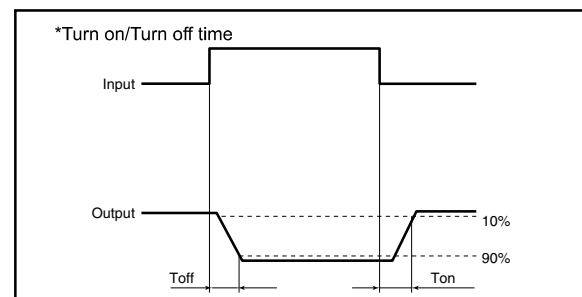
SMD-6



DIP-6



- 1. LED Anode
- 2. LED Cathode
- 4. Drain (MOS FET)
- 5. Source (MOS FET)
- 6. Drain (MOS FET)



TYPES

Category	Output rating		Package	Part No.	Packing quantity
	Load voltage	Load current			
AC/DC	400V	120mA	DIP6	GAQV414E	50pcs/tube
			SMD6	GAQV414EH	1000pcs/reel

Absolute Maximum Ratings (Ambient Temperature: 25 °C)

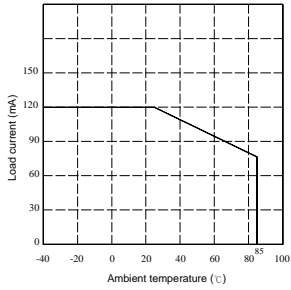
Item		Symbol	Value	Units	Note
Input	Continuous LED Current	I _F	50	mA	
	Peak LED Current	I _{FP}	500	mA	f=100Hz, duty=1%
	LED Reverse Voltage	V _R	5	V	
	Input Power Dissipation	P _{In}	75	mW	
Output	Load Voltage	V _L	400	V(AC peak or DC)	
	Load Current	I _L	120	mA	
	Peak Load Current	I _{Peak}	0.3	A	1ms(1pulse)
	Output Power Dissipation	P _{out}	500	mW	
Total Power Dissipation		P _T	550	mW	
I/O Breakdown Voltage		V _{I/O}	3750	V _{rms}	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)

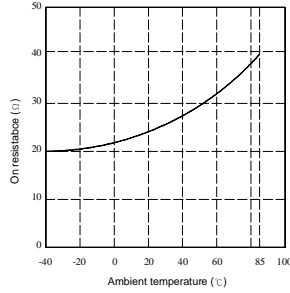
Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V _F		1.2	1.4	V	I _F =10mA
	Operation LED Current	I _{F on}		0.5	3.0	mA	
	Recovery LED Current	I _{F off}		0.35	0.5	mA	
	Recovery LED Voltage	V _{F off}	0.5			V	
Output	On-Resistance	R _{on}		20	50	Ω	I _F =10mA, I _L = Rating, Time to flow is within 1 sec.
	Off-State Leakage Current	I _{Leak}			1	uA	V _L =Rating
	Output Capacitance	C _{out}		165		pF	V _L =0, f=1MHz
Transmis sion	Turn-On Time	T _{on}		0.02	1.0	ms	I _F =5mA, I _L =100mA,
	Turn-Off Time	T _{off}		0.5	3.0	ms	
Coupled	I/O Isolation Resistance	R _{I/O}	10 ¹⁰			Ω	DC500V
	I/O Capacitance	C _{I/O}		0.8		pF	f=1MHz

Reference Data

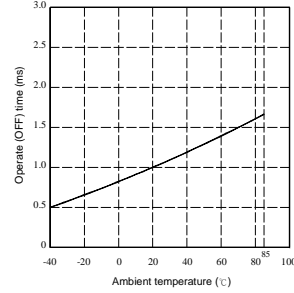
Load current Vs. Ambient temperature



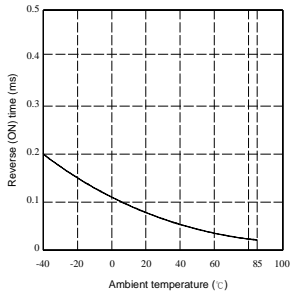
On resistance Vs. Ambient temperature



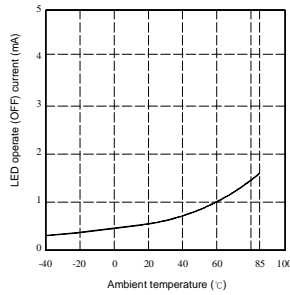
Operate (OFF) time Vs. Ambient temperature



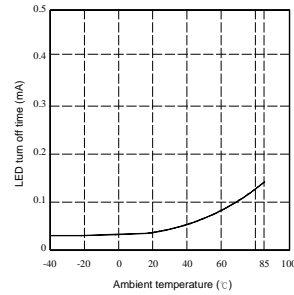
Reverse (ON) time Vs. Ambient temperature



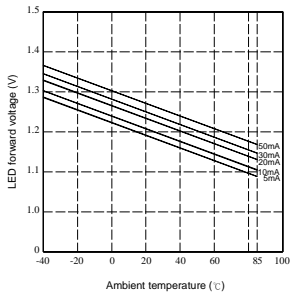
LED operate (OFF) current Vs. Ambient temperature



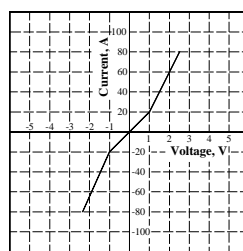
LED turn off time Vs. Ambient temperature



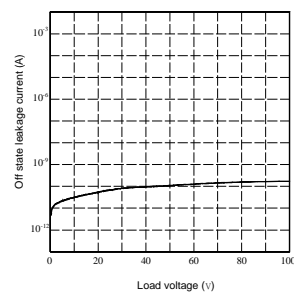
LED forward voltage Vs. Ambient temperature



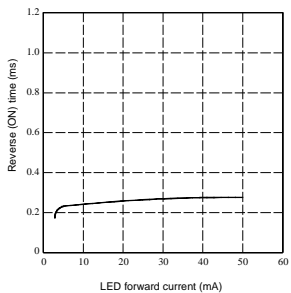
Voltage Vs. current characteristics of output at MOS portion



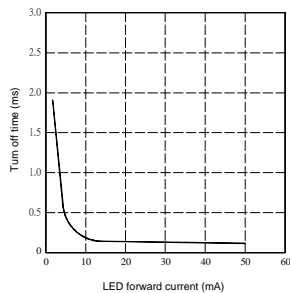
Off state leakage current Vs. Load voltage characteristics



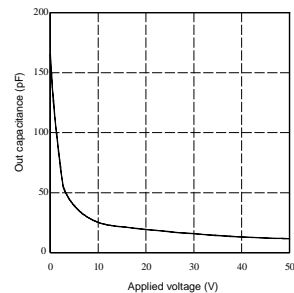
LED forward current Vs. Reverse (ON) time characteristics



LED forward current Vs. Operate (OFF) time characteristics



Applied voltage Vs. output capacitance characteristics

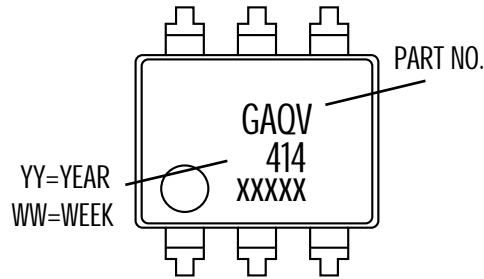


Dimensions

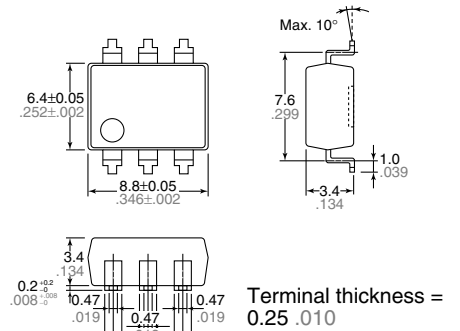
6-SMD



Dimensions
mm inch

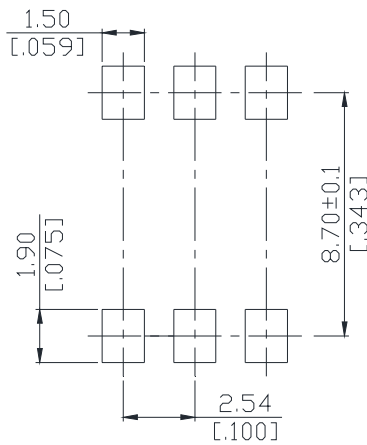


Surface mount terminal type



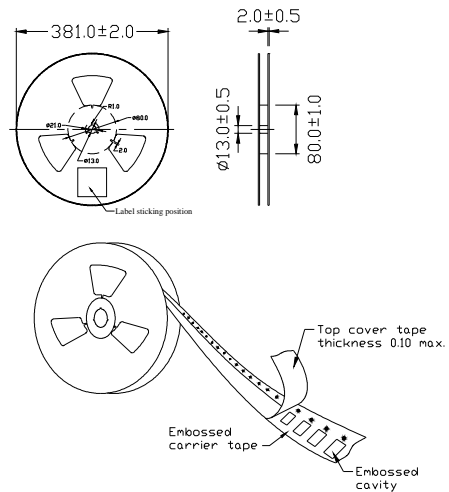
General tolerance: $\pm 0.1 \pm .004$

PC board pattern (Top view)

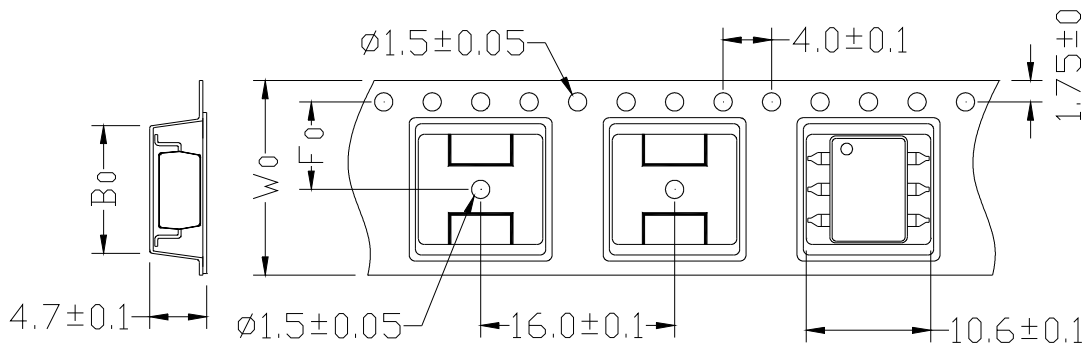


Unit : mm [inch]
Tolerance : ± 0.1

Tape dimensions



Dimensions of tape reel



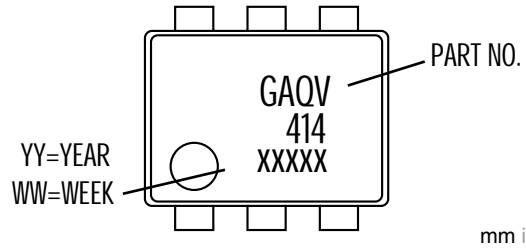
Unit: mm

TYPE	B0±0.1	F0±0.1	W0±0.1	13"REEL/PCS
6P	9.4	7.5	16	1000

Dimensions 6-DIP

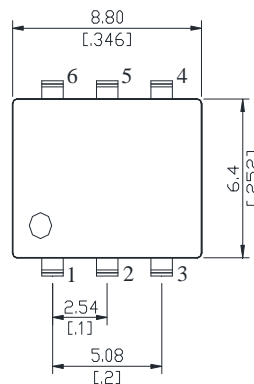
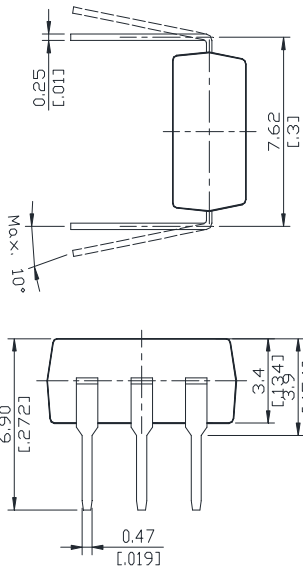


Dimensions



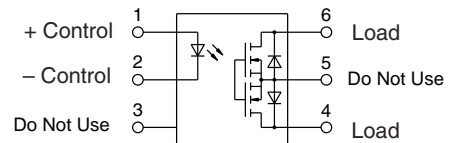
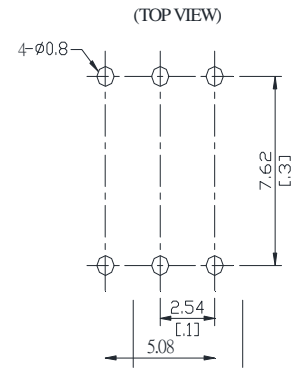
mm inch

Through hole terminal type



Unit : mm inch
Tolerance: +0.2 +.007

PC board patter



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.

