

AQ○28○EH

RATING

1. Absolute maximum ratings (Ambient temperature: 25°C 77°F)
DIP 4pin

Item		Symbol	AQY282EH	AQY280EH	AQY284EH	Remarks
Input	LED forward current	I _F	50 mA			
	LED reverse voltage	V _R	5 V			
	Peak forward current	I _{FP}	1 A			f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P _{in}	75 mW			
Output	Load voltage (peak AC)	V _L	60 V	350 V	400 V	
	Continuous load current (peak AC)	I _L	0.5 A	0.13 A	0.12 A	
	Peak load current	I _{peak}	1.5 A	0.4 A	0.3 A	100 ms (1 shot), V _L = DC
	Power dissipation	P _{out}	500 mW			
Total power dissipation		P _T	550 mW			
I/O isolation voltage		V _{iso}	5,000 V AC			
Operating temperature		T _{opr}	−40°C to +85°C −40°F to +185°F			Non-condensing at low temperature
Storage temperature		T _{stg}	−40°C to +100°C −40°F to +212°F			

DIP 8pin

Item		Symbol	AQW282EH	AQW280EH	AQW284EH	Remarks
Input	LED forward current	I _F	50 mA			
	LED reverse voltage	V _R	5 V			
	Peak forward current	I _{FP}	1 A			f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P _{in}	75 mW			
Output	Load voltage (peak AC)	V _L	60 V	350 V	400 V	
	Continuous load current (peak AC)	I _L	0.4 (0.5) A	0.12 (0.14) A	0.1 (0.13) A	(): in case of using only 1 channel
	Peak load current	I _{peak}	1.2 A	0.36 A	0.3 A	100 ms (1 shot), V _L = DC
	Power dissipation	P _{out}	800 mW			
Total power dissipation		P _T	850 mW			
I/O isolation voltage		V _{iso}	5,000 V AC			
Operating temperature		T _{opr}	−40°C to +85°C −40°F to +185°F			Non-condensing at low temperature
Storage temperature		T _{stg}	−40°C to +100°C −40°F to +212°F			

2. Electrical characteristics (Ambient temperature: 25°C 77°F)
DIP4pin

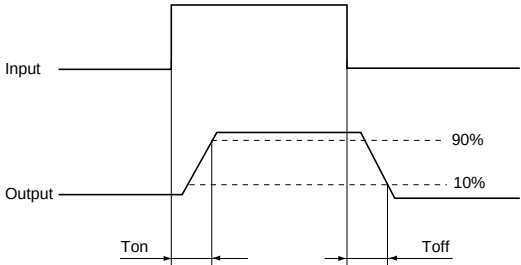
Item			Symbol	AQY282EH	AQY280EH	AQY284EH	Condition
Input	LED operate current	Typical	I _{Fon}	1.8 mA			I _L = Max.
		Maximum		3.0 mA			
	LED turn off current	Minimum	I _{Foff}	0.2 mA			I _L = Max.
		Typical		1.6 mA			
	LED dropout voltage	Typical	V _F	1.14 V (1.25 V at I _F = 50mA)			I _F = 5 mA
		Maximum		1.5 V			
Output	On resistance	Typical	R _{on}	0.85Ω	20Ω	28Ω	I _F = 5 mA I _L = Max. Within 1 s on time
		Maximum		2.5Ω	25Ω	35Ω	
	Off state leakage current	Maximum	I _{Leak}	1μA			I _F = 0 mA V _L = Max.
Transfer characteristics	Turn on time*	Typical	T _{on}	1.8 ms	1.5 ms		I _F = 5 mA I _L = Max.
		Maximum		5 ms			
	Turn off time*	Typical	T _{off}	0.5 ms		I _F = 5 mA I _L = Max.	
		Maximum		2 ms			
	I/O capacitance	Typical	C _{iso}	0.8 pF		f = 1 MHz V _B = 0V	
		Maximum		1.5 pF			
	Initial I/O isolation resistance		Minimum	R _{Iso}	1,000 MΩ		500 V DC

AQ○28○EH

DIP8pin

Item			Symbol	AQW282EH	AQW280EH	AQW284EH	Condition
Input	LED operate current	Typical	I _{Fon}	1.8 mA			I _L = Max.
		Maximum		3.0 mA			
	LED turn off current	Minimum	I _{Foff}	0.2 mA			I _L = Max.
		Typical		1.6 mA			
	LED dropout voltage	Typical	V _F	1.14 V (1.25 V at I _F = 50mA)			I _F = 5 mA
Maximum		1.5 V					
Output	On resistance	Typical	R _{on}	0.85Ω	20Ω	28Ω	I _F = 5 mA I _L = Max. Within 1 s on time
		Maximum		2.5Ω	25Ω	35Ω	
	Off state leakage current	Maximum	I _{Leak}	1μA			I _F = 0 mA V _L = Max.
Transfer char- acteristics	Turn on time*	Typical	T _{on}	1.8 ms	1.5 ms		I _F = 5 mA I _L = Max.
		Maximum		5 ms			
	Turn off time*	Typical	T _{off}	0.5 ms		I _F = 5 mA I _L = Max.	
		Maximum		2 ms			
	I/O capacitance	Typical	C _{iso}	0.8 pF		f = 1 MHz	
		Maximum		1.5 pF		V _B = 0V	
Initial I/O isolation resistance	Minimum	R _{Iso}	1,000 MΩ			500 V DC	

*Turn on/Turn off time



3-4 the terminal leads receive solder plating or solder dip plating.

REFERENCE DATA

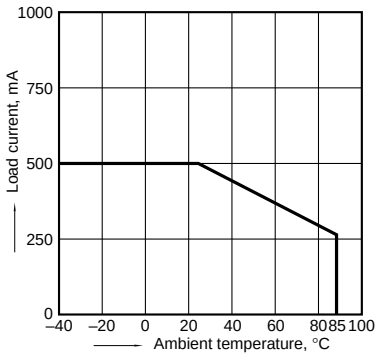
[DIP type]

1. Load current vs. ambient temperature characteristics

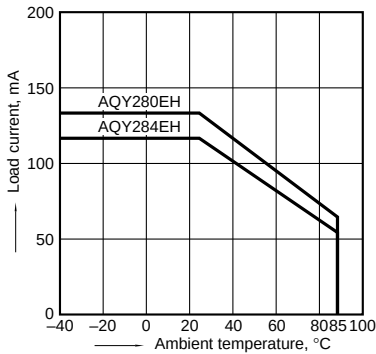
Allowable ambient temperature: -40°C to +85°C
-40°F to +185°F

Type of connection: A

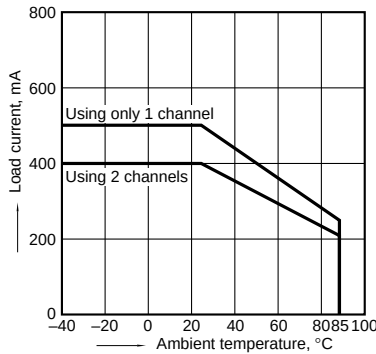
(1) AQY282EH



(2) AQY280EH, AQY284EH



(3) AQW282EH

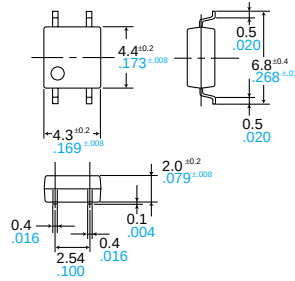


AQ○28○S, AQ○28○EH

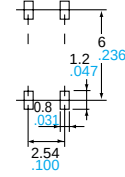
DIMENSIONS

mm inch

AQY28○S



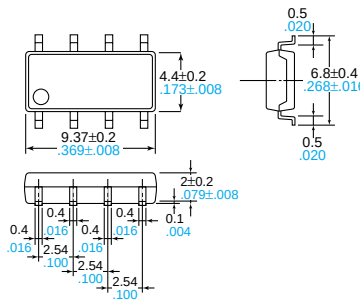
Recommended mounting pad (Top view)



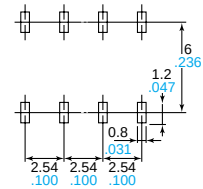
Terminal thickness = 0.15 ± 0.006
General tolerance: $\pm 0.1 \pm 0.004$

Tolerance: $\pm 0.1 \pm 0.004$

AQW28○S



Recommended mounting pad (Top view)

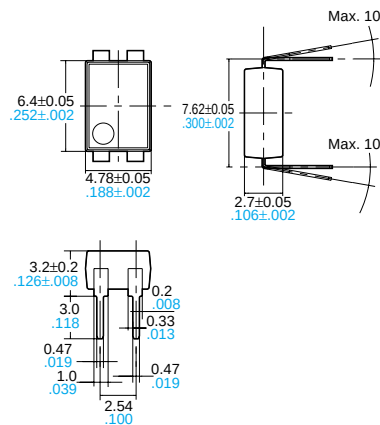


Terminal thickness = 0.15 ± 0.006
General tolerance: $\pm 0.1 \pm 0.004$

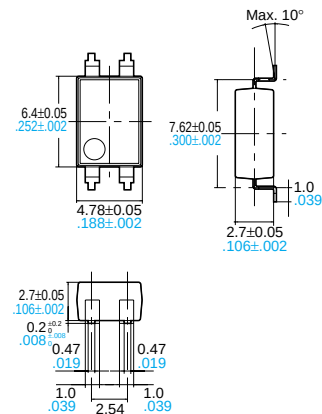
Tolerance: $\pm 0.1 \pm 0.004$

AQY28○EH(A)

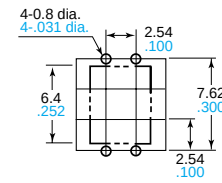
Through hole terminal type



Surface mount terminal type

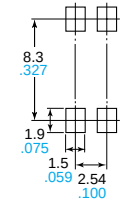


PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm 0.004$

Mounting pad (Top view)



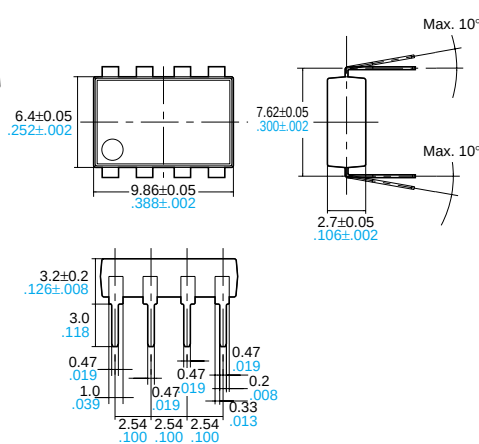
Terminal thickness = 0.2 ± 0.008
General tolerance: $\pm 0.1 \pm 0.004$

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General tolerance: $\pm 0.1 \pm 0.004$

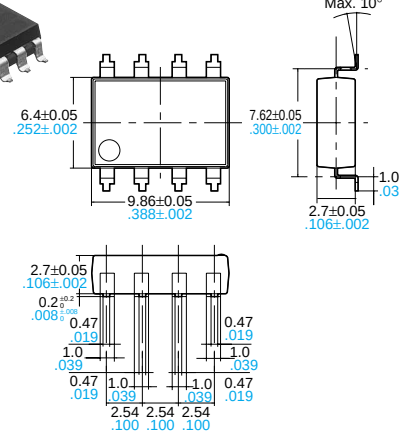
Tolerance: $\pm 0.1 \pm 0.004$

AQW28○EH(A)

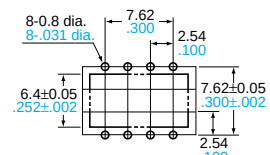
Through hole terminal type



Surface mount terminal type

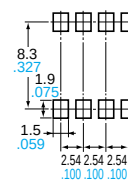


PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm 0.004$

Mounting pad (Top view)



Terminal thickness = 0.2 ± 0.008
General tolerance: $\pm 0.1 \pm 0.004$

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General tolerance: $\pm 0.1 \pm 0.004$

Tolerance: $\pm 0.1 \pm 0.004$