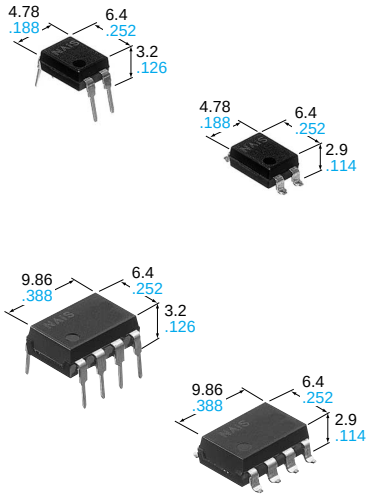
Panasonic
ideas for life

GU (General Use)-E Type [1, 2-Channel (Form A) 4, 6-Pin Type]

PhotoMOS RELAYS



mm inch

FEATURES

1. Low cost type.

2. Reinforced insulation 5,000V type (DIP type)
More than 0.4mm internal insulation distance between inputs and outputs.
Conforms to EN41003, EN60950 (reinforced insulation)

3. Various package design (DIP4, SOP4, DIP8, SOP8 packages are available)

4. High sensitivity, Low ON resistance
Can control a maximum 0.5A (AQY282EH, AQW282EH) load current with a 5mA input current.
Low ON resistance of 2.5Ω (AQY282EH, AQW282EH).
Stable operation because there are no metallic contact parts.

5. Low-level off state leakage current
The SSR has an off state leakage current of several milliamperes, where as the PhotoMOS relay has only 100pA even with the rated load voltage of 350V (AQY280EH).

TYPICAL APPLICATIONS

- Modem
- Telephone equipment
- Security equipment
- Sensors
- Amusement

DIP TYPES

DIP 4pin

Type	I/O isolation voltage	Output rating*		Part No.				Packing quantity
				Through hole terminal	Surface-mount terminal			
		Load voltage	Load current	Tube packing style		Tape and reel packing style		
						Picked from the 1/2-pin side	Picked from the 3/4-pin side	
AC/DC type	Reinforced 5,000 V	60 V	500 mA	AQY282EH	AQY282EHA	AQY282EHAX	AQY282EHAZ	Tube: 1 tube contains 100 pcs. Tube: 1 batch contains 1,000 pcs. Tape and reel: 1,000 pcs.
		350 V	130 mA	AQY280EH	AQY280EHA	AQY280EHAX	AQY280EHAZ	
		400 V	120 mA	AQY284EH	AQY284EHA	AQY284EHAX	AQY284EHAZ	

*Indicate the peak AC and DC values.
Note: For space reasons, the initial letters of the product number “AQY”, the SMD terminal shape indicator “A” and the package type indicator “X” and “Z” are omitted from the seal.

DIP 8pin

Type	I/O isolation voltage	Output rating*		Part No.				Packing quantity
				Through hole terminal	Surface-mount terminal			
		Load voltage	Load current	Tube packing style		Tape and reel packing style		
						Picked from the 1/2/3/4-pin side	Picked from the 5/6/7/8-pin side	
AC/DC type	Reinforced 5,000 V	60 V	400 mA	AQW282EH	AQW282EHA	AQW282EHAX	AQW282EHAZ	Tube: 1 tube contains 40 pcs. Tube: 1 batch contains 400 pcs. Tape and reel: 1,000 pcs.
		350 V	120 mA	AQW280EH	AQW280EHA	AQW280EHAX	AQW280EHAZ	
		400 V	100 mA	AQW284EH	AQW284EHA	AQW284EHAX	AQW284EHAZ	

*Indicate the peak AC and DC values.
Note: For space reasons, the SMD terminal shape indicator “A” and the package type indicator “X” and “Z” are omitted from the seal.

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 isolatiom 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 isolatiom 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)

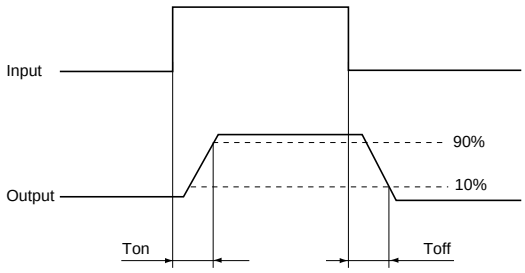
DIP4pin

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

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 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

*Turn on/Turn off time



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

REFERENCE DATA

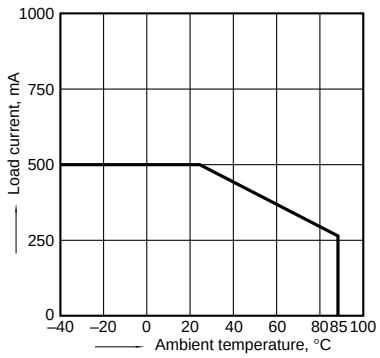
[DIP type]

1. Load current vs. ambient temperature characteristics

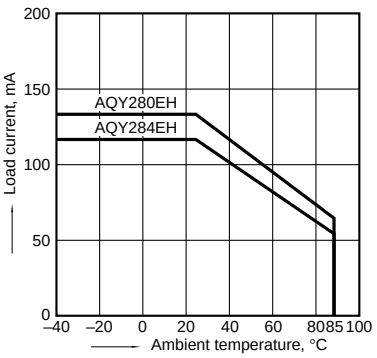
Allowable ambient temperature: –40°C to +85°C
–40°F to +185°F

Type of connection: A

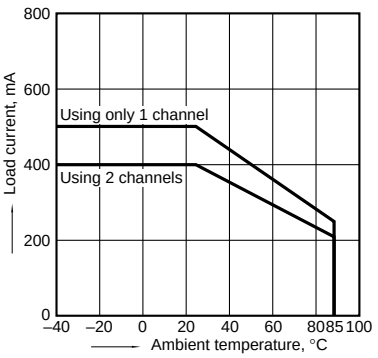
(1) AQY282EH



(2) AQY280EH, AQY284EH



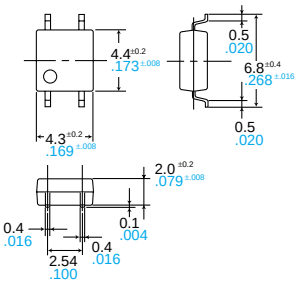
(3) AQW282EH



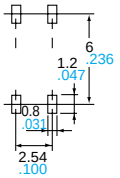
DIMENSIONS

mm inch

AQY28❍S



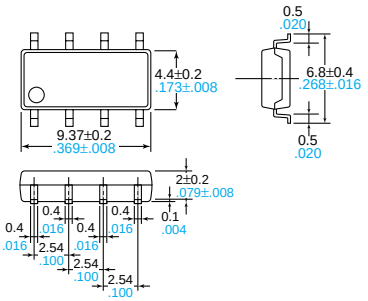
Recommended mounting pad
(Top view)



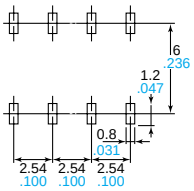
Terminal thickness = 0.15 .006
General tolerance: ±0.1 ±.004

Tolerance: ±0.1 ±.004

AQW28❍S



Recommended mounting pad
(Top view)

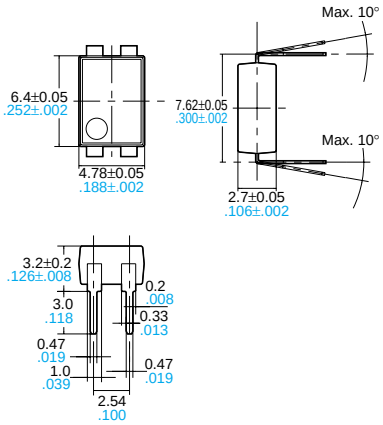


Terminal thickness = 0.15 .006
General tolerance: ±0.1 ±.004

Tolerance: ±0.1 ±.004

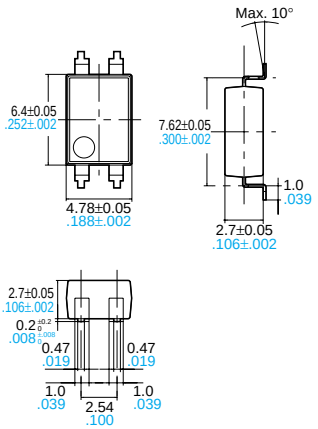
AQY28❍EH(A)

Through hole terminal type



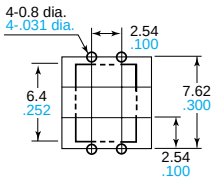
Terminal thickness = 0.2 .008
General tolerance: ±0.1 ±.004

Surface mount terminal type



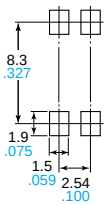
Terminal thickness = 0.2 .008
General tolerance: ±0.1 ±.004

PC board pattern (Bottom view)



Tolerance: ±0.1 ±.004

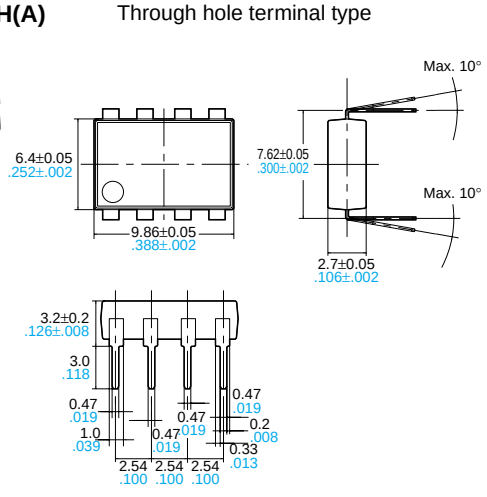
Mounting pad (Top view)



Tolerance: ±0.1 ±.004

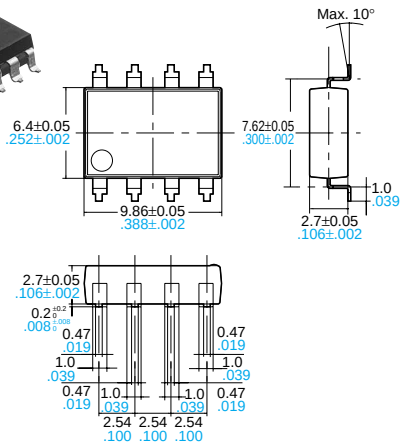
AQW28❍EH(A)

Through hole terminal type



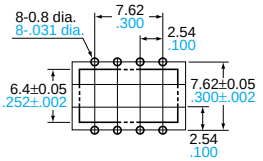
Terminal thickness = 0.2 .008
General tolerance: ±0.1 ±.004

Surface mount terminal type



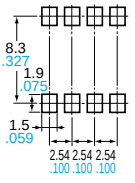
Terminal thickness = 0.2 .008
General tolerance: ±0.1 ±.004

PC board pattern
(Bottom view)



Tolerance: ±0.1 ±.004

Mounting pad (Top view)



Tolerance: ±0.1 ±.004

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panasonic:

AQW282EH AQW282EHA AQW282EHAX AQW282EHAZ

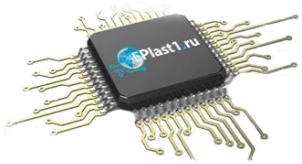
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.