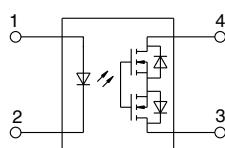
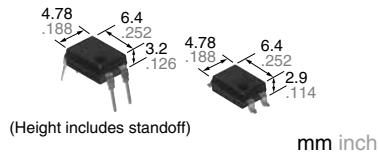




**4-pin high capacity of 1.1A,
I/O isolation voltage of
5,000V**

**PhotoMOS®
GU 1 Form A High Capacity
(AQY212GH)**



FEATURES

- 1. Greatly increased capacity**
Continuous load current: 1.1A
- 2. Reinforced insulation**
I/O isolation voltage: 5,000 Vrms
- 3. Compact 4-pin DIP type**
- 4. The improved performance relative to mercury or mechanical relays**

TYPICAL APPLICATIONS

- Measuring instruments
- Security and disaster-preventing system: use in I/O for alarm and security devices, etc.

RoHS compliant

TYPES

Output rating*	Part No.		Packing quantity					
	Through hole terminal							
	Surface-mount terminal							
Load voltage	Load current	Tube packing style	Tape and reel packing style	Tube and reel				
AC/DC dual use	60 V	1.1 A	AQY212GH	AQY212GHA	AQY212GHAX	AQY212GHAZ	1 tube contains 100 pcs. 1 batch contains 1,000 pcs.	1,000 pcs.

*Indicate the peak AC and DC values.

Note: For space reasons, the three initial letters of the part number "AQY", the surface mount terminal shape indicator "A" and the packing style indicator "X" or "Z" are not marked on the device.

RATING

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

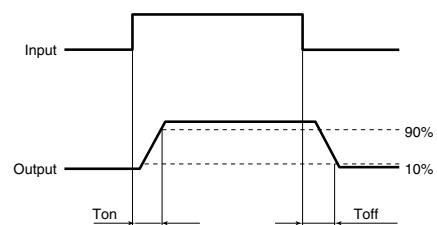
Item		Symbol	AQY212GH(A)	Remarks
Input	LED forward current	I_F	50 mA	
	LED reverse voltage	V_R	5 V	
	Peak forward current	I_{FP}	1 A	$f = 100$ Hz, Duty factor = 0.1%
	Power dissipation	P_{in}	75 mW	
Output	Load voltage (peak AC)	V_L	60 V	
	Continuous load current	I_L	1.1 A	Peak AC, DC
	Peak load current	I_{peak}	3.0 A	100ms (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 Vrms	
Ambient temperature	Operating	T_{opr}	-40 to +85°C -40 to +185°F	(Non-icing at low temperatures)
	Storage	T_{stg}	-40 to +100°C -40 to +212°F	

GU 1 Form A High Capacity (AQY212GH)

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

Item		Symbol	AQY212GH(A)		Condition
Input	LED operate current	Typical Maximum	I _{Fon}	1.1 mA	I _L = 100mA
				3 mA	
Input	LED turn off current	Minimum Typical	I _{Foff}	0.3 mA	I _L = 100mA
				1.0 mA	
Input	LED dropout voltage	Typical Maximum	V _F	1.32 V (1.14 V at I _F = 5 mA)	I _F = 50 mA
				1.5 V	
Output	On resistance	Typical Maximum	R _{on}	0.34 Ω	I _F = 5 mA I _L = Max. Within 1 s
				0.7 Ω	
Output	Off state leakage current	Maximum	I _{Leak}	1 μA	I _F = 0 mA V _L = Max.
Transfer characteristics	Turn on time*	Typical Maximum	T _{on}	1.3 ms	I _F = 5 mA I _L = 100 mA V _L = 10 V
				5.0 ms	
	Turn off time*	Typical Maximum	T _{off}	0.1 ms	I _F = 5 mA I _L = 100 mA V _L = 10 V
				0.5 ms	
Transfer characteristics	I/O capacitance	Typical Maximum	C _{iso}	0.8 pF	f = 1 MHz V _B = 0 V
				1.5 pF	
	Initial I/O isolation resistance	Minimum	R _{iso}	1,000 MΩ	500 V DC

*Turn on/Turn off time



3. Recommended operating conditions (Ambient temperature: 25°C 77°F)

Please use under recommended operating conditions to obtain expected characteristics.

Item	Symbol	Min.	Max.	Unit	
LED current	I _F	5	30	mA	
AQY212GH(A)	Load voltage (Peak AC)	V _L	—	48	V
	Continuous load current	I _L	—	1.1	A

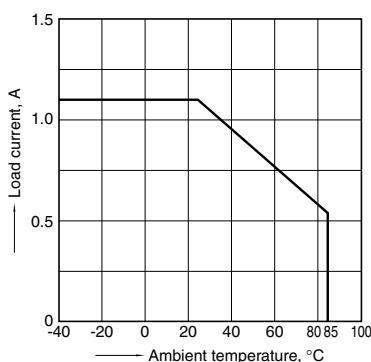
■ These products are not designed for automotive use.

If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

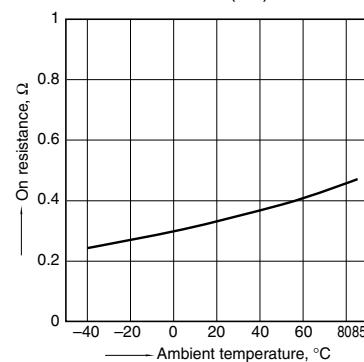
1. Load current vs. ambient temperature characteristics

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



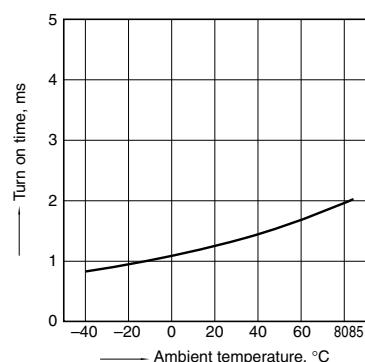
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 3 and 4;
LED current: 5 mA; Load voltage: Max. (DC)
Continuous load current: Max. (DC)



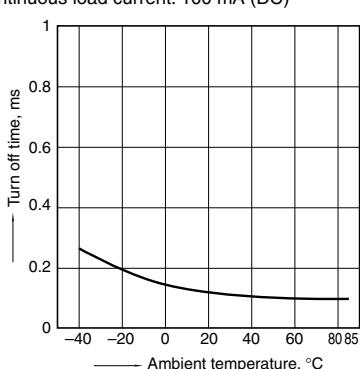
3. Turn on time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: 10 V (DC);
Continuous load current: 100 mA (DC)



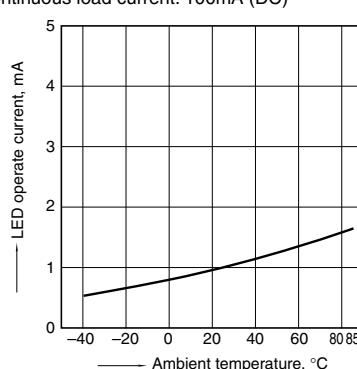
4. Turn off time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: 10 V (DC); Continuous load current: 100 mA (DC)



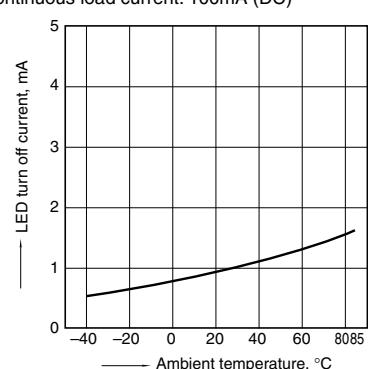
5. LED operate current vs. ambient temperature characteristics

Load voltage: 10 V (DC); Continuous load current: 100mA (DC)



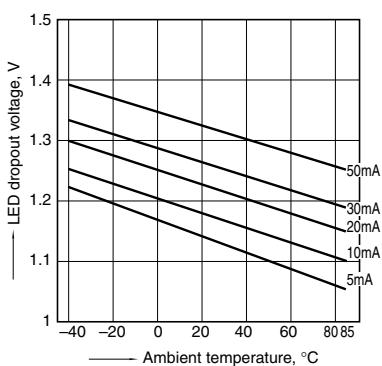
6. LED turn off current vs. ambient temperature characteristics

Load voltage: 10 V (DC); Continuous load current: 100mA (DC)



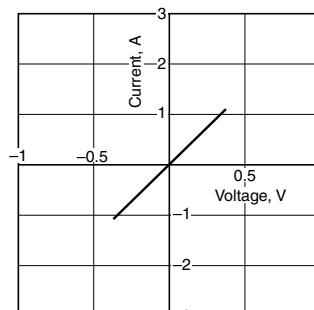
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



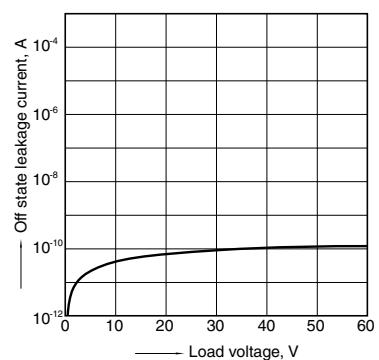
8. Current vs. voltage characteristics of output at MOS portion

Measured portion: between terminals 3 and 4; Ambient temperature: 25°C 77°F



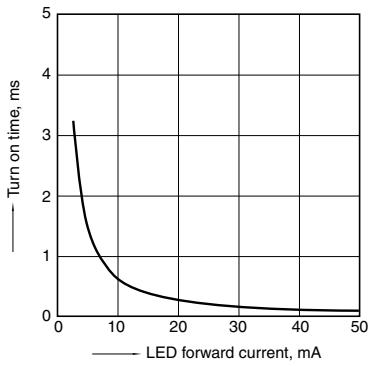
9. Off state leakage current vs. load voltage characteristics

Measured portion: between terminals 3 and 4; Ambient temperature: 25°C 77°F



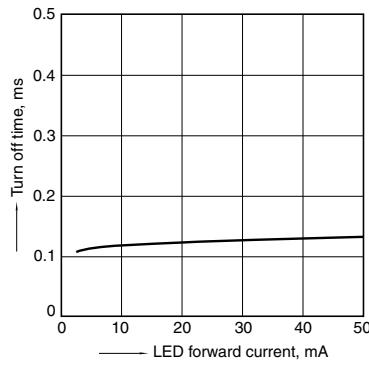
10. Turn on time vs. LED forward current characteristics

Measured portion: between terminals 3 and 4; Load voltage: 10 V (DC); Continuous load current: 100 mA (DC); Ambient temperature: 25°C 77°F



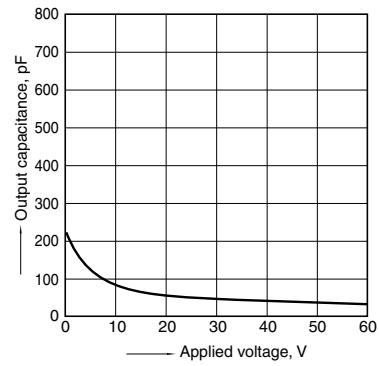
11. Turn off time vs. LED forward current characteristics

Measured portion: between terminals 3 and 4; Load voltage: 10 V (DC); Continuous load current: 100 mA (DC); Ambient temperature: 25°C 77°F



12. Output capacitance vs. applied voltage characteristics

Measured portion: between terminals 3 and 4; Frequency: 1 MHz; Ambient temperature: 25°C 77°F



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