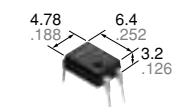


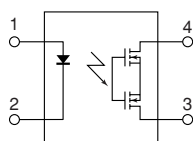
Panasonic
ideas for life

Greatly increase load current (1.1A). Load voltage is 60V. Reinforced insulation 5,000V type.

GU PhotoMOS (AQY212GH)



mm inch



FEATURES

1. Greatly increased load current.
2. Reinforced insulation 5,000 V type.
3. Greatly improved specs allow you to use this in place of mercury and mechanical relays.
4. Compact 4-pin DIP size.

TYPICAL APPLICATIONS

- Crime and fire prevention market (use in I/O for alarm and security devices, etc.)
- Measuring instrument market

TYPES

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		Tube	Tape and reel
		Picked from the 1/2-pin side	Picked from the 3/4-pin side						
AC/DC type	Reinforced 5,000 V	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 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.

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	$f = 100 \text{ Hz}$, Duty factor = 0.1%
	Power dissipation	P_{in}	75 mW	
Output	Load voltage (peak AC)	V_L	60 V	
	Continuous load current (peak AC)	I_L	1.1 A	
	Peak load current	I_{peak}	3.0 A	100ms (1 shot), $V_L = \text{DC}$
	Power dissipation	P_{out}	500 mW	
Total power dissipation		P_T	550 mW	
I/O isolation voltage		V_{iso}	5,000 V AC	
Temperature limits	Operating	T_{opr}	-40°C to +85°C -40°F to +185°F	Non-condensing at low temperatures
	Storage	T_{stg}	-40°C to +100°C -40°F to +212°F	

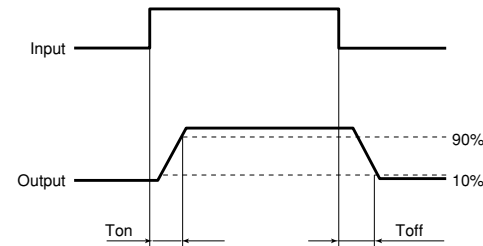
GU PhotoMOS (AQY212GH)

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

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

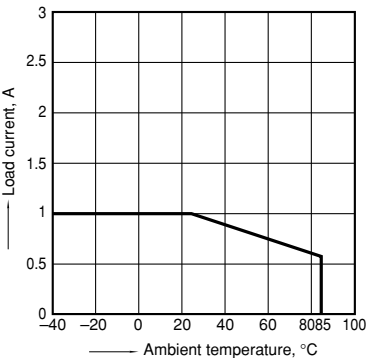
Note: Recommendable LED forward current I_F = 5 to 10 mA.

*Turn on/Turn off time

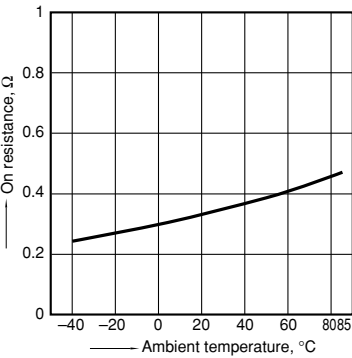


REFERENCE DATA

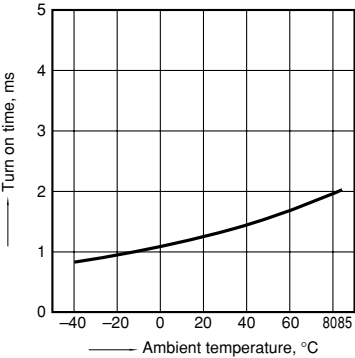
1. Load current vs. ambient temperature characteristics
Allowable ambient temperature: -40°C to +85°C
-40°F to +185°F



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)

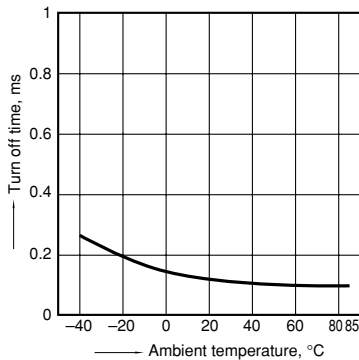


3. Turn on time vs. ambient temperature characteristics
LED current: 5 mA; Load voltage: 10 V (DC);
Continuous load current: 100 mA (DC)



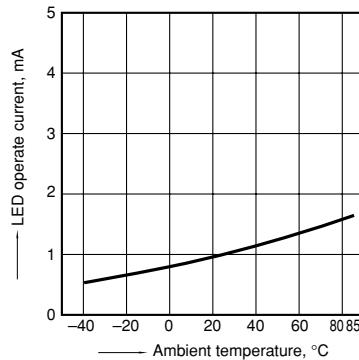
4. Turn off time vs. ambient temperature characteristics

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



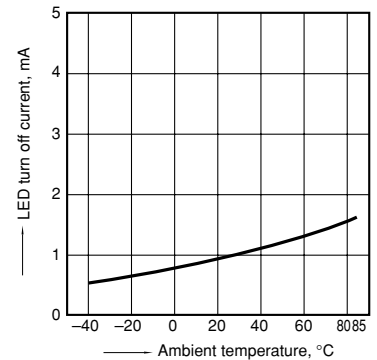
5. LED operate current vs. ambient temperature characteristics

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



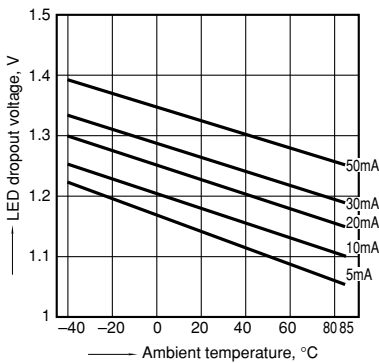
6. LED turn off current vs. ambient temperature characteristics

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



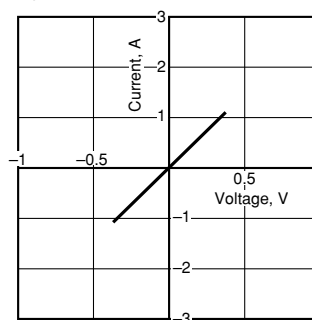
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



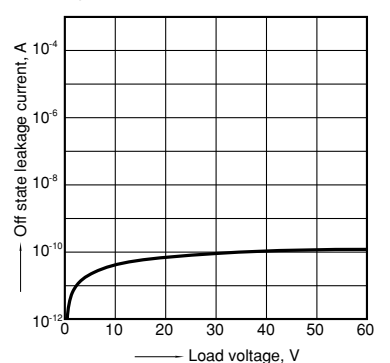
8. Current vs. voltage characteristics of output at MOS portion

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



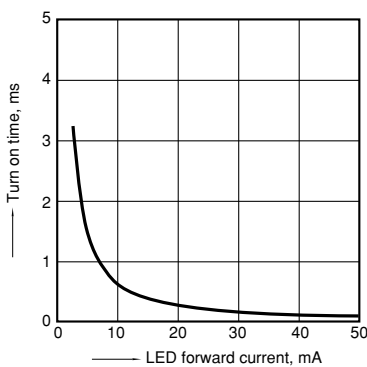
9. Off state leakage current vs. load voltage characteristics

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



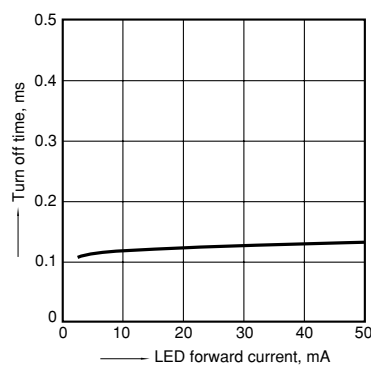
10. Turn on time vs. LED forward current characteristics

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

