

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

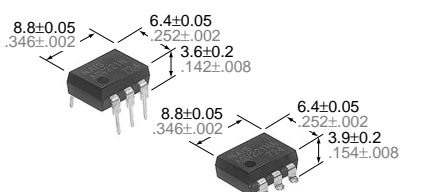
Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

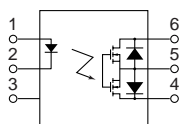
NAIS

GU (General Use) Type 1-Channel (Form A) Current Limit Function 6-Pin Type

PhotoMOS RELAYS



mm inch



FEATURES

1. Current Limit Function

To control an over current from flowing, the current limit function has been realized. It keeps an output current at a constant value when the current reaches a specified current limit value.

2. Enhancing the capability of surge resistance between output terminals

The current limit function controls the ON time surge current to enhance the capability of surge resistance between output terminals.

3. Reinforced insulation 5,000 V type

More than 0.4 mm internal insulation distance between inputs and outputs. Conforms to EN41003, EN60950 (reinforced insulation).

4. Compact 6-pin DIP size

The device comes in a compact (W)6.4 × (L)8.8 × (H) 3.9mm (W).252 × (L).346 × (H).154inch, 6-pin DIP size

5. Controls low-level analog signals

PhotoMOS relays feature extremely low closed-circuit offset voltage to enable control of low-level analog signals without distortion.

6. High sensitivity, low ON resistance

7. Low-level off state leakage current

TYPICAL APPLICATIONS

- Telephone equipment
- Modem

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	
AC/DC type	Reinforced 5,000 V	350 V	130 mA	AQV210HL	AQV210HLA	AQV210HLAX			AQV210HLAZ

*Indicate the peak AC and DC values.

Note: For space reasons, 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	AQV210HL(A)	Remarks
Input	LED forward current	I _F	50 mA	
	LED reverse voltage	V _R	3 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	350 V	
	Continuous load current	I _L	0.13 A	
	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	

AQV210HL

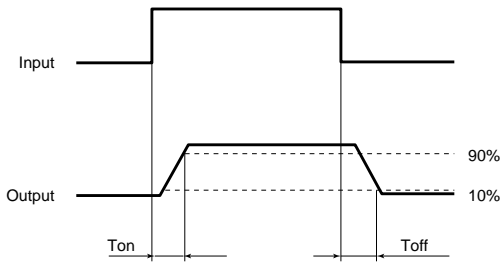
2. Electrical characteristics (Ambient temperature: 25°C 77°F)

Item		Symbol	AQV210HL(A)	Condition
Input	LED operate current	Typical	1.6 mA	$I_L = \text{Max.}$
		Maximum	3.0 mA	
	LED turn off current	Minimum	0.4 mA	$I_L = \text{Max.}$
		Typical	1.5 mA	
LED dropout voltage	Minimum	1.14 (1.25 V at $I_F = 50\text{mA}$)	$I_F = 5 \text{ mA}$	
	Typical	1.5 V		
Output	On resistance	Typical	20Ω	$I_F = 5 \text{ mA}$ $I_L = \text{Max.}$ Within 1 s on time
		Maximum	25Ω	
	Off state leakage current	Maximum	1μA	$I_F = 0$ $V_L = \text{Max.}$
Current limit	Typical	—	180 mA	$I_F = 5 \text{ mA}$
Transfer characteristics	Turn on time*	Typical	0.8 ms	$I_F = 5 \text{ mA}$ $I_L = \text{Max.}$
		Maximum	2.0 ms	
	Turn off time*	Typical	0.05 ms	$I_F = 5 \text{ mA}$ $I_L = \text{Max.}$
		Maximum	1.0 ms	
	I/O capacitance	Typical	0.8 pF	$f = 1 \text{ MHz}$ $V_B = 0$
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.

For type of connection, see Page 31.

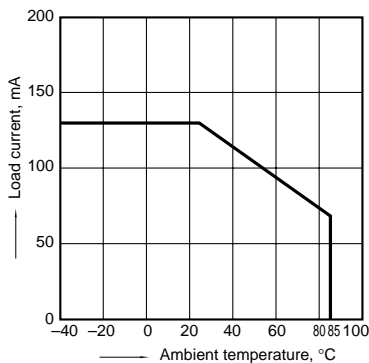
*Turn on/Turn off time



REFERENCE DATA

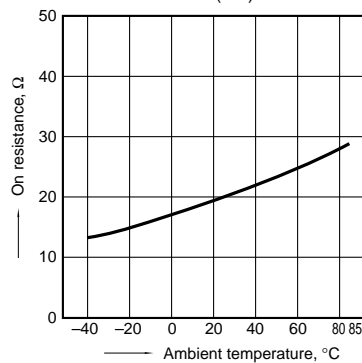
1. Load current vs. ambient temperature characteristics

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



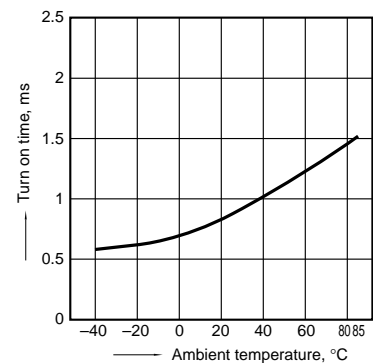
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 4 and 6;
LED current: 5 mA; Load voltage: Max. (DC)
Continuous load current: Max. (DC)



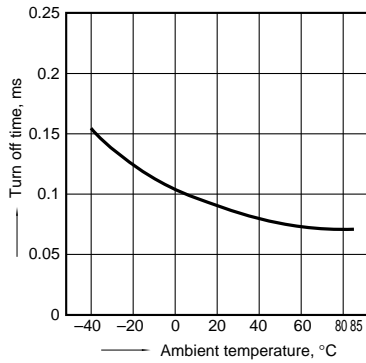
3. Turn on time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: Max. (DC);
Continuous load current: Max. (DC)



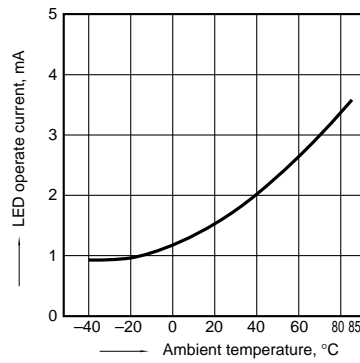
4. Turn off time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: Max.(DC); Continuous load current: Max.(DC)



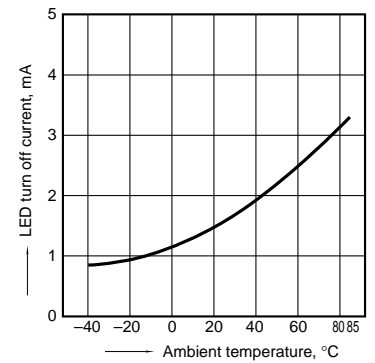
5. LED operate current vs. ambient temperature characteristics

Load voltage: Max.(DC); Continuous load current: Max.(DC)



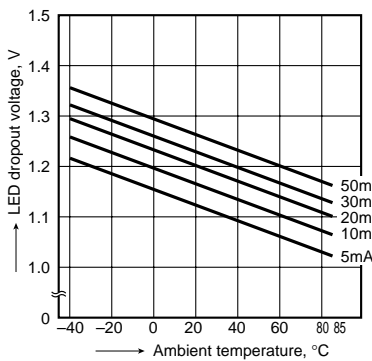
6. LED turn off current vs. ambient temperature characteristics

Load voltage: Max.(DC); Continuous load current: Max.(DC)



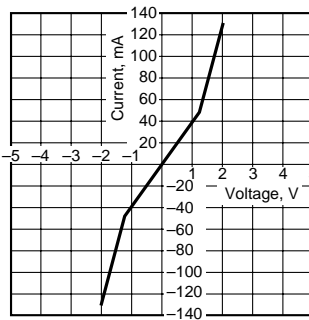
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



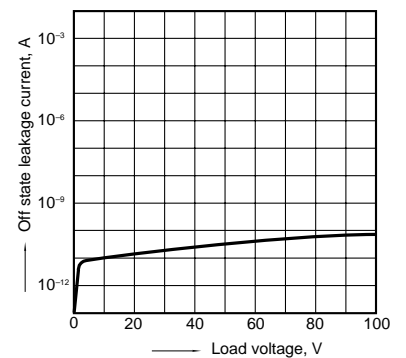
8. Voltage vs. current characteristics of output at MOS portion

Measured portion: between terminals 4 and 6; Ambient temperature: 25°C 77°F



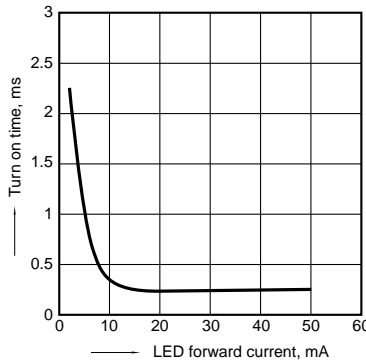
9. Off state leakage current

Measured portion: between terminals 4 and 6; Ambient temperature: 25°C 77°F



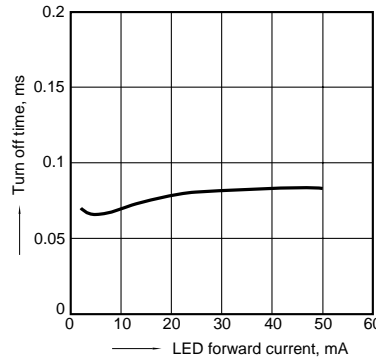
10. LED forward current vs. turn on time characteristics

Measured portion: between terminals 4 and 6; Load voltage: Max.(DC); Continuous load current: Max.(DC); Ambient temperature: 25°C 77°F



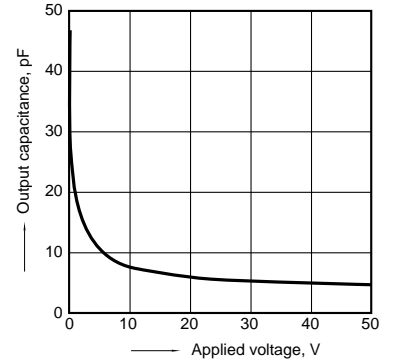
11. LED forward current vs. turn off time characteristics

Measured portion: between terminals 4 and 6; Load voltage: Max.(DC); Continuous load current: Max.(DC); Ambient temperature: 25°C 77°F



12. Applied voltage vs. output capacitance characteristics

Measured portion: between terminals 4 and 6; Frequency: 1 MHz; Ambient temperature: 25°C 77°F



What is current limit

When a load current reaches the specified output control current, a current limit function works against the load current to keep the current a constant value.

The current limit circuit built into the PhotoMOS relay thus controls the instantaneous load current to effectively ensure circuit safety.

This safety feature protects circuits down-

stream of the PhotoMOS relay against over-current.

But, if the current-limiting feature is used longer than the specified time, the PhotoMOS relay can be destroyed. Therefore, set the output loss to the max. rate or less.

- Comparison of output voltage and output current characteristics

V-I Characteristics

