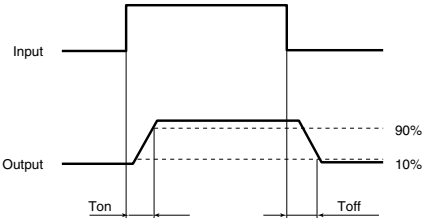


GU 1 Form A Current Limiting (AQY210HL)

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

Item			Symbol	AQY210HL(A)	Condition
Input	LED operate current	Typical	I _{Fon}	1.2 mA	I _L = Max.
		Maximum		3.0 mA	
	LED turn off current	Minimum	I _{Foff}	0.4 mA	I _L = Max.
		Typical		1.1 mA	
	LED dropout voltage	Minimum	V _F	1.25 (1.14 V at I _F = 5 mA)	I _F = 50 mA
Typical		1.5 V			
Output	On resistance	Typical	R _{on}	20Ω	I _F = 5 mA I _L = Max. Within 1 s
		Maximum		25Ω	
	Off state leakage current	Maximum	I _{L,leak}	1μA	I _F = 0 mA V _L = Max.
	Current limit	Typical	—	0.18 A	I _F = 5 mA
Transfer characteristics	Turn on time*	Typical	T _{on}	0.5 ms	I _F = 5 mA I _L = Max.
		Maximum		2.0 ms	
	Turn off time*	Typical	T _{off}	0.08 ms	I _F = 5 mA I _L = Max.
		Maximum		1.0 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

*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.

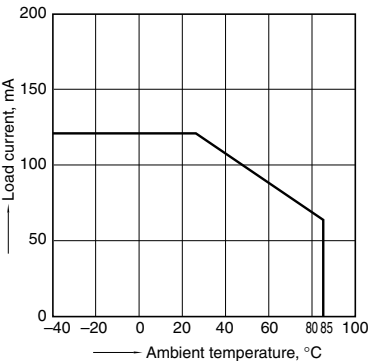
Item		Symbol	Min.	Max.	Unit
LED current		I _F	5	30	mA
AQY210HL(A)	Load voltage (Peak AC)	V _L	—	280	V
	Continuous load current	I _L	—	0.12	A

■ 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

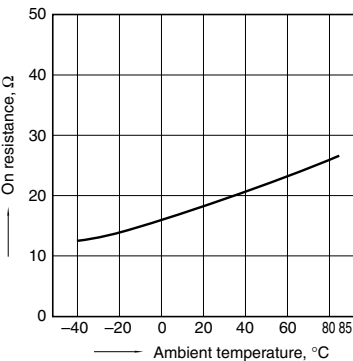
1. Load current vs. ambient temperature characteristics

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



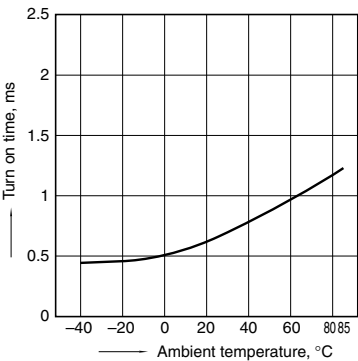
2. On resistance vs. ambient temperature characteristics

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



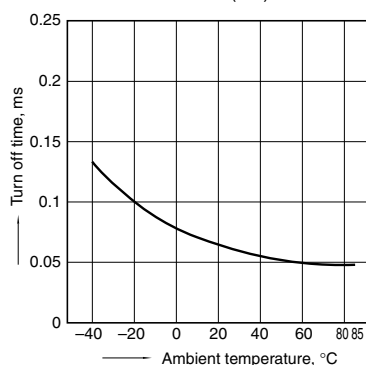
3. Turn on time vs. ambient temperature characteristics

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



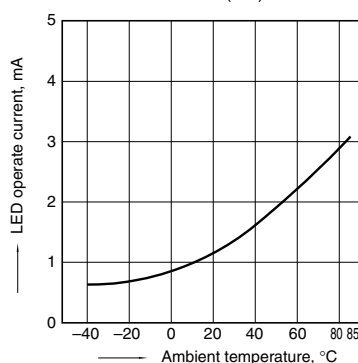
4. Turn off time vs. ambient temperature characteristics

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



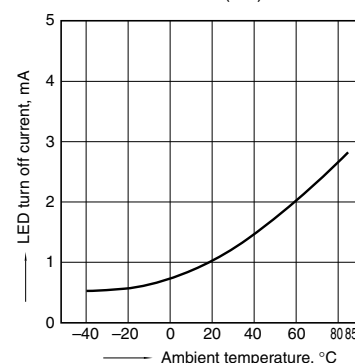
5. LED operate current vs. ambient temperature characteristics

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



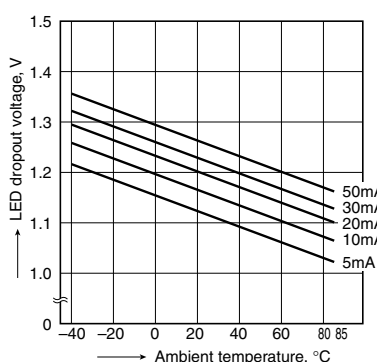
6. LED turn off current vs. ambient temperature characteristics

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



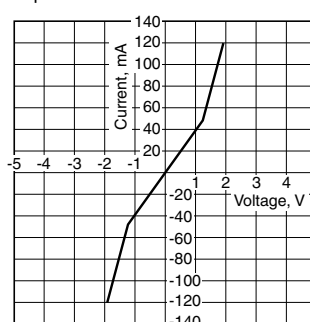
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



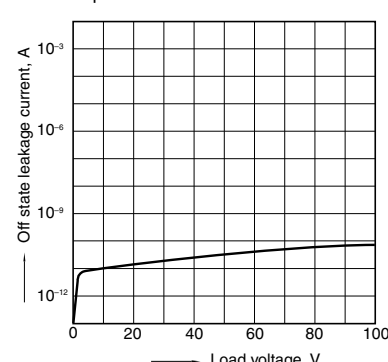
8. Current vs. voltage characteristics of output at MOS portion

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



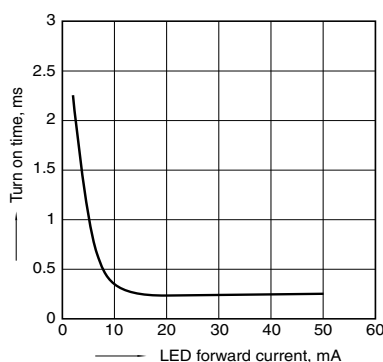
9. Off state leakage current vs. load voltage characteristics

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



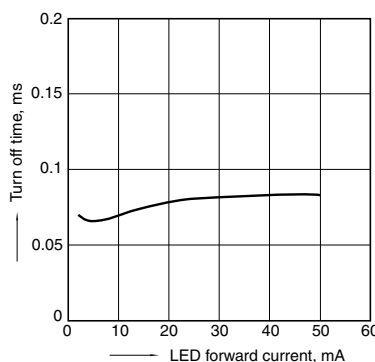
10. Turn on time vs. LED forward current characteristics

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



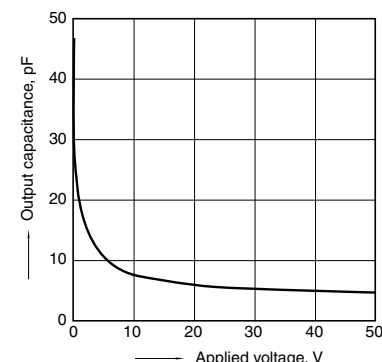
11. Turn off time vs. LED forward current characteristics

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



What is current limit

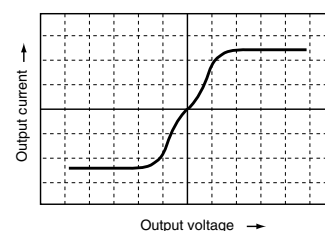
When a load current reaches the specified output control current, a current limit function works against the load current to keep the current a constant value.

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

This safety feature protects circuits downstream of the PhotoMOS against over-current.

But, if the current-limiting feature is used longer than the specified time, the PhotoMOS 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



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*Recognized in Japan, the United States, all member states of European Union and other countries.

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Specifications are subject to change without notice.