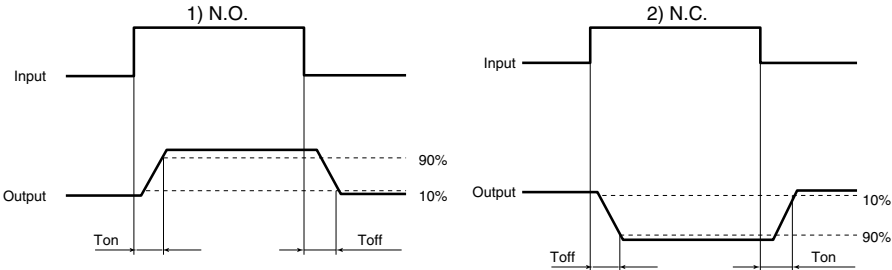


GU SOP 1 Form A & 1 Form B (AQW610S)

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

Item			Symbol	AQW612S	AQW610S	Condition
Input	LED operate current	Typical	I _{Fon} (N.O.)	0.9 mA		I _L = Max.
		Maximum	I _{Foff} (N.C.)	3 mA		
	LED reverse current	Minimum	I _{Foff} (N.O.)	0.4 mA		I _L = Max.
		Typical	I _{Fon} (N.C.)	0.8 mA		
	LED dropout voltage	Typical	V _F	1.25 V (1.14 V at I _F = 5 mA)		I _F = 50 mA
		Maximum		1.5 V		
Output	On resistance	Typical	R _{on}	1 Ω	18 Ω	I _F = 5 mA (N.O.) I _F = 0 mA (N.C.)
		Maximum		2.5 Ω	25 Ω	I _L = Max. Within 1 s
	Off state leakage current	Maximum	I _{Leak}	1 μA		I _F = 0 mA (N.O.) I _F = 5 mA (N.C.) V _L = Max.
	Transfer characteristics	Operate time*	Typical	T _{on} (N.O.)	0.65 ms (N.O.), 0.9 ms (N.C.)	0.28 ms (N.O.), 0.52 ms (N.C.)
Maximum			T _{off} (N.C.)	3.0 ms	1.0 ms	
Reverse time*		Typical	T _{off} (N.O.)	0.08 ms (N.O.), 0.2 ms (N.C.)	0.04 ms (N.O.), 0.23 ms (N.C.)	I _F = 5 mA → 0 mA I _L = Max.
		Maximum	T _{on} (N.C.)	1.0 ms	1.0 ms	
I/O capacitance		Typical	C _{iso}	0.8 pF		f = 1 MHz
		Maximum		1.5 pF		V _B = 0 V
Initial I/O isolation resistance		Minimum	R _{iso}	1,000 MΩ		500 V DC

*Operate/Reverse time



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

Please use under recommended operating conditions to obtain expected characteristics.

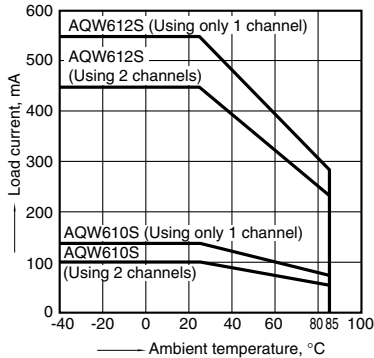
Item		Symbol	Number of used channels	Min.	Max.	Unit
AQW612S	LED current	I _F		5	30	mA
	Load voltage (Peak AC)	V _L		—	48	V
	Continuous load current	I _L		—	0.55 0.45	A
AQW610S	Load voltage (Peak AC)	V _L		—	280	V
	Continuous load current	I _L		—	0.13 0.1	A

■ 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

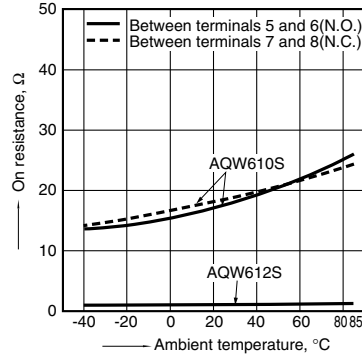
1. Load current vs. ambient temperature characteristics

Allowable ambient temperature: -40 to $+85^{\circ}\text{C}$
 -40 to $+185^{\circ}\text{F}$



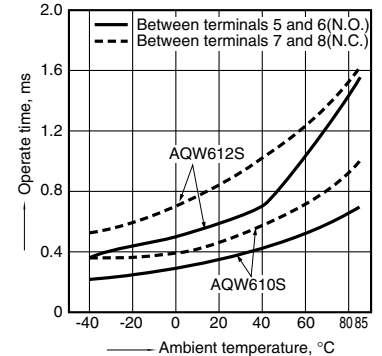
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 5 and 6, 7 and 8; LED current: 5 mA; Load voltage: Max. (DC); Continuous load current: Max. (DC)



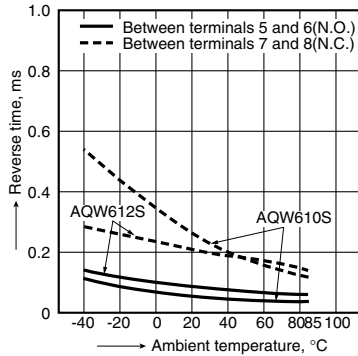
3. Operate time vs. ambient temperature characteristics

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



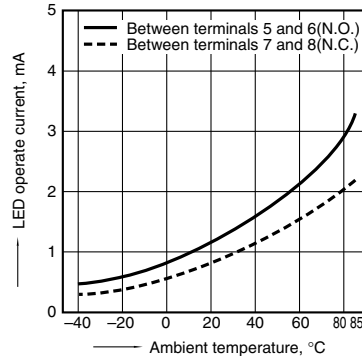
4. Reverse time vs. ambient temperature characteristics

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



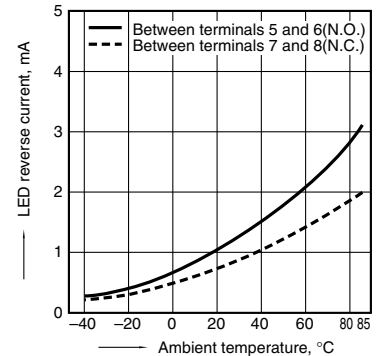
5. LED operate current vs. ambient temperature characteristics

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



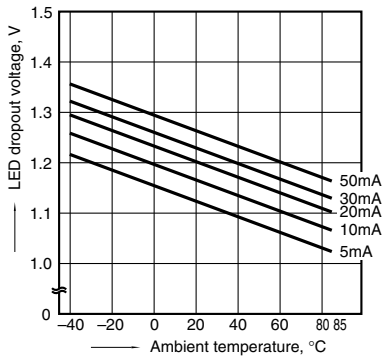
6. LED reverse current vs. ambient temperature characteristics

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



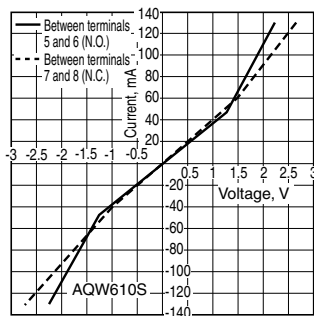
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



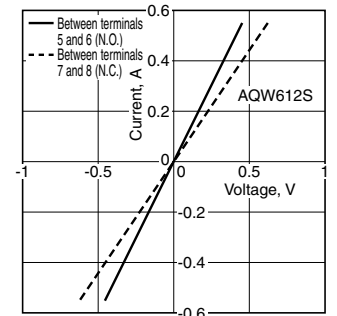
8-(1). Current vs. voltage characteristics of output at MOS portion

Measured portion: between terminals 5 and 6, 7 and 8; Ambient temperature: 25°C 77°F



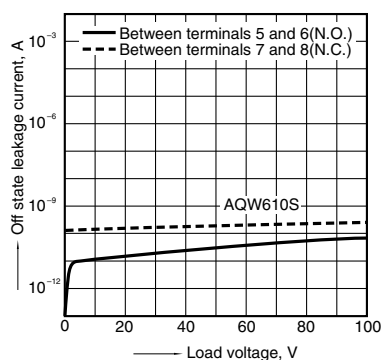
8-(2). Current vs. voltage characteristics of output at MOS portion

Measured portion: between terminals 5 and 6, 7 and 8; Ambient temperature: 25°C 77°F



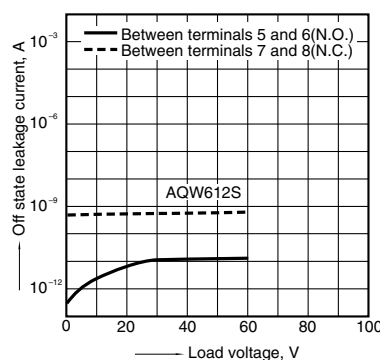
9-(1). Off state leakage current vs. load voltage characteristics

Measured portion: between terminals 5 and 6, 7 and 8; Ambient temperature: 25°C 77°F



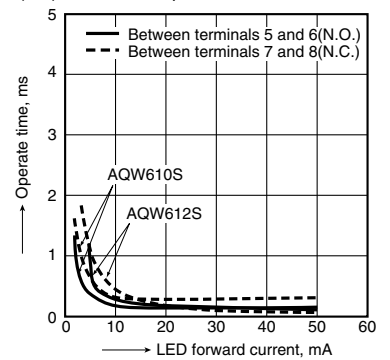
9-(2). Off state leakage current vs. load voltage characteristics

Measured portion: between terminals 5 and 6, 7 and 8; Ambient temperature: 25°C 77°F



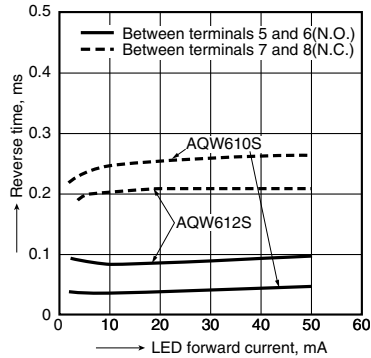
10. Operate time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8; Load voltage: Max. (DC); Continuous load current: Max. (DC); Ambient temperature: 25°C 77°F



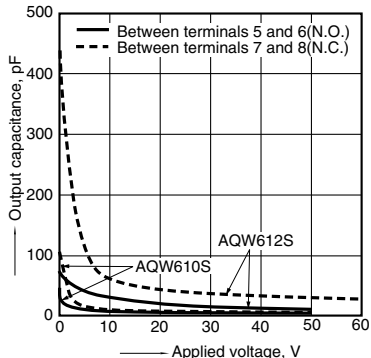
11. Reverse time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
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 5 and 6, 7 and 8;
LED current: 0 mA (N.O.), 5 mA (N.C.); Frequency:
1 MHz; Ambient temperature: 25°C 77°F



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