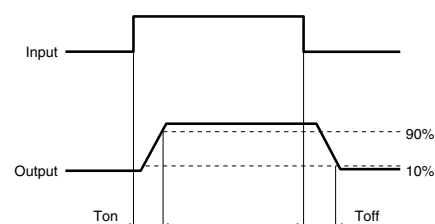


GU 2 Form A (AQW21○)

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

Item			Symbol	AQW212(A)	AQW215(A)	AQW217(A)	AQW210(A)	AQW214(A)	AQW216(A)	Condition
Input	LED operate current	Typical	I _{Fon}	0.9 mA						I _L = Max.
		Maximum		3 mA						
	LED turn off current	Minimum	I _{Foff}	0.4 mA						I _L = Max.
		Typical		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}	0.83 Ω	2.3 Ω	11 Ω	23 Ω	30 Ω	70 Ω	I _F = 5 mA
		Maximum		2.5 Ω	4.0 Ω	15 Ω	35 Ω	50 Ω	120 Ω	I _L = Max. Within 1 s
	Off state leakage current	Maximum	I _{Leak}	1 μA						I _F = 0 mA V _L = Max.
Transfer characteristics	Turn on time*	Typical	T _{on}	0.65 ms	0.60 ms	0.25 ms		0.31 ms	0.28 ms	I _F = 5 mA
		Maximum		2 ms		1.0 ms	0.5 ms			I _L = Max.
	Turn off time*	Typical	T _{off}	0.08 ms	0.06 ms	0.05 ms			0.04 ms	I _F = 5 mA
		Maximum		0.2 ms						I _L = Max.
	I/O capacitance	Typical	C _{iso}	0.8 pF						f = 1 MHz
		Maximum		1.5 pF						V _B = 0 V
	Initial I/C 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	Number of used channels	Min.	Max.	Unit
LED current		I_F		5	30	mA
AQW212(A)	Load voltage (Peak AC)	V_L		—	48	V
	Continuous load current	I_L	1ch 2ch	—	0.6 0.5	A
AQW215(A)	Load voltage (Peak AC)	V_L		—	80	V
	Continuous load current	I_L	1ch 2ch	—	0.35 0.3	A
AQW217(A)	Load voltage (Peak AC)	V_L		—	160	V
	Continuous load current	I_L	1ch 2ch	—	0.2 0.16	A
AQW210(A)	Load voltage (Peak AC)	V_L		—	280	V
	Continuous load current	I_L	1ch 2ch	—	0.14 0.12	A
AQW214(A)	Load voltage (Peak AC)	V_L		—	320	V
	Continuous load current	I_L	1ch 2ch	—	0.13 0.1	A
AQW216(A)	Load voltage (Peak AC)	V_L		—	480	V
	Continuous load current	I_L	1ch 2ch	—	0.05 0.04	A

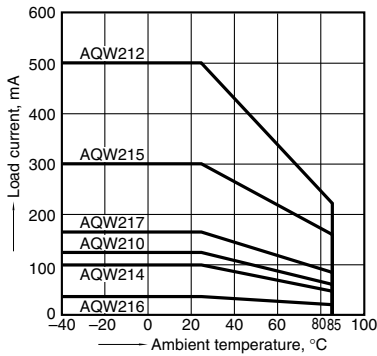
■ These products are not designed for automotive use.

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

REFERENCE DATA

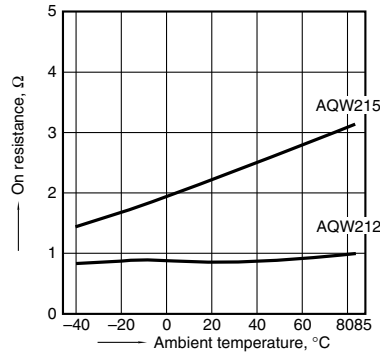
1. Load current vs. ambient temperature characteristics

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



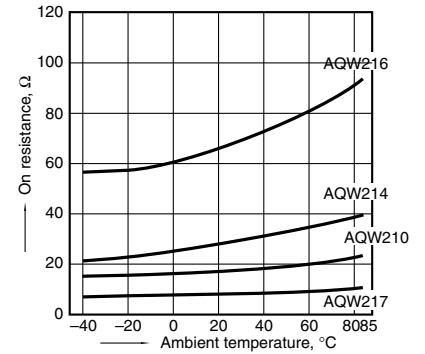
2.-(1) On resistance vs. ambient temperature characteristics

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



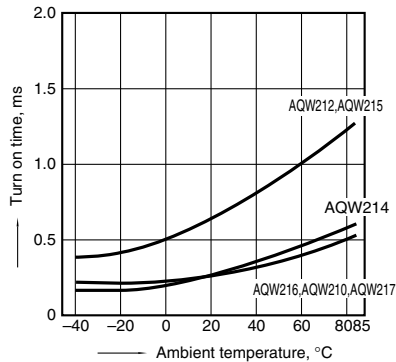
2.-(2) On resistance vs. ambient temperature characteristics

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



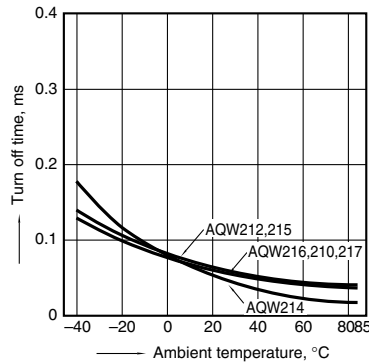
3. Turn on time vs. ambient temperature characteristics

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



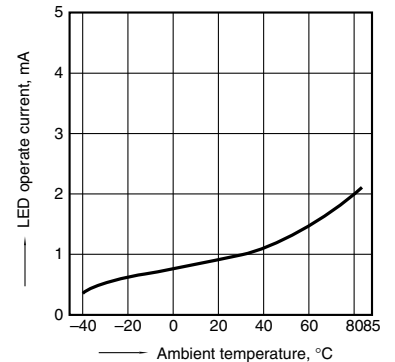
4. Turn off time vs. ambient temperature characteristics

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



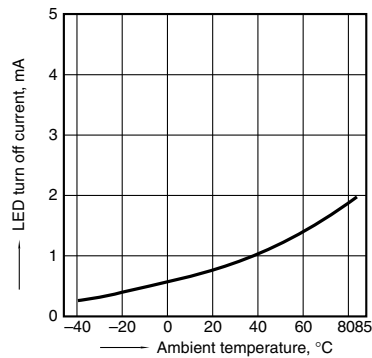
5. LED operate current vs. ambient temperature characteristics

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



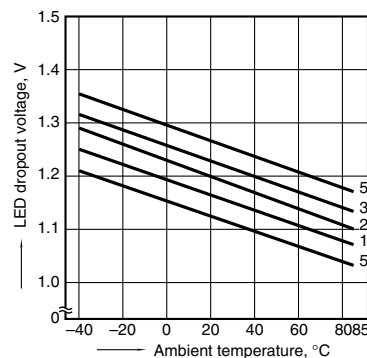
6. LED turn off current vs. ambient temperature characteristics

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



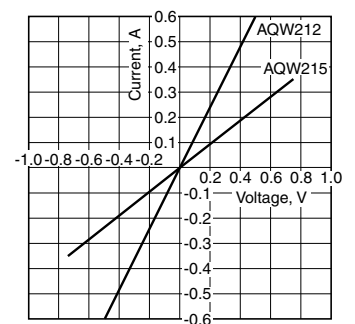
7. LED dropout voltage vs. ambient temperature characteristics

Sample: All types;
 LED current: 5 to 50 mA



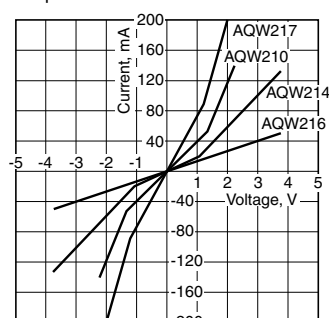
8.-(1) Current vs. voltage characteristics of output at MOS portion

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



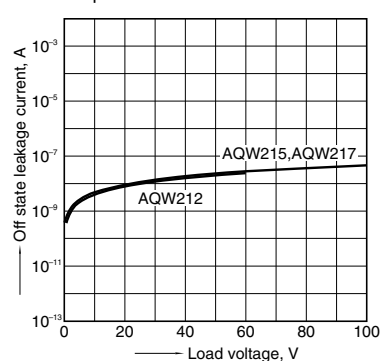
8.-(2) Current vs. voltage characteristics of output at MOS portion

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



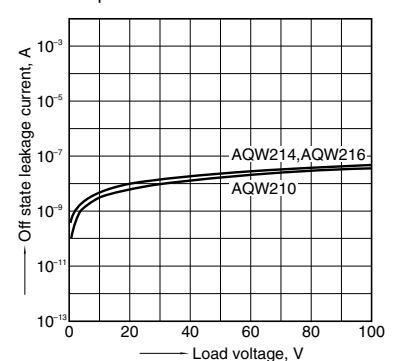
9.-(1) Off state leakage current vs. load voltage characteristics

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



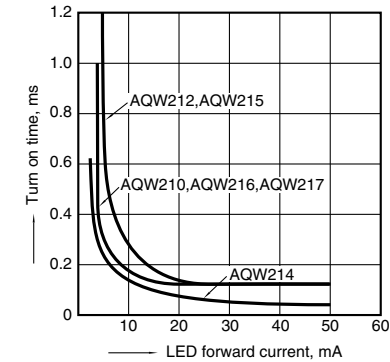
9.-(2) Off state leakage current vs. load voltage characteristics

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



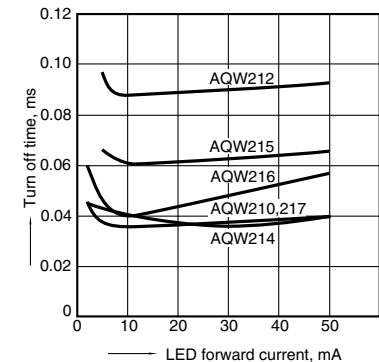
10. Turn on time vs. LED forward current characteristics

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



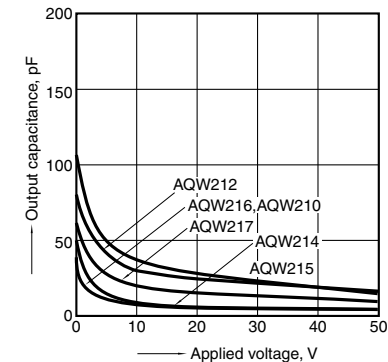
11. Turn off time vs. LED forward current characteristics

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;
Frequency: 1 MHz;
Ambient temperature: 25°C 77°F



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