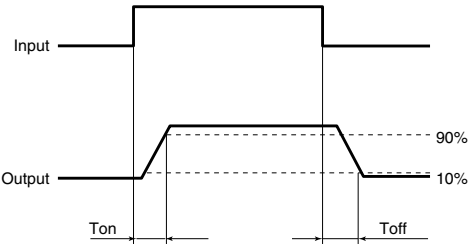


2. Electrical characteristics (Ambient temperature: 25°C 77°F)

Item			Symbol	Type of connection	AQV221(A)	AQV225(A)	Remarks
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			0.85 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}	A	22 Ω	36 Ω	I _F = 5 mA
		Maximum			35 Ω	50 Ω	I _L = Max. Within 1 s on time
		Typical	R _{on}	B	13 Ω	21 Ω	I _F = 5 mA
		Maximum			18 Ω	25 Ω	I _L = Max. Within 1 s on time
		Typical	R _{on}	C	6.5 Ω	10.5 Ω	I _F = 5 mA
		Maximum			9 Ω	12.5 Ω	I _L = Max. Within 1 s on time
	Output capacitance	Typical	C _{out}	—	5.6 pF	4.8 pF	I _F = 0 mA
		Maximum			8 pF		V _B = 0 V f = 1 MHz
	Off state leakage current	Typical	I _{Leak}	—	0.03 nA		I _F = 0 mA
Maximum		10 nA (1 nA or less)*			V _L = Max.		
Transfer characteristics	Turn on time**	Typical	T _{on}	—	0.1 ms		I _F = 5 mA
		Maximum			0.3 ms		I _L = Max.
	Turn off time**	Typical	T _{off}	—	0.03 ms		I _F = 5 mA
		Maximum			0.1 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/O isolation resistance	Minimum	R _{iso}	—	1,000 MΩ		500 V DC	

*Available as custom orders (1 nA or less)

**Turn on/Turn off time



RECOMMENDED OPERATING CONDITIONS

Please obey the following conditions to ensure proper device operation and resetting.

Item	Symbol	Recommended value	Unit
Input LED current	I _F	5	mA

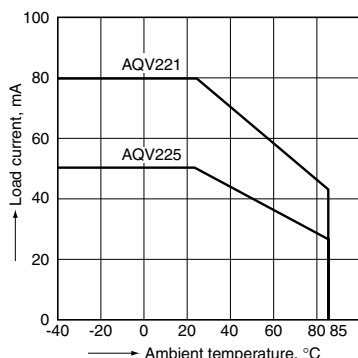
■ These products are not designed for automotive use.
If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

1. Load current vs. ambient temperature characteristics

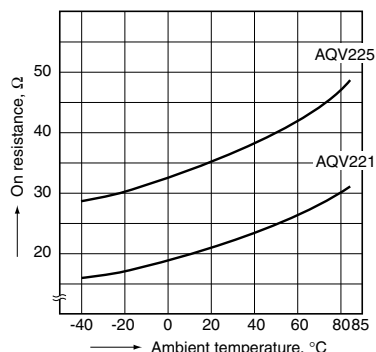
Allowable ambient temperature: -40°C to $+85^{\circ}\text{C}$
 -40°F to $+185^{\circ}\text{F}$

Type of connection: A



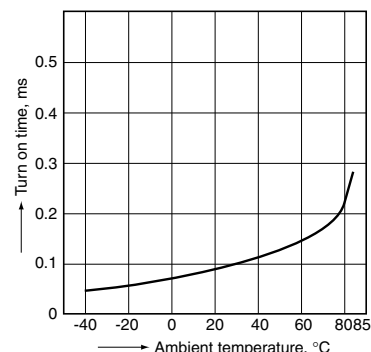
2. On resistance vs. ambient temperature characteristics

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



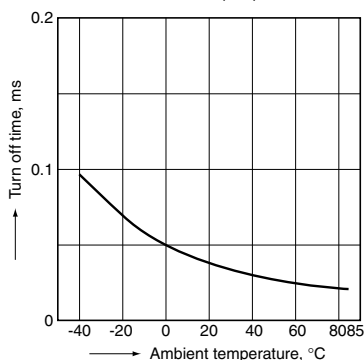
3. Turn on time vs. ambient temperature characteristics

Sample: AQV221, AQV225; LED current: 5 mA;
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



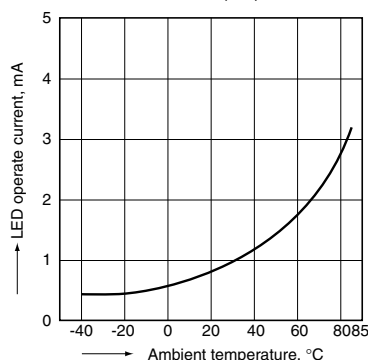
4. Turn off time vs. ambient temperature characteristics

Sample: AQV221, AQV225; LED current: 5 mA;
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



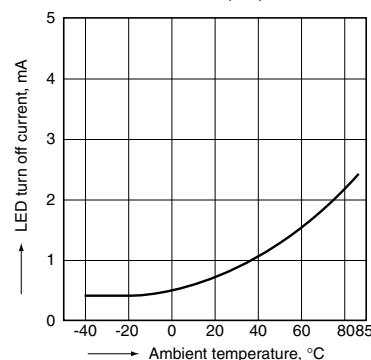
5. LED operate current vs. ambient temperature characteristics

Sample: AQV221, AQV225;
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



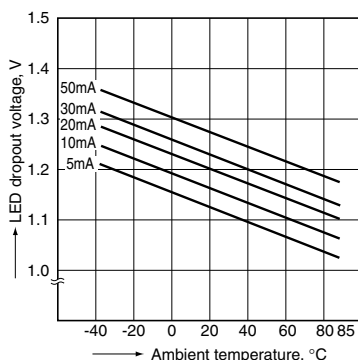
6. LED turn off current vs. ambient temperature characteristics

Sample: AQV221, AQV225;
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



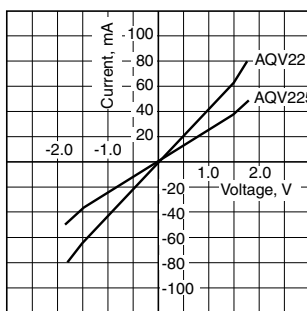
7. LED dropout voltage vs. ambient temperature characteristics

Sample: AQV221, AQV225;
LED current: 5 to 50 mA



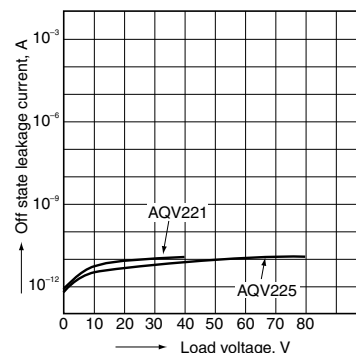
8. Current vs. voltage characteristics of output at MOS portion

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



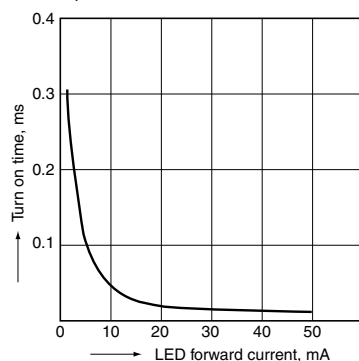
9. Off state leakage current vs. load voltage characteristics

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



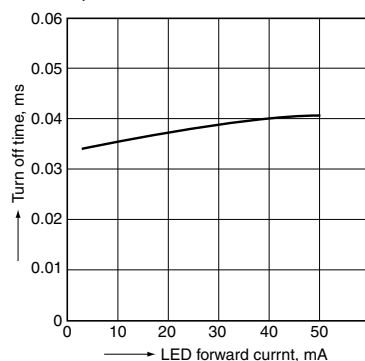
10. Turn on time vs. LED forward current characteristics

Sample: AQV221, AQV225;
Measured portion: between terminals 4 and 6;
Load voltage: Max. (DC);
Continuous load current: Max. (DC);
Ambient temperature: 25°C 77°F



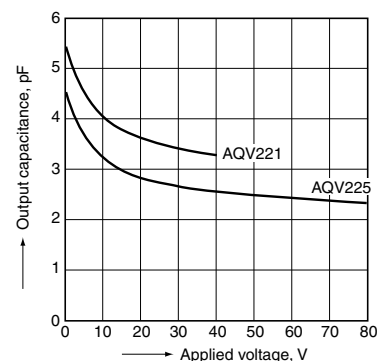
11. Turn off time vs. LED forward current characteristics

Sample: AQV221, AQV225;
Measured portion: between terminals 4 and 6;
Load voltage: Max. (DC);
Continuous load current: Max. (DC);
Ambient temperature: 25°C 77°F



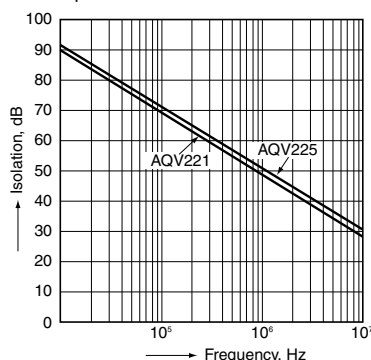
12. Output capacitance vs. applied voltage characteristics

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



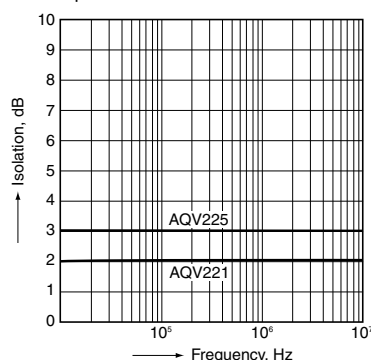
13. Isolation vs. frequency characteristics (50Ω impedance)

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



14. Insertion loss vs. frequency characteristics (50Ω impedance)

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



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ASCTB152E 201609-T

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