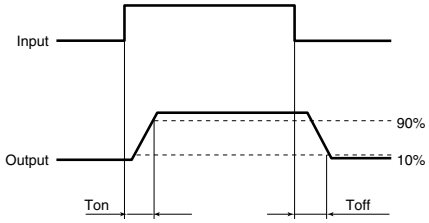
2. Electrical characteristics (Ambient temperature: 25°C 77°F)

Item			Symbol	AQW227NS	Condition
Input	LED operate current	Typical	I_{Fon}	0.7mA	I_L=Max.
		Maximum		3.0mA	
	LED turn off current	Minimum	I_{Foff}	0.4mA	I_L=Max.
		Typical		0.65mA	
	LED dropout voltage	Typical	V_F	1.25V (1.14V at I_F=5mA)	I_F=50mA
		Maximum		1.5V	
Output	On resistance	Typical	R_{on}	30Ω	I_F=5mA I_L=Max. Within 1 s
		Maximum		50Ω	
	Output capacitance	Typical	C_{out}	10pF	I_F=0mA V_B=0V f=1 MHz
		Maximum		15pF	
	Off state leakage current	Maximum	I_{Leak}	*10nA	I_F=0mA V_L=Max.
Transfer characteristics	Turn on time**	Typical	T_{on}	0.25ms	I_F=5mA I_L=Max.
		Maximum		0.5ms	
	Turn off time**	Typical	T_{off}	0.08ms	I_F=5mA I_L=Max.
		Maximum		0.2ms	
	I/O capacitance	Typical	C_{iso}	0.8pF	f=1MHz V_B=0V
		Maximum		1.5pF	
	Initial I/O isolation resistance	Minimum	R_{iso}	1,000MΩ	500V DC

*Available as custom orders (1 nA or less)

**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.

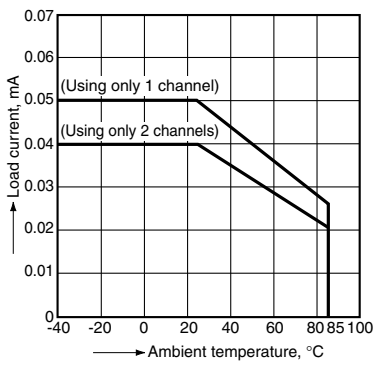
Item		Symbol	Number of used channels	Min.	Max.	Unit
LED current		I_F		5	30	mA
AQW227NS	Load voltage (Peak AC)	V_L		—	160	V
	Continuous load current	I_L	1ch 2ch	—	0.05 0.04	A

■ **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

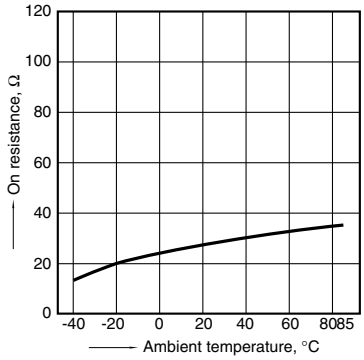
1. Load current vs. ambient temperature characteristics

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



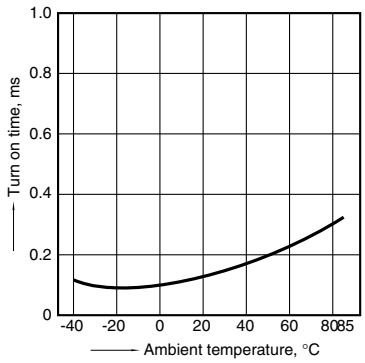
2. On resistance vs. ambient temperature characteristics

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

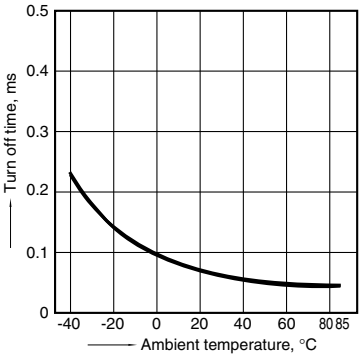


3. Turn on time vs. ambient temperature characteristics

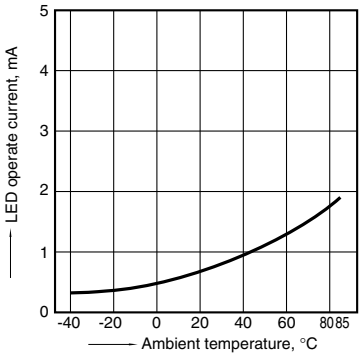
LED current: 5 mA;
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



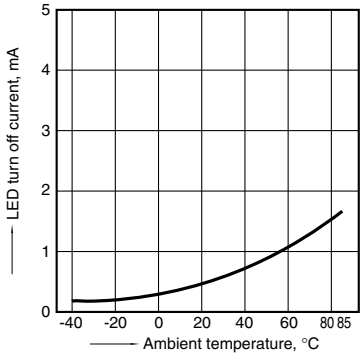
4. Turn off time vs. ambient temperature characteristics
LED current: 5 mA; Load voltage: Max. (DC);
Continuous load current: Max. (DC)



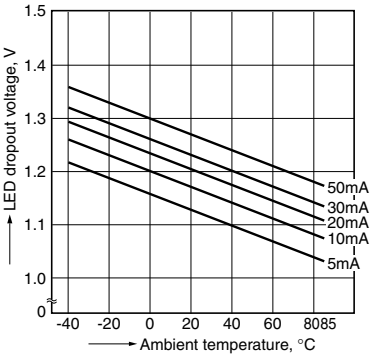
5. LED operate current vs. ambient temperature characteristics
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



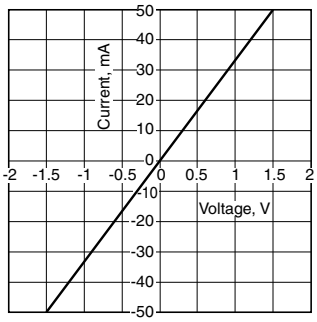
6. LED turn off current vs. ambient temperature characteristics
Load voltage: Max. (DC);
Continuous load current: Max. (DC)



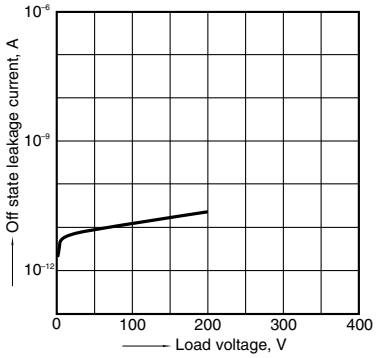
7. LED dropout voltage vs. ambient temperature characteristics
LED current: 5 to 50 mA



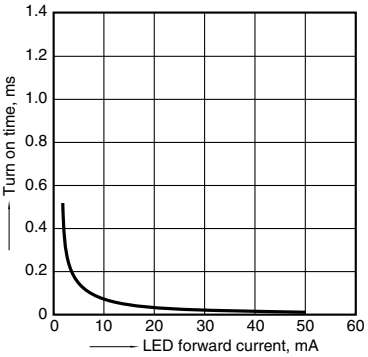
8. Current vs. voltage characteristics of output at MOS portion
Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



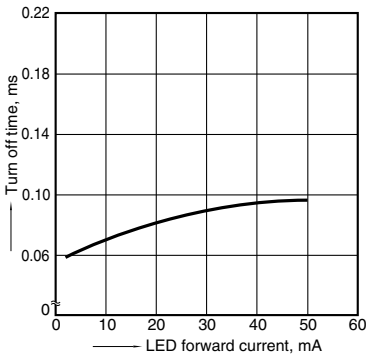
9. Off state leakage current vs. load voltage characteristics
Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



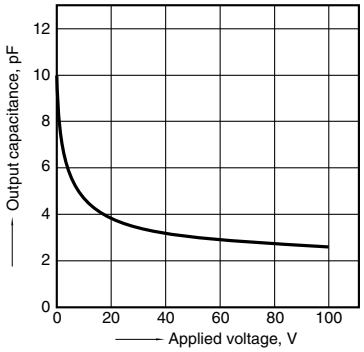
10. Turn on time vs. LED forward current characteristics
Measured portion: between terminals 5 and 6, 7 and 8;
Load voltage: Max. (DC);
Continuous load current: Max. (DC);
Ambient temperature: 25°C 77°F



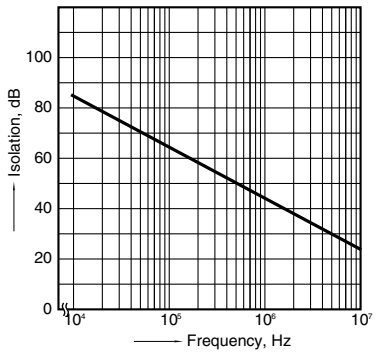
11. Turn off time vs. LED forward current characteristics
Measured portion: between terminals 5 and 6, 7 and 8;
Load voltage: Max. (DC);
Continuous load current: Max. (DC);
Ambient temperature: 25°C 77°F



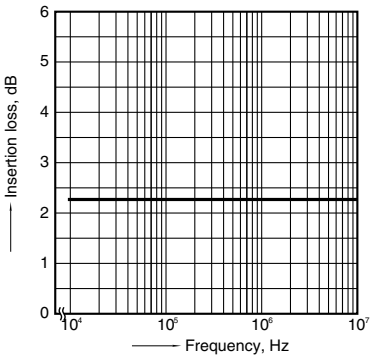
12. Output capacitance vs. applied voltage characteristics
Measured portion: between terminals 5 and 6, 7 and 8;
Frequency: 1 MHz, 30mVrms;
Ambient temperature: 25°C 77°F



13. Isolation vs. frequency characteristics (50 Ω impedance)
Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



14. Insertion loss vs. frequency characteristics (50 Ω impedance)
Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



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