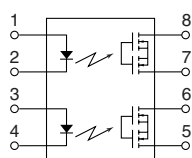


mm inch



RoHS compliant

FEATURES

1. 2-channels (Form A) type with high response speed, low leakage current and low on-resistance.

2. Applicable for 2 Form A use as well as two independent 1 Form A use

3. Low capacitance between output terminals ensures high response speed:

The capacitance between output terminals is small; typ. 10 pF. This enables for a fast operation speed of typ. 0.2 ms.

4. High sensitivity and low on-resistance:

Max. 0.07 A of load current can be controlled with input current of 5 mA. The on-resistance is less than our conventional models.

5. Low-level off state leakage current

6. Controls low-level analog signals: PhotoMOS features extremely low closed-circuit offset voltages to enable control of small analog signals without distortion.

TYPICAL APPLICATIONS

- Measuring instruments
Scanner, IC checker, Board tester, etc.

TYPES

	Output rating*		Package	Part No.				Packing quantity	
				Through hole terminal	Surface-mount terminal		Tube	Tape and reel	
	Load voltage	Load current			Tube packing style				Picked from the 1/2/3-pin side
AC/DC dual use	200 V	50 mA	DIP8-pin	AQW227N	AQW227NA	AQW227NAX	AQW227NAZ	1 tube contains: 50 pcs. 1 batch contains: 500 pcs.	1,000 pcs.
	400 V	40 mA		AQW224N	AQW224NA	AQW224NAX	AQW224NAZ		

*Indicate the peak AC and DC values.

Note: The surface mount terminal indicator "A" and the packing style indicator "X" or "Z" are not marked on the device.

RATING

1. Absolute maximum ratings (Ambient temperature: 25°C 77°F)

Item	Symbol	AQW227N(A)		AQW224N(A)	Remarks
Input	LED forward current	I_F	50 mA		
	LED reverse voltage	V_R	5 V		
	Peak forward current	I_{FP}	1 A		f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P_{in}	75 mW		
Output	Load voltage (peak AC)	V_L	200 V	400 V	
	Continuous load current	I_L	0.05 A (0.07 A)	0.04 A (0.05 A)	Peak AC, DC (): in case of using only 1 channel
	Peak load current	I_{peak}	0.15 A	0.12 A	A connection: 100 ms (1 shot), $V_L = DC$
	Power dissipation	P_{out}	800 mW		
Total power dissipation	P_T	850 mW			
I/O isolation voltage	V_{iso}	1,500 V AC			
Temperature limits	Operating	T_{opr}	-40°C to +85°C -40°F to +185°F		Non-condensing at low temperatures
	Storage	T_{stg}	-40°C to +100°C -40°F to +212°F		

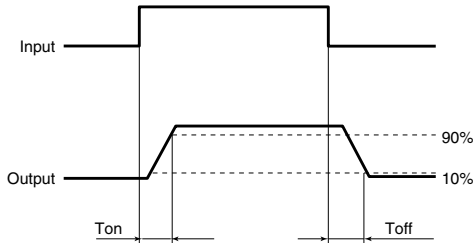
RF 2 Form A Low on-resistance (AQW220N)

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

Item		Symbol	AQW227N(A)	AQW224N(A)	Remarks
Input	LED operate current	Typical	0.9 mA		I _L = Max.
		Maximum	3.0 mA		
	LED turn off current	Minimum	0.4 mA		I _L = Max.
		Typical	0.8 mA		
LED dropout voltage	Typical	1.25 V (1.14 V at I _F = 5 mA)		I _F = 50 mA	
	Maximum	1.5 V			
Output	On resistance	Typical	30 Ω	70 Ω	I _F = 5 mA I _L = Max. Within 1 s on time
		Maximum	50 Ω	100 Ω	
	Output capacitance	Typical	10 pF		I _F = 0 V _B = 0 f = 1 MHz
		Maximum	15 pF		
Off state leakage current	Maximum	I _{Leak}	10 nA (1 nA or less)*		I _F = 0 V _L = Max.
Transfer characteristics	Turn on time**	Typical	0.2 ms		I _F = 5 mA I _L = Max.
		Maximum	0.5 ms		
	Turn off time**	Typical	0.08 ms		I _F = 5 mA I _L = Max.
		Maximum	0.2 ms		
	I/O capacitance	Typical	0.8 pF		f = 1 MHz V _B = 0
		Maximum	1.5 pF		
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.

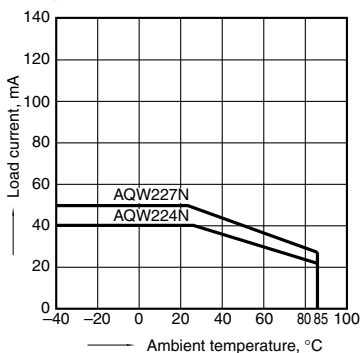
If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

1. Load current vs. ambient temperature characteristics

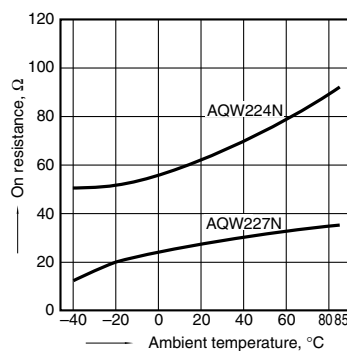
Allowable ambient temperature: -40°C to +85°C
-40°F to +185°F

When using 2 channels



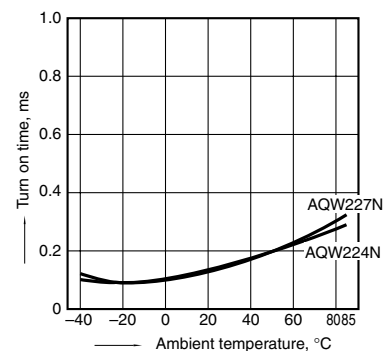
2. On resistance vs. ambient temperature characteristics

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

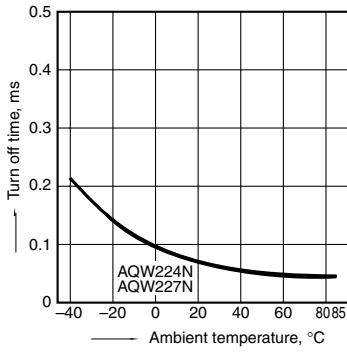
LED current: 5 mA; Load voltage: Max. (DC);
Continuous load current: Max. (DC)



RF 2 Form A Low on-resistance (AQW220N)

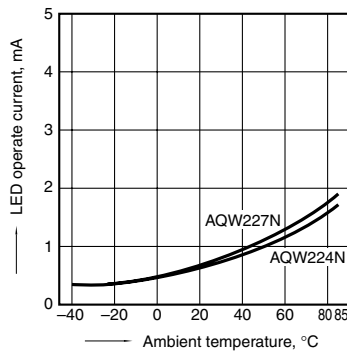
4. Turn off time vs. ambient temperature characteristics

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



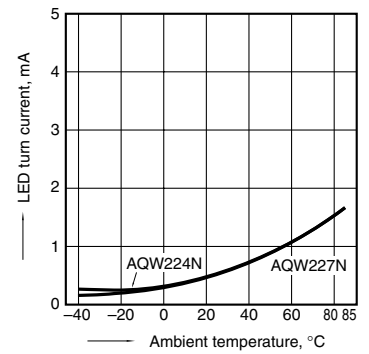
5. LED operate current vs. ambient temperature characteristics

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



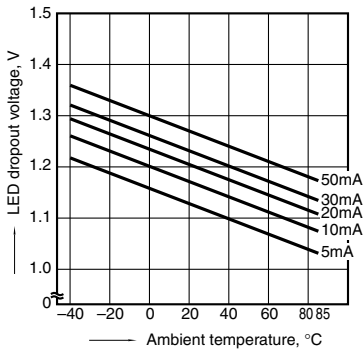
6. LED turn off current vs. ambient temperature characteristics

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



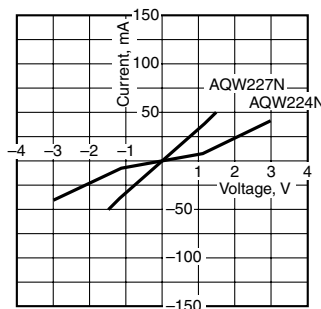
7. LED dropout voltage vs. ambient temperature characteristics

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



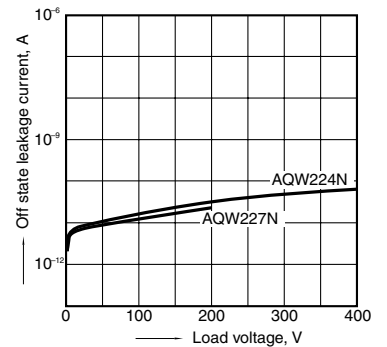
8. Voltage vs. current characteristics of output at MOS portion

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



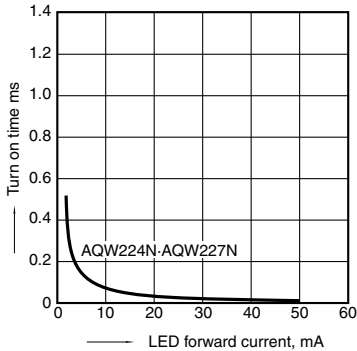
9. Off state leakage current

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



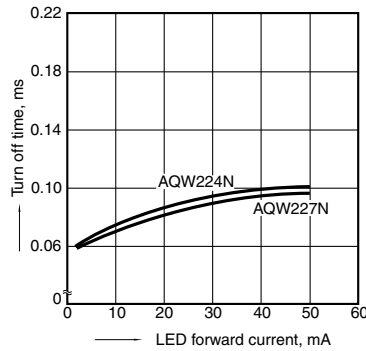
10. LED forward current vs. turn on time characteristics

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



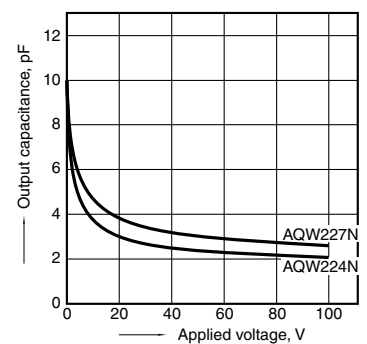
11. LED forward current vs. turn off time characteristics

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



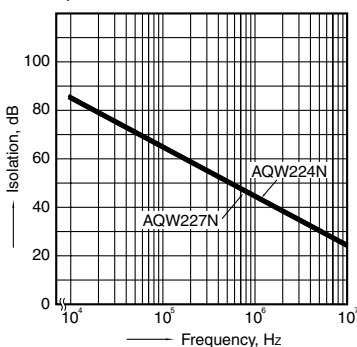
12. Applied voltage vs. output capacitance characteristics

Measured portion: between terminals 5 and 6, 7 and 8; Frequency: 1 MHz, 30 mVrms; Ambient temperature: 25°C 77°F



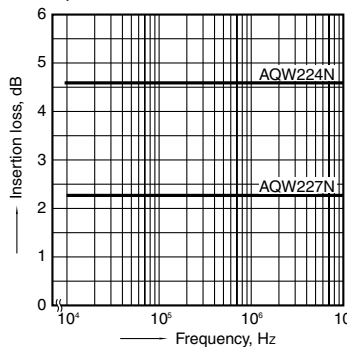
13. Isolation characteristics (50 Ω impedance)

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



14. Insertion loss characteristics (50 Ω impedance)

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



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А