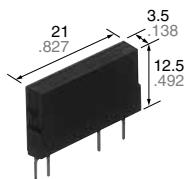




**High capacity up to 6A  
in a slim SIL package**

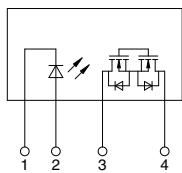
**PhotoMOS®  
Power 1 Form A  
High Capacity (AQZ20OG)**

New



(Height includes  
standoff)

mm inch



**RoHS compliant**

Please check our website for the latest information regarding compliance to safety standards.

## FEATURES

### 1. High capacity type power PhotoMOS.

Can switch a wide range of currents and voltages. Can control various types of loads, from very small loads to a max. 6A AC/DC current for sequencers, motors, and lamps.

### 2. Low on-resistance and high sensitivity.

Low on-resistance of less than Typ. 0.015Ω (AQZ202G). High sensitivity LED operate current of Typ. 1 mA.

### 3. AC/DC dual use

Bi-directional control is possible. There is no need to differentiate depending on the load as was necessary with the conventional SSR.

### 4. Slim SIL 4-pin package

(L) 21.0 mm × (W) 3.5 mm × (H) 12.5 mm  
(L) .827 inch × (W) .138 inch × (H) .492 inch

The compact size of the 4-pin SIL package allows high density mounting

### 5. Low-level off state leakage current of max. 10 μA

6. Controls low-level analog signals

The triac, photocoupler, or SSR cannot be used to control signals of less than several hundred mV. The high capacity type power PhotoMOS feature extremely low closed-circuit offset voltage to enable control of low-level analog signals without distortion.

## TYPICAL APPLICATIONS

- Traffic signals
- Measuring instruments
- Industrial machines
- Mercury relay replacement

## TYPES

	Output rating*		Package	Part No.	Packing quantity	
	Load voltage	Load current			Inner carton	Outer carton
AC/DC dual use	60 V	6.0 A	SIL4-pin	AQZ202G	25 pcs.	500 pcs.
	100 V	4.0 A		AQZ205G		
	200 V	2.0 A		AQZ207G		
	600 V	1.0 A		AQZ206G2		

Note: Please refer to the "Cautions for use" regarding the recommended operation load voltage.

\* Load voltage and current: Indicate the peak AC and DC values.

## RATING

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

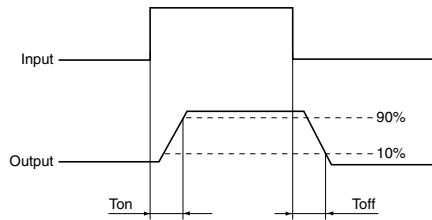
Item	Symbol	AQZ202G	AQZ205G	AQZ207G	AQZ206G2	Remarks
Input	LED forward current	I <sub>F</sub>		50 mA		
	LED reverse voltage	V <sub>R</sub>		5 V		
	Peak forward current	I <sub>FP</sub>		1 A		f = 100Hz, Duty factor = 0.1%
	Power dissipation	P <sub>in</sub>		75 mW		
Output	Load voltage	V <sub>L</sub>	60 V	100 V	200 V	600 V
	Continuous load current	I <sub>L</sub>	6.0 A	4.0 A	2.0 A	1.0 A
	Peak load current	I <sub>peak</sub>	12.0 A	8.0 A	6.0 A	3.0 A
	Power dissipation	P <sub>out</sub>		1.6 W		
Total power dissipation		P <sub>T</sub>		1.6 W		
I/O isolation voltage		V <sub>iso</sub>		2,500 Vrms		
Ambient temperature	Operating	T <sub>opr</sub>		−40 to +85°C	−40 to 185°F	(Non-icing at low temperatures)
	Storage	T <sub>stg</sub>		−40 to +100°C	−40 to 212°F	

# Power 1 Form A (AQZ20OG)

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

Item			Symbol	AQZ202G	AQZ205G	AQZ207G	AQZ206G2	Condition
Input	LED operate current		Typical Maximum	$I_{Fon}$	1.0 mA		$I_L = 100 \text{ mA}$ $V_L = 10 \text{ V}$	
	LED turn off current				3.0 mA		$I_L = 100 \text{ mA}$ $V_L = 10 \text{ V}$	
Output	LED dropout voltage		Minimum Typical	$I_{Foff}$	0.2 mA		$I_L = 100 \text{ mA}$ $V_L = 10 \text{ V}$	
	LED dropout voltage				0.9 mA		$I_F = 50 \text{ mA}$	
Transfer characteristics	Typical Maximum		$V_F$	1.25 V (1.16 V at $I_F = 10 \text{ mA}$ )			$I_F = 50 \text{ mA}$	
	On resistance				1.5 V		$I_F = 0 \text{ mA}$ $V_L = \text{Max.}$	
	Off state leakage current		Maximum	$I_{Leak}$	10 $\mu\text{A}$			$I_F = 0 \text{ mA}$ $V_L = \text{Max.}$
Transfer characteristics	Turn on time*		Typical Maximum	$T_{on}$	3.8 ms	5.0 ms	2.5 ms	3.0 ms
	Turn off time*				10 ms			$I_F = 10 \text{ mA}$ $I_L = 100 \text{ mA}$ $V_L = 10 \text{ V}$
	Typical Maximum		$T_{off}$	0.2 ms		0.3 ms	0.2 ms	
	I/O capacitance				3.0 ms			$I_F = 10 \text{ mA}$ $I_L = 100 \text{ mA}$ $V_L = 10 \text{ V}$
	Initial I/O isolation resistance		Minimum	$R_{iso}$	0.8 pF			$f = 1 \text{ MHz}$ $V_B = 0 \text{ V}$
	Max. operating frequency		Maximum	—	1.5 pF			500 V DC
					1,000 M $\Omega$			$I_F = 10 \text{ mA}$ Duty factor = 50% $I_L = \text{Max.}, V_L = \text{Max.}$

\*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	Min.	Max.	Unit
Input LED current		$I_F$	10	30	mA
AQZ202G	Load voltage (Peak AC)	$V_L$	—	48	V
	Continuous load current	$I_L$	—	6.0	A
AQZ205G	Load voltage (Peak AC)	$V_L$	—	80	V
	Continuous load current	$I_L$	—	4.0	A
AQZ207G	Load voltage (Peak AC)	$V_L$	—	160	V
	Continuous load current	$I_L$	—	2.0	A
AQZ206G2	Load voltage (Peak AC)	$V_L$	—	480	V
	Continuous load current	$I_L$	—	1.0	A

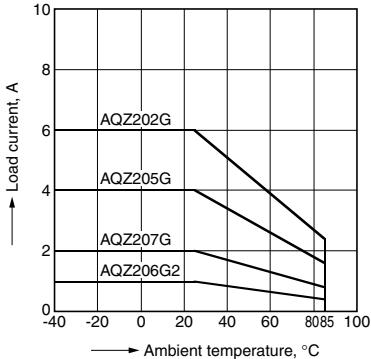
■ These products are not designed for automotive use.

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

## REFERENCE DATA

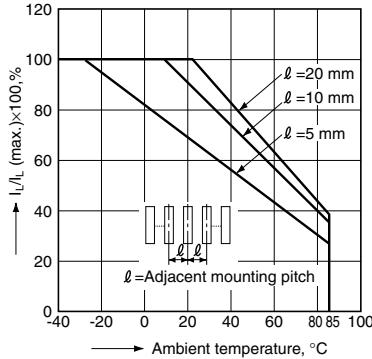
### 1. Load current vs. ambient temperature characteristics

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



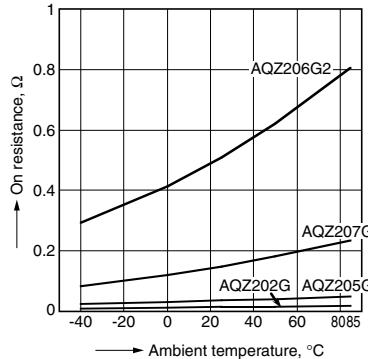
### 2. Load current vs. ambient temperature characteristics in adjacent mounting

$I_L$ : Load current;  
 $I_L(\text{max.})$ : Maximum continuous load current



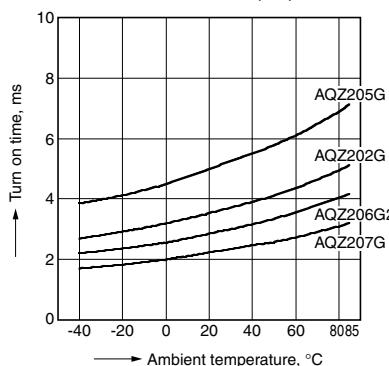
### 3. On resistance vs. ambient temperature characteristics

LED current: 10 mA;  
Continuous load current:  
6 A (DC) (AQZ202G), 4 A (DC) (AQZ205G),  
2 A (DC) (AQZ207G), 1 A (DC) (AQZ206G2)



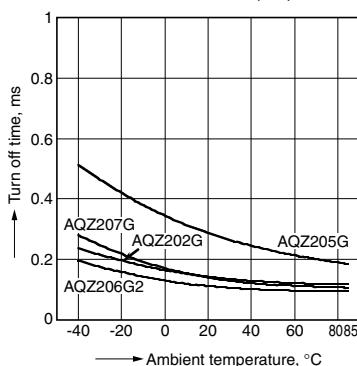
## 4. Turn on time vs. ambient temperature characteristics

LED current: 10 mA; Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC)



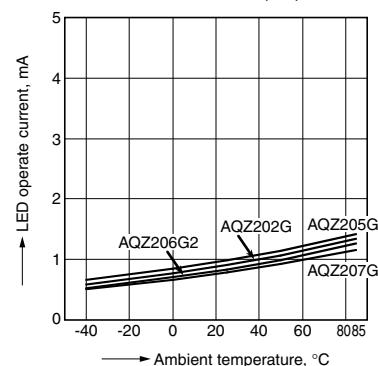
## 5. Turn off time vs. ambient temperature characteristics

LED current: 10 mA; Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC)



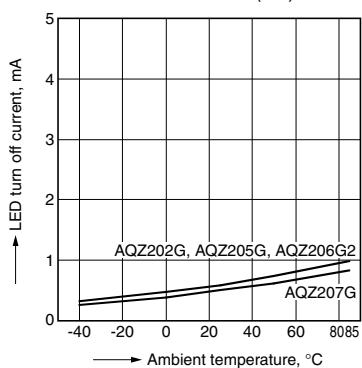
## 6. LED operate current vs. ambient temperature characteristics

Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC)



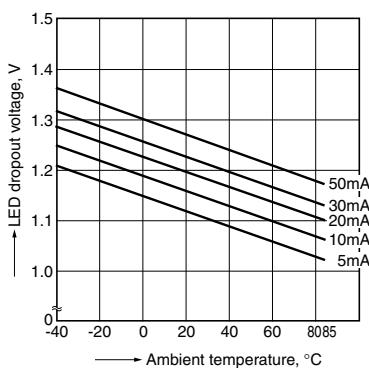
## 7. LED turn off current vs. ambient temperature characteristics

Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC)



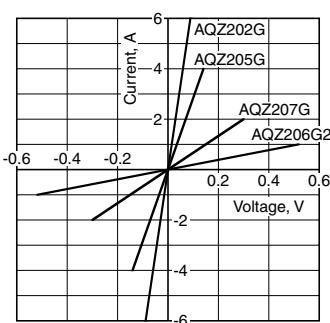
## 8. LED dropout voltage vs. ambient temperature characteristics

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



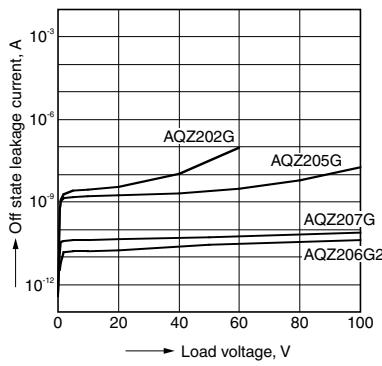
## 9. Current vs. voltage characteristics of output at MOS portion

Ambient temperature: 25°C 77°F



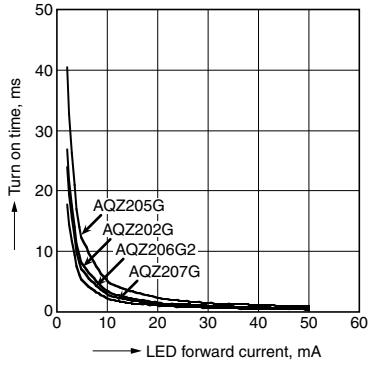
## 10. Off state leakage current vs. load voltage characteristics

Ambient temperature: 25°C 77°F



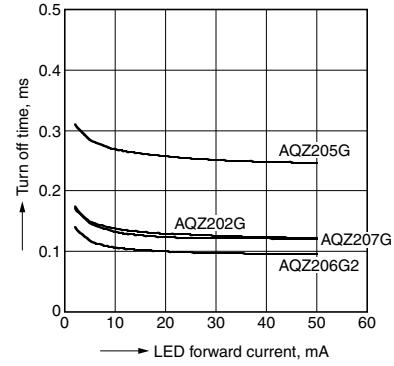
## 11. Turn on time vs. LED forward current characteristics

Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC);  
Ambient temperature: 25°C 77°F



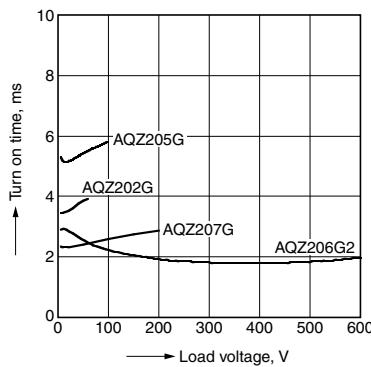
## 12. Turn off time vs. LED forward current characteristics

Load voltage: 10 V (DC);  
Continuous load current: 100 mA (DC);  
Ambient temperature: 25°C 77°F



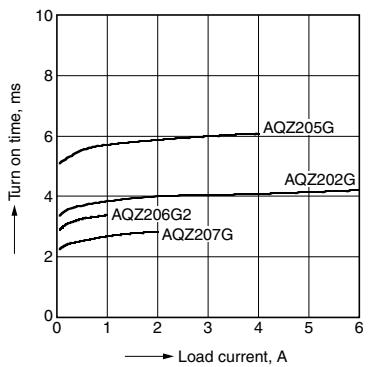
## 13. Turn on time vs. load voltage characteristics

LED current: 10 mA;  
Continuous load current: 100 mA;  
Ambient temperature: 25°C 77°F



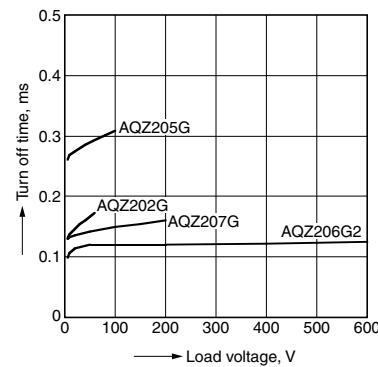
## 14. Turn on time vs. load current characteristics

LED current: 10 mA;  
Load voltage: 10 V (DC);  
Ambient temperature: 25°C 77°F



## 15. Turn off time vs. load voltage characteristics

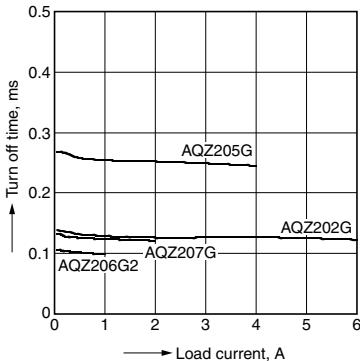
LED current: 10 mA;  
Continuous load current: 100 mA;  
Ambient temperature: 25°C 77°F



# Power 1 Form A (AQZ20OG)

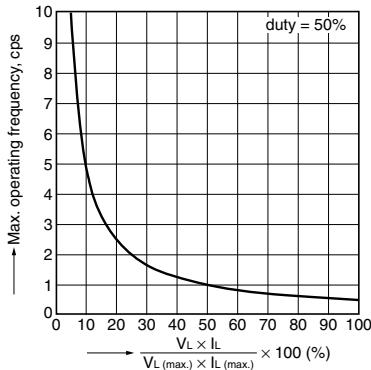
## 16. Turn off time vs. load current characteristics

LED current: 10 mA;  
Load voltage: 10 V (DC);  
Ambient temperature: 25°C 77°F



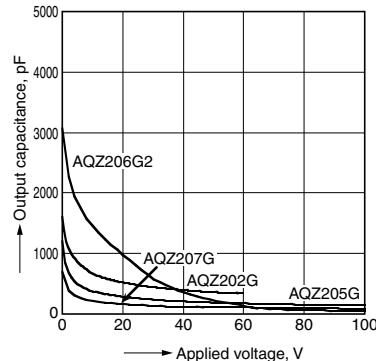
## 17. Max. operating frequency vs. load voltage/current characteristics

Sample: All types; LED current: 10 mA;  
Ambient temperature: 25°C 77°F  
VL: Load voltage, VL (Max.): Max. rated load voltage  
IL: Load current, IL (Max.): Max. rated continuous load current



## 18. Output capacitance vs. applied voltage characteristics

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



## CAUTIONS FOR USE

For cautions for general use, please read "PhotoMOS® Cautions for Use" at Automation Control WEB site (as described in footer of catalog).



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[AQZ202G](#) [AQZ207G](#) [AQZ206G2](#) [AQZ205G](#)

ООО "ЛайфЭлектроникс"

"LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибуторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибуторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
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- Приемлемые сроки поставки, возможна ускоренная поставка.
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- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помочь разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
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