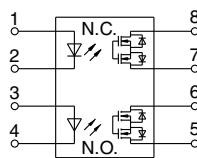
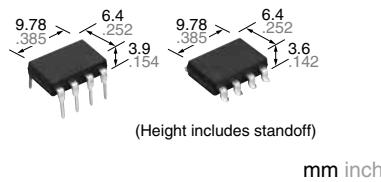




Both 1 Form A and 1 Form B contacts incorporated in a compact DIP8-pin with low on-resistance

PhotoMOS®

HE 1 Form A & 1 Form B (AQW654)



RoHS compliant

FEATURES

- Applicable for 1 Form A and 1 Form B use as well as two independent 1 Form A and 1 Form B use
- Controls low-level analog signals
PhotoMOS feature extremely low closed-circuit offset voltage to enable control of low-level analog signals without distortion.
- High sensitivity and low on-resistance
Can control max. 0.16 A load current with 5 mA input current. Low on-resistance of max. 11 Ω. (in case of using only 1 channel)
- Low-level off state leakage current of max. 1 μA

TYPICAL APPLICATIONS

- High-speed inspection machines
- Data communication equipment
- Telephone equipment
- Sensing equipment

TYPES

Output rating*	Output rating*		Package	Part No.			Packing quantity		
				Through hole terminal	Surface-mount terminal				
	Load voltage	Load current		Tube packing style		Tape and reel packing style	Tube	Tape and reel	
AC/DC dual use	400 V	120 mA	DIP8-pin	AQW654	AQW654A	AQW654AX	AQW654AZ	1 tube contains: 50 pcs. 1 batch contains: 500 pcs.	
1,000 pcs									

*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)

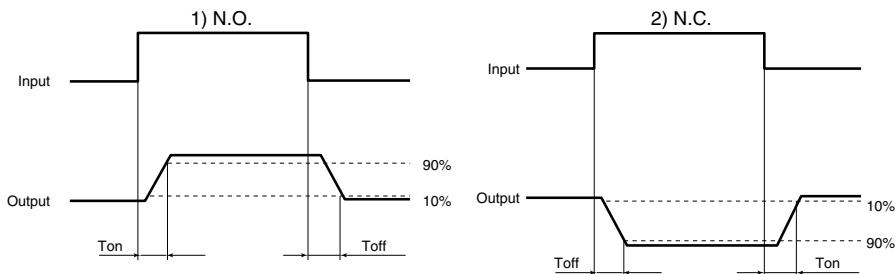
Item		Symbol	AQW654(A)	Remarks
Input	LED forward current	I _F	50 mA	
	LED reverse voltage	V _R	5 V	
	Peak forward current	I _{FP}	1 A	f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P _{in}	75 mW	
Output	Load voltage (peak AC)	V _L	400 V	
	Continuous load current	I _L	0.12A (0.16 A)	Peak AC, DC (): in case of using only 1 channel)
	Peak load current	I _{peak}	0.36 A	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 Vrms	
Ambient temperature	Operating	T _{opr}	-40 to +85°C -40 to +185°F	(Non-icing at low temperatures)
	Storage	T _{stg}	-40 to +100°C -40 to +212°F	

HE 1 Form A & 1 Form B (AQW654)

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

Item			Symbol	AQW654(A)	Condition
Input	LED operate current	Typical	I_{Fon} (N.O.) I_{Foff} (N.C.)	0.9 mA	$I_L = \text{Max.}$
		Maximum		3 mA	
	LED reverse current	Minimum	I_{Foff} (N.O.) I_{Fon} (N.C.)	0.4 mA	$I_L = \text{Max.}$
		Typical		0.8 mA	
Output	LED dropout voltage	Typical	V_F	1.25 V (1.14 V at $I_F = 5 \text{ mA}$)	$I_F = 50 \text{ mA}$
		Maximum		1.5 V	
	On resistance	Typical	R_{on}	11 Ω	$I_F = 5 \text{ mA (N.O.)}$ $I_F = 0 \text{ mA (N.C.)}$ $I_L = \text{Max.}$ Within 1 s
		Maximum		16 Ω	
Transfer characteristics	Off state leakage current	Maximum	I_{Leak}	1 μA	$I_F = 0 \text{ mA (N.O.)}$ $I_F = 5 \text{ mA (N.C.)}$ $V_L = \text{Max.}$
	Operate time*	Typical	T_{on} (N.O.) T_{off} (N.C.)	0.8 ms (N.O.) 1.2 ms (N.C.)	$I_F = 0 \text{ mA} \rightarrow 5 \text{ mA}$ $I_L = \text{Max.}$
		Maximum		2 ms	
	Reverse time*	Typical	T_{off} (N.O.) T_{on} (N.C.)	0.04 ms (N.O.) 0.36 ms (N.C.)	$I_F = 5 \text{ mA} \rightarrow 0 \text{ mA}$ $I_L = \text{Max.}$
		Maximum		1 ms	
	I/O capacitance	Typical	C_{iso}	0.8 pF	$f = 1 \text{ MHz}$ $V_B = 0 \text{ V}$
		Maximum		1.5 pF	
	Initial I/O isolation resistance	Minimum	R_{iso}	1,000 MΩ	500 V DC

*Operate/Reverse 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	1ch 2ch	5	30	mA
AQW654(A)	Load voltage (Peak AC)		—	320	V
	Continuous load current		—	0.16 0.12	A

■ These products are not designed for automotive use.

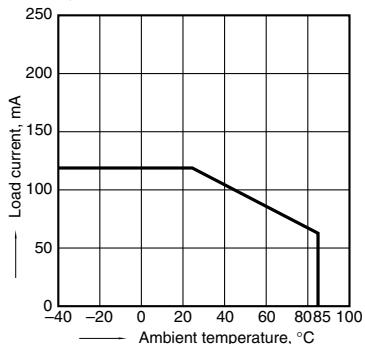
If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

1. Load current vs. ambient temperature characteristics

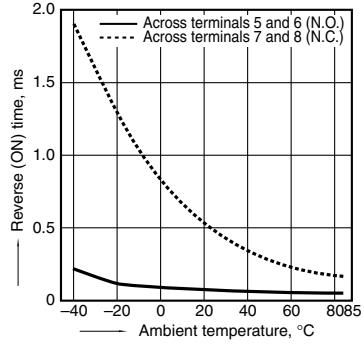
Allowable ambient temperature: -40 to $+85^\circ\text{C}$
 -40 to $+185^\circ\text{F}$

When using 2 channels



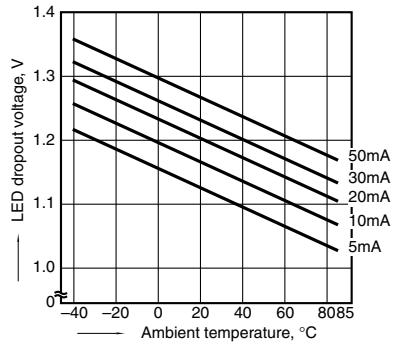
4. Reverse time vs. ambient temperature characteristics

LED current: 5 mA;
 Load voltage: 400 V (DC);
 Continuous load current: 120 mA (DC)



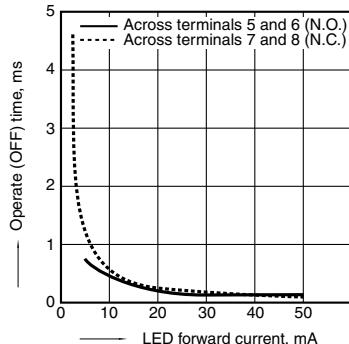
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



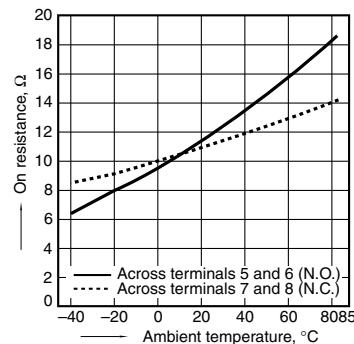
10. Operate time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
 Load voltage: 400 V (DC); Continuous load current:
 120 mA (DC); Ambient temperature: 25°C 77°F



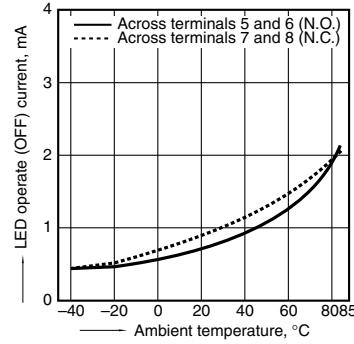
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 5 and 6,
 7 and 8; LED current: 5 mA; Load voltage: 400 V (DC);
 Continuous load current: 120 mA (DC)



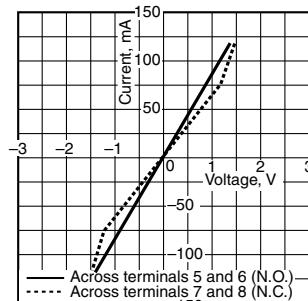
5. LED operate current vs. ambient temperature characteristics

Load voltage: 400 V (DC);
 Continuous load current: 120 mA (DC)



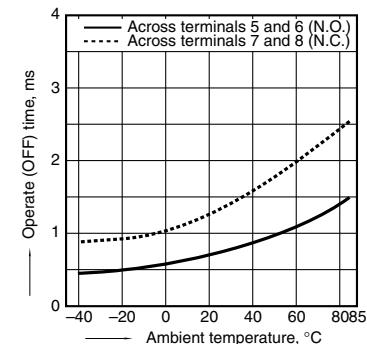
8. Current vs. voltage characteristics of output at MOS portion

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



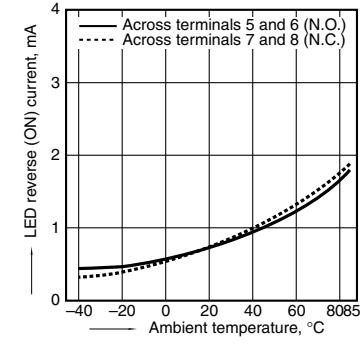
3. Operate time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: 400 V (DC);
 Continuous load current: 120 mA (DC)



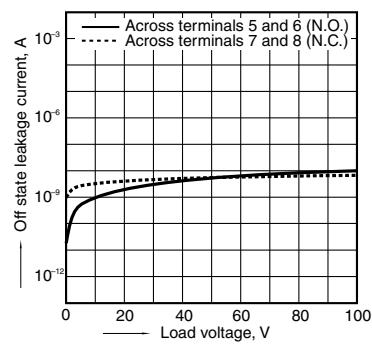
6. LED reverse current vs. ambient temperature characteristics

Load voltage: 400 V (DC);
 Continuous load current: 120 mA (DC)



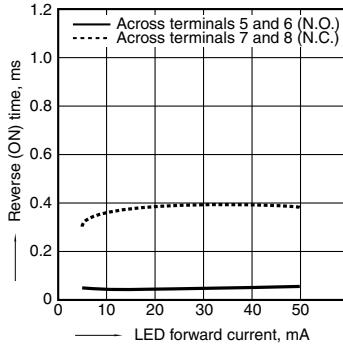
9. Off state leakage current vs. load voltage characteristics

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



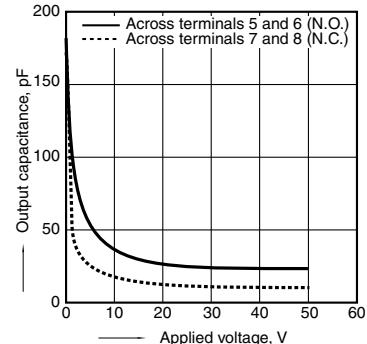
11. Reverse time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
 Load voltage: 400 V (DC); Continuous load current:
 120 mA (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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ООО "ЛайфЭлектроникс"

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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

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
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- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
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- Входной контроль качества.
- Наличие сертификата ISO.

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- Техническую поддержку проекта.
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