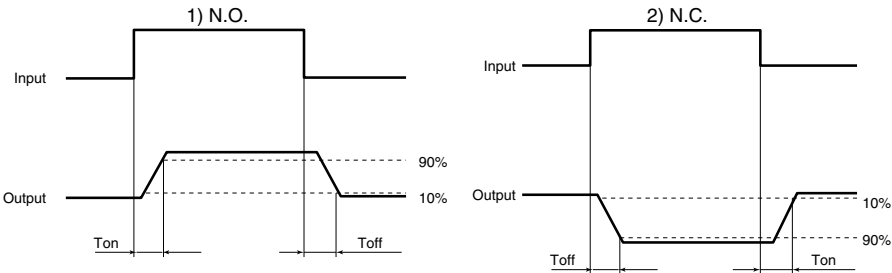


HE 1 Form A & 1 Form B (AQW654)

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

Item			Symbol	AQW654(A)	Condition
Input	LED operate current	Typical	I _{Fon} (N.O.)	0.9 mA	I _L = Max.
		Maximum	I _{Foff} (N.C.)	3 mA	
	LED reverse current	Minimum	I _{Foff} (N.O.)	0.4 mA	I _L = Max.
		Typical	I _{Fon} (N.C.)	0.8 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}	11 Ω	I _F = 5 mA (N.O.) I _F = 0 mA (N.C.) I _L = Max. Within 1 s
		Maximum		16 Ω	
	Off state leakage current	Maximum	I _{Leak}	1 μA	I _F = 0 mA (N.O.) I _F = 5 mA (N.C.) V _L = Max.
	Transfer characteristics	Operate time*	Typical	T _{on} (N.O.)	0.8 ms (N.O.) 1.2 ms (N.C.)
Maximum			T _{off} (N.C.)	2 ms	
Reverse time*		Typical	T _{off} (N.O.)	0.04 ms (N.O.) 0.36 ms (N.C.)	I _F = 5 mA → 0 mA I _L = Max.
		Maximum	T _{on} (N.C.)	1 ms	
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	

*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
AQW654(A)	LED current	I _F		5	30	mA
	Load voltage (Peak AC)	V _L		—	320	V
	Continuous load current	I _L	1ch 2ch	—	0.16 0.12	A

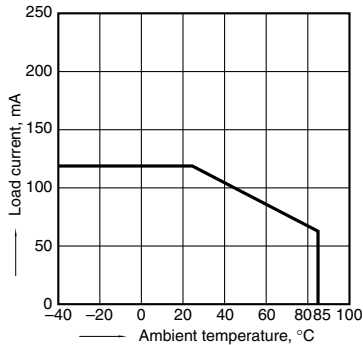
■ These products are not designed for automotive use.
If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

1. Load current vs. ambient temperature characteristics

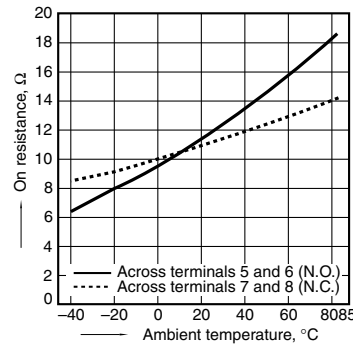
Allowable ambient temperature: -40 to $+85^{\circ}\text{C}$
 -40 to $+185^{\circ}\text{F}$

When using 2 channels



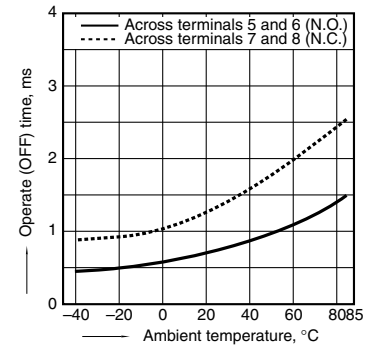
2. On resistance vs. ambient temperature characteristics

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)



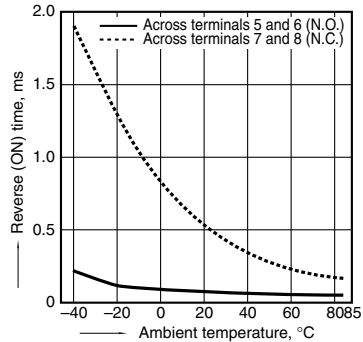
3. Operate time vs. ambient temperature characteristics

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



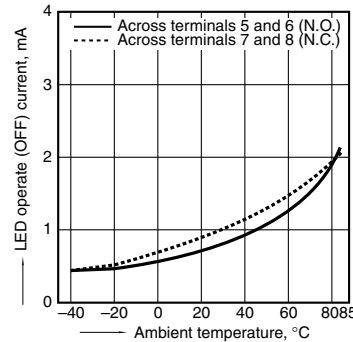
4. Reverse time vs. ambient temperature characteristics

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



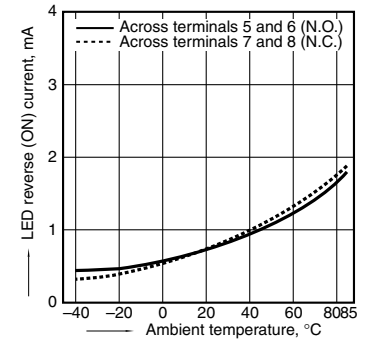
5. LED operate current vs. ambient temperature characteristics

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



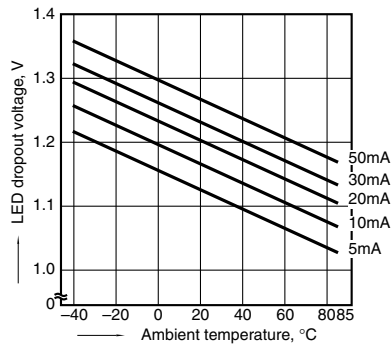
6. LED reverse current vs. ambient temperature characteristics

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



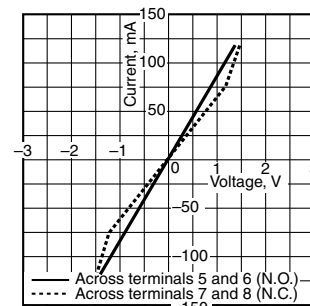
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



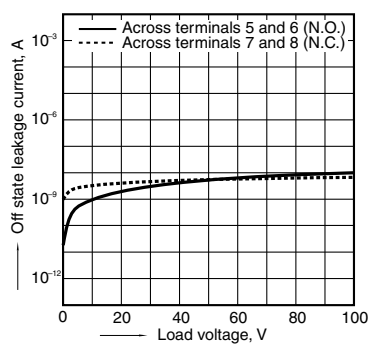
8. Current vs. voltage characteristics of output at MOS portion

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



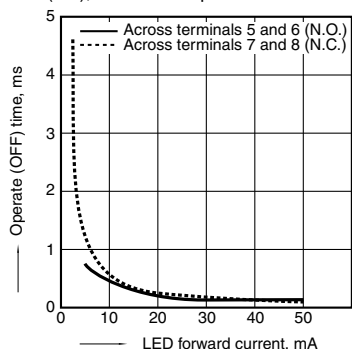
9. Off state leakage current vs. load voltage characteristics

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



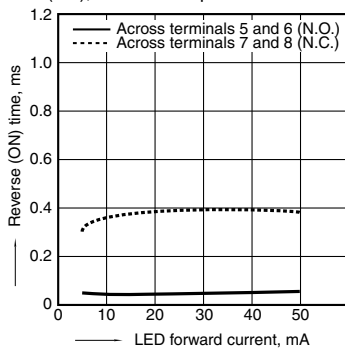
10. Operate time vs. LED forward current characteristics

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



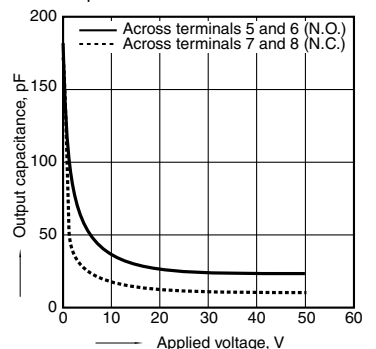
11. Reverse time vs. LED forward current characteristics

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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