RATING

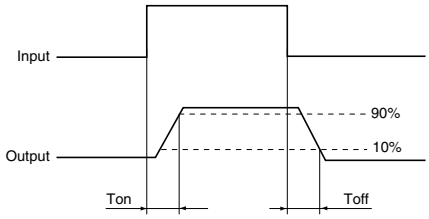
1. Absolute maximum ratings (Condition: ambient temperature 25°C 77°F)

Item		Symbol	AQY212FG2S	Remarks
Input	Input voltage	V_{IN}	6V	
	Input reverse voltage	V_{RIN}	5V	
	Power dissipation	P_{in}	65mW	
Output	Load voltage (peak AC)	V_L	60V	
	Load current	I_L	1.25A	Peak AC, DC
	Peak load current	I_{peak}	3A	100ms (1shot), V_L=DC
	Power dissipation	P_{out}	400mW	
Total power dissipation		P_T	450mW	
I/O isolation voltage		V_{iso}	500Vrms	
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	

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

Item			Symbol	AQY212FG2S	Condition
Input	Operate voltage	Typ.	V_{Fon}	1.4V	I_L = 100mA
		Max.		4V	
	Turn off voltage	Min.	V_{Foff}	0.8V	
		Typ.		1.4V	
	Input current	Typ.	I_{IN}	8.5mA	V_{IN} = 5V
Output	On resistance	Typ.	R_{on}	0.2Ω	V_{IN} = 5V, I_L = Max. Within 1 s
		Max.		0.5Ω	
	Off state leakage current	Typ.	I_{Leak}	–	V_{IN} = 0V, V_L = Max.
		Max.		1μA	
Transfer characteristics	Turn on time*	Typ.	T_{on}	0.7ms	V_{IN} = 5V, I_L = 100mA, V_L = 10V
		Max.		5ms	
	Turn off time*	Typ.	T_{off}	0.1ms	
		Max.		0.5ms	
	I/O capacitance	Typ.	C_{iso}	0.8pF	f = 1MHz, V_B = 0V
		Max.		1.5pF	f = 1MHz, V_B = 0V
	Initial I/O isolation resistance	Min.	R_{iso}	1,000MΩ	500V DC
	Max. operating frequency	Max.	–	5 cps	V_{IN} = 5V, duty = 50% $V_I \times I_I$ = 75V·A

*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.

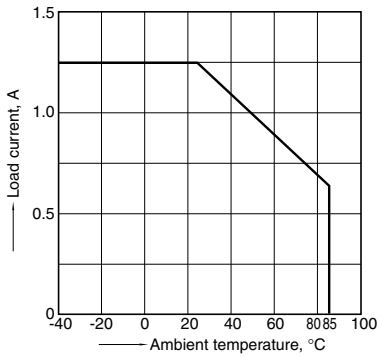
Item		Symbol	Min.	Max.	Unit
Input voltage		V_{IN}	4.5	5.5	V
AQY212FG2S	Load voltage (Peak AC)	V_L	—	48	V
	Continuous load current	I_L	—	1.25	A

■ **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

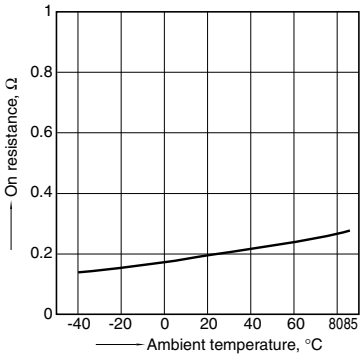
1. Load current vs. ambient temperature characteristics

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



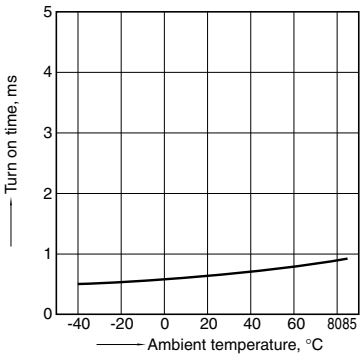
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 3 and 4
Input voltage: 5V; Load voltage: Max. (DC);
Continuous load current: Max. (DC)



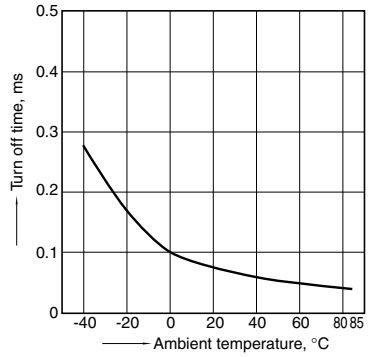
3. Turn on time vs. ambient temperature characteristics

Input voltage: 5V; Load voltage: 10V (DC);
Continuous load current: 100mA (DC)



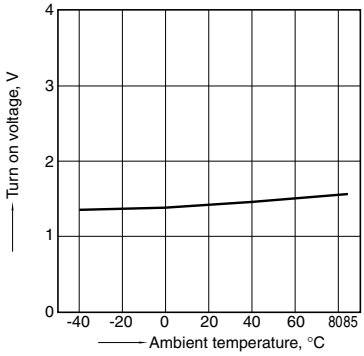
4. Turn off time vs. ambient temperature characteristics

Input voltage: 5V; Load voltage: 10V (DC);
Continuous load current: 100mA (DC)



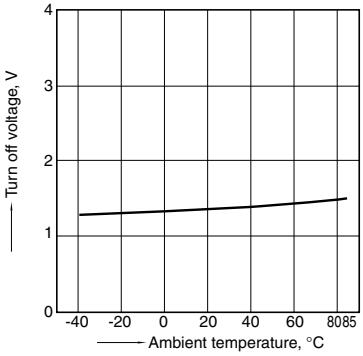
5. Turn on voltage vs. ambient temperature characteristics

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



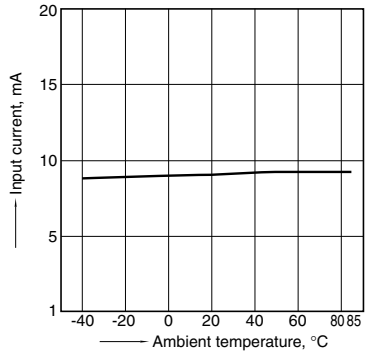
6. Turn off voltage vs. ambient temperature characteristics

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



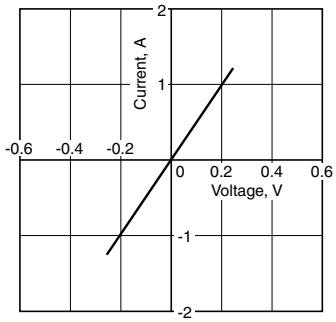
7. Input current vs. ambient temperature characteristics

Input voltage: 5V



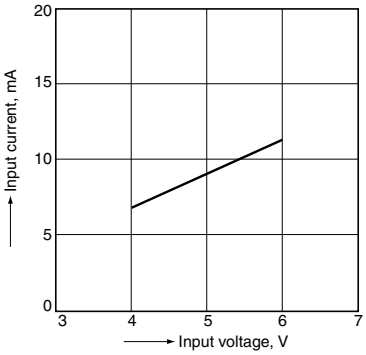
8. Current vs. voltage characteristics of output at MOS portion

Measured portion: between terminals 3 and 4
Ambient temperature: 25°C 77°F



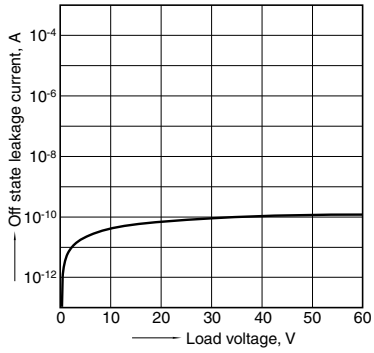
9. Input current vs. input voltage characteristics

Ambient temperature: 25°C 77°F
(Recommended input voltage: 5±0.5V)



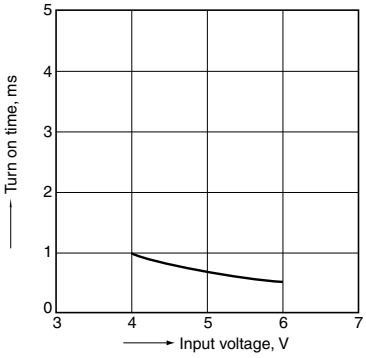
10. Off state leakage current vs. load voltage characteristics

Measured portion: between terminals 3 and 4
Ambient temperature: 25°C 77°F



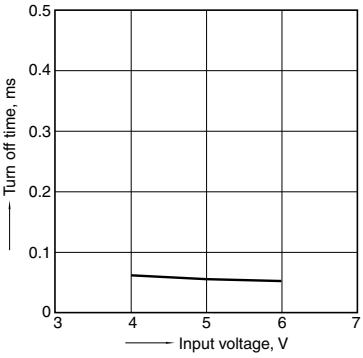
11. Turn on time vs. input voltage characteristics

Measured portion: between terminals 3 and 4
Load voltage: 10V (DC); Continuous load current: 100mA (DC); Ambient temperature: 25°C 77°F



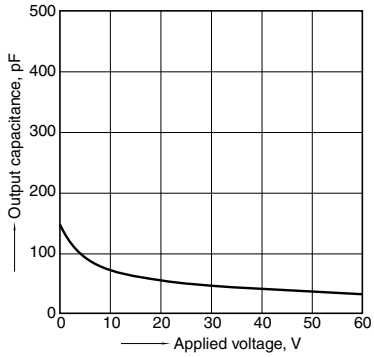
12. Turn off time vs. input voltage characteristics

Measured portion: between terminals 3 and 4
Load voltage: 10V (DC); Continuous load current: 100mA (DC); Ambient temperature: 25°C 77°F



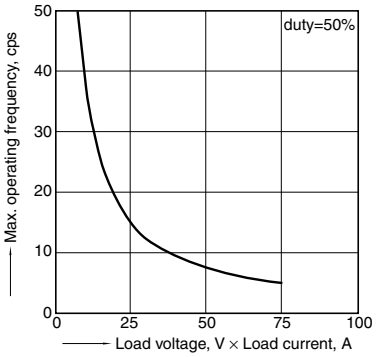
13. Output capacitance vs. applied voltage characteristics

Measured portion: between terminals 3 and 4
Frequency: 1 MHz, 30mVrms;
Ambient temperature: 25°C 77°F



14. Max. operating frequency vs. load voltage-load current characteristics

Input voltage: 5V
Ambient temperature: 25°C 77°F



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