

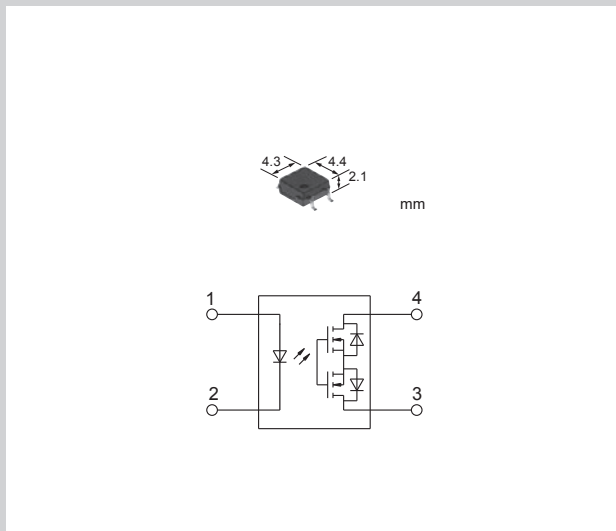
PhotoMOS®



GU SOP 1 Form A High Capacity

Low on-resistance, Miniature (SOP 4-pin), 200 V load voltage

(Unit: mm)



FEATURES

1. Low on-resistance (Typical: 1.8 Ω)
2. Miniature SOP package
3. Load voltage: 200 V

TYPICAL APPLICATIONS

- **Measuring instrument market**
Tester, etc.
- **Security and disaster prevention market**
Use in I/O sections for alarm and security devices, etc.
- **Industrial machinery and equipment**

*For latest information of the safety standard, please see the website.

TYPES

Packing quantity: Inner carton (Tube packing style) 100 pieces, Outer carton 2,000 pieces
Inner carton (Tape and reel packing style) 1,000 pieces, Outer carton 1,000 pieces

	*Output rating		Part No.		
	Load voltage	Load current	Tube packing style	Tape and reel packing X style (Picked from the 1/2-pin side)	Tape and reel packing Z style (Picked from the 3/4-pin side)
AC/DC dual use New	200 V	0.4 A	AQY217GS	AQY217GSX	AQY217GSZ

Note: For space reasons, the three initial letters of the part number "AQY", the small outline package indicator "S" and the packing style indicator "X" or "Z" are not marked on the device.
*Indicate the peak AC and DC values.

RATING

■ Absolute maximum ratings (Ambient temperature: 25°C)

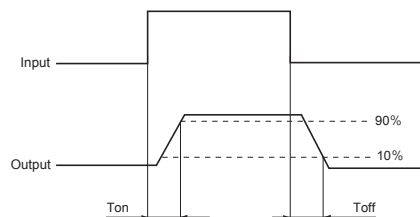
Item		Symbol	AQY217GS	Remarks
Input	LED forward current	I _F	50 mA	
	LED reverse voltage	V _R	5 V	
	Peak forward current	I _{FP}	1 A	f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P _{in}	75 mW	
Output	Load voltage (peak AC)	V _L	200 V	
	Continuous load current	I _L	0.4 A	Peak AC, DC
	Peak load current	I _{peak}	1.2 A	100 ms (1 shot), V _L = DC
	Power dissipation	P _{out}	400 mW	
Total power dissipation		P _T	450 mW	
I/O isolation voltage		V _{iso}	1,500 Vrms	
Operating ambient temperature		T _{opr}	-40 to +85°C	(Non-icing at low temperatures)
Storage temperature		T _{stg}	-40 to +100°C	

■ Electrical characteristics (Ambient temperature: 25°C)

Item		Symbol	AQY217GS	Conditions
Input	LED operate current	Typical	0.75 mA	I _L = 100 mA
		Maximum	3.0 mA	
	LED turn off current	Minimum	0.2 mA	I _L = 100 mA
		Typical	0.7 mA	
LED dropout voltage	Typical	1.32 V (1.14 V at I _F = 5 mA)		I _F = 50 mA
	Maximum	1.5 V		
Output	On resistance	Typical	1.8 Ω	I _F = 5 mA I _L = Max. Within 1 s
		Maximum	2.5 Ω	
	Off state leakage current	Maximum	1 μA	I _F = 0 mA V _L = Max.
Transfer characteristics	*Turn on time	Typical	1.2 ms	I _F = 5 mA I _L = 100 mA V _L = 10 V
		Maximum	5 ms	
	*Turn off time	Typical	0.03 ms	I _F = 5 mA I _L = 100 mA V _L = 10 V
		Maximum	0.2 ms	
	I/O capacitance	Typical	0.8 pF	f = 1 MHz V _B = 0 V
		Maximum	1.5 pF	
I/O isolation resistance	Minimum	R _{iso}	1,000 MΩ	500 V DC
Maximum switching frequency	Maximum	—	10 cps	I _F = 5 mA Duty = 50 % I _L = Max., V _L = Max.

Note: For the connection method, please refer to the schematic and wiring diagrams.

*Turn on/Turn off time



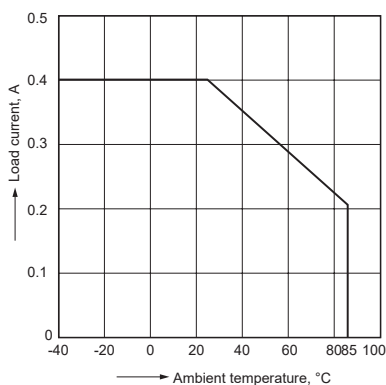
■ Recommended operating conditions (Ambient temperature: 25°C)

Please use under recommended operating conditions to obtain expected characteristics.

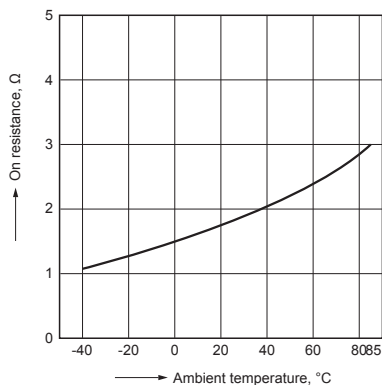
Item	Symbol	Minimum	Maximum	Unit
LED forward current	I _F	5	30	mA
AQY217GS	Load voltage (peak AC)	—	160	V
	Continuous load current	I _L	0.4	A

REFERENCE DATA

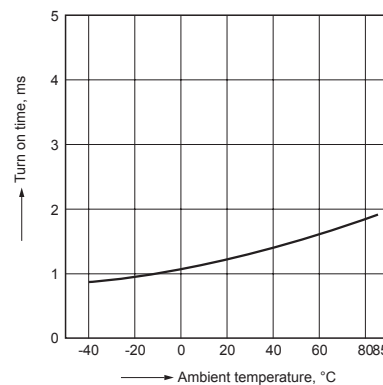
1. Load current vs. ambient temperature characteristics
Allowable ambient temperature: -40 to +85°C



2. On resistance vs. ambient temperature characteristics
Measured portion: between terminals 3 and 4
LED forward current: 5 mA; Load voltage: Max. (DC)
Continuous load current: Max.(DC)

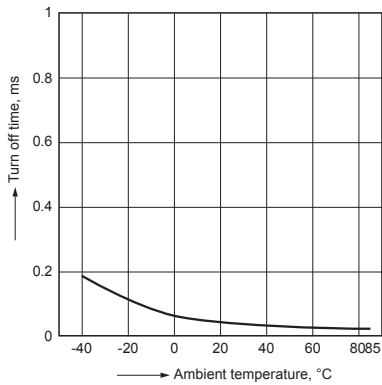


3. Turn on time vs. ambient temperature characteristics
LED forward current: 5 mA, Load voltage: 10 V (DC)
Continuous load current: 100 mA (DC)



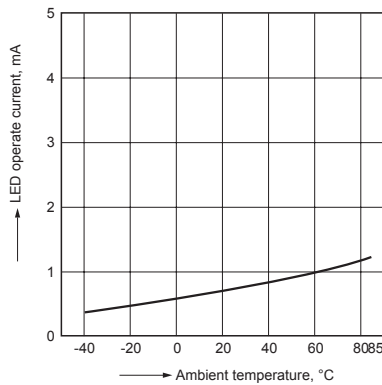
4. Turn off time vs. ambient temperature characteristics

LED forward current: 5 mA
Load voltage: 10 V (DC)
Continuous load current: 100 mA (DC)



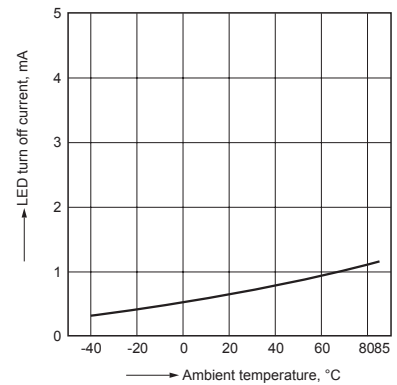
5. LED operate current vs. ambient temperature characteristics

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



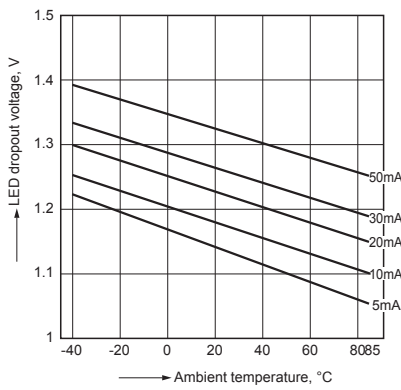
6. LED turn off current vs. ambient temperature characteristics

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



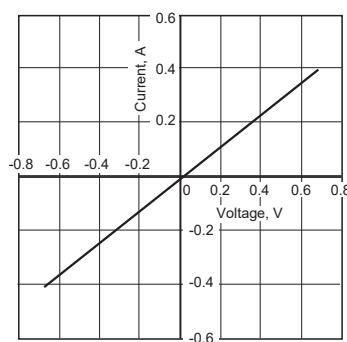
7. LED dropout voltage vs. ambient temperature characteristics

LED forward current: 5 to 50 mA



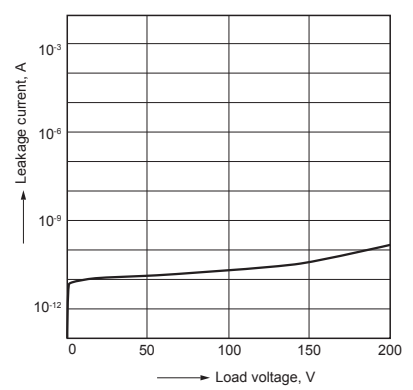
8. Current vs. voltage characteristics of output at MOS portion

Ambient temperature: 25 °C



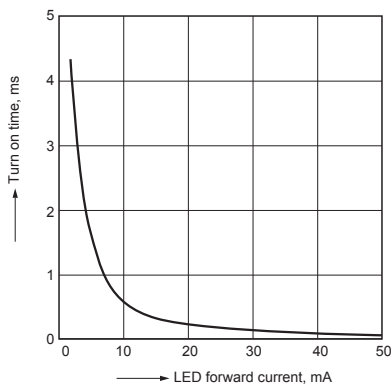
9. Off state leakage current vs. load voltage characteristics

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



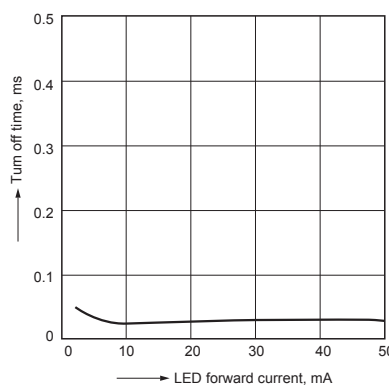
10. Turn on time vs. LED forward current characteristics

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



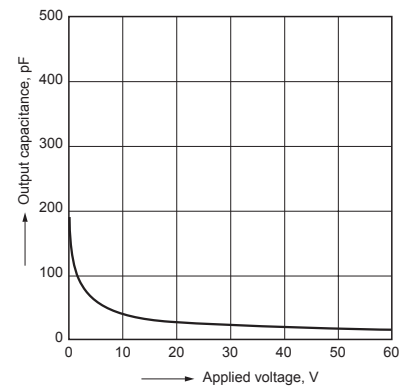
11. Turn off time vs. LED forward current characteristics

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



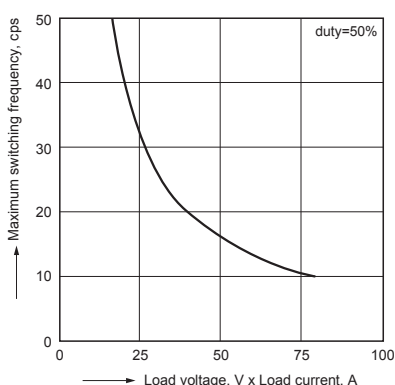
12. Output capacitance vs. applied voltage characteristics

Measured portion: between terminals 3 and 4
Frequency: 1 MHz, Ambient temperature: 25 °C



13. Maximum switching frequency vs. load voltage and load current

LED forward current: 5 mA
Ambient temperature: 25 °C



NOTES

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