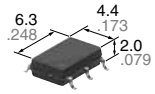
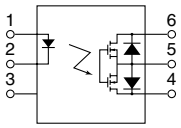
Panasonic
ideas for life

Miniature SOP6-pin type with high capacity of 1.25A load current

PhotoMOS Relays
HE SOP 1 Form A
High Capacity (AQV255GS)



mm inch



FEATURES

1. High capacity in a miniature SOP package
Continuous load current: 1.25A
Load voltage: 80V
2. Greatly improved specifications allow you to use this in place of mercury and mechanical relays.

TYPICAL APPLICATIONS

- Security equipment
- Fire-preventing system
- Measuring instruments

Compliance with RoHS Directive

TYPES

	Output rating*		Package	Part No.			Packing quantity	
				Surface-mount terminal				
	Load voltage	Load current		Tube packing style	Tape and reel packing style		Tube	Tape and reel
					Picked from the 1/2/3-pin side	Picked from the 4/5/6-pin side		
AC/DC dual use	80 V	1.25 A	SOP6-pin	AQV255GS	AQV255GSX	AQV255GSZ	1 tube contains: 75 pcs. 1 batch contains: 1,500 pcs.	1,000 pcs.

*Indicate the peak AC and DC values.
Note: For space reasons, the two initial letters of the part number "AQ" and the packing style indicator "X" or "Z" are not marked on the relay.

RATING

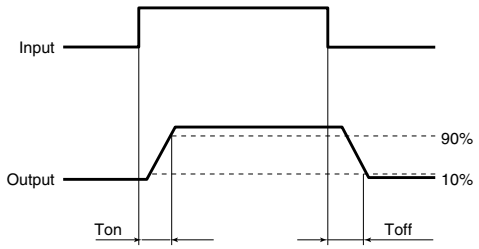
1. Absolute maximum ratings (Ambient temperature: 25°C 77°F)

Item		Symbol	Type of connection	AQV255GS	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		80 V	
	Continuous load current	I_L	A	1.25 A	A connection: Peak AC, DC B, C connection: DC
			B	1.75 A	
			C	2.5 A	
	Peak load current	I_{peak}		3 A	100ms (1 shot), V_L = DC
	Power dissipation	P_{out}		450 mW	
Total power dissipation		P_T		500 mW	
I/O isolation voltage		V_{iso}		1,500 V AC	
Temperature limits	Operating	T_{opr}		–40°C to +85°C –40°F to +185°F	Non-condensing at low temperatures
	Storage	T_{stg}		–40°C to +100°C –40°F to +212°F	

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

Item			Symbol	Type of connection	AQV255GS	Condition
Input	LED operate current	Typical	I_{Fon}	—	0.5 mA	I_L = 100mA
		Maximum			3 mA	
	LED turn off current	Minimum	I_{Foff}	—	0.2 mA	I_L = 100mA
		Typical			0.4 mA	
	LED dropout voltage	Typical	V_F	—	1.32 V (1.14 V at I_F = 5 mA)	I_F = 50 mA
		Maximum			1.5 V	
Output	On resistance	Typical	R_{on}	A	0.09 Ω	I_F = 5 mA I_L = Max. Within 1 s on time
		Maximum			0.15 Ω	
		Typical	R_{on}	B	0.05 Ω	
		Maximum			0.12 Ω	
		Typical	R_{on}	C	0.03 Ω	
		Maximum			0.1 Ω	
	Off state leakage current	Maximum	I_{Leak}	—	1 μA	I_F = 0 mA, V_L = Max.
Transfer characteristics	Turn on time*	Typical	T_{on}	—	1.3 ms	I_F = 5 mA, I_L = 100 mA V_L = 10 V
		Maximum			5 ms	
	Turn off time*	Typical	T_{off}	—	0.1 ms	I_F = 5 mA, I_L = 100 mA V_L = 10 V
		Maximum			0.5 ms	
	I/O capacitance	Typical	C_{iso}	—	0.8 pF	f = 1 MHz V_B = 0 V
		Maximum			1.5 pF	
	Initial I/O isolation resistance	Minimum	R_{iso}	—	1,000 MΩ	500 V DC
	Max. switching frequency	Maximum	—	—	5 times/s	I_F = 5 mA, duty = 50% $V_L \times I_L$ = 100 V·A

*Turn on/Turn off time



RECOMMENDED OPERATING CONDITIONS

Please obey the following conditions to ensure proper relay operation and resetting.

Item	Symbol	Recommended value	Unit
Input LED current	I_F	5 to 10	mA

■ For Dimensions.

■ For Schematic and Wiring Diagrams.

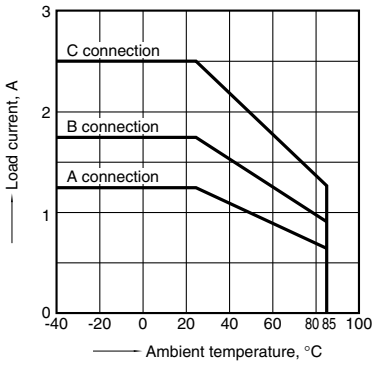
■ For Cautions for Use.

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

REFERENCE DATA

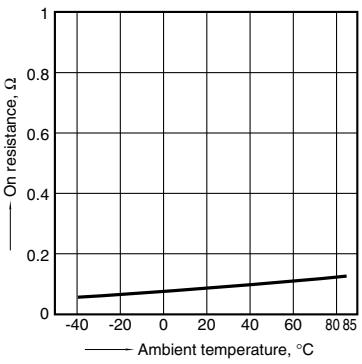
1. Load current vs. ambient temperature characteristics

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



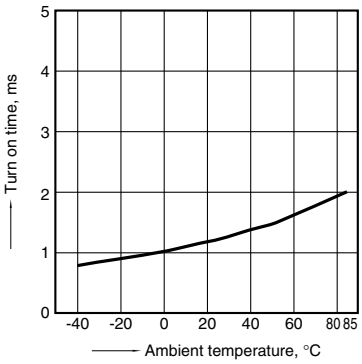
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 4 and 6;
LED current: 5 mA; Load voltage: Max. (DC)
Continuous load current: Max.(DC)



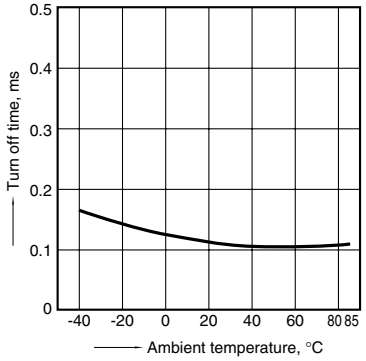
3. Turn on time vs. ambient temperature characteristics

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

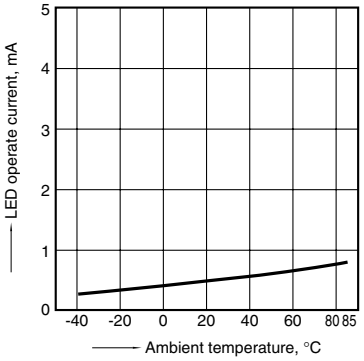


HE SOP 1 Form A High Capacity (AQV255GS)

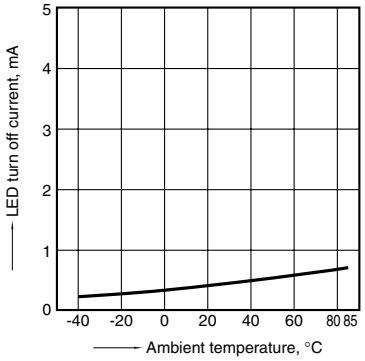
4. Turn off time vs. ambient temperature characteristics
LED current: 5 mA; Load voltage: 10 V (DC);
Continuous load current: 100 mA (DC)



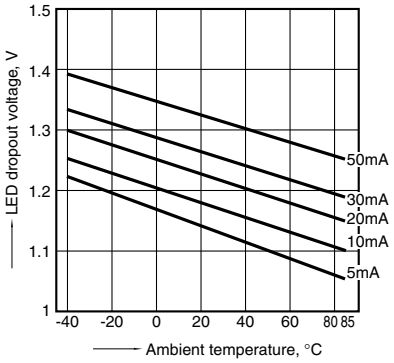
5. LED operate current vs. ambient temperature characteristics
Load voltage: 10 V (DC);
Continuous load current: 100mA (DC)



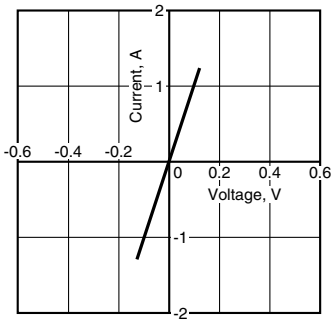
6. LED turn off current vs. ambient temperature characteristics
Load voltage: 10 V (DC);
Continuous load current: 100mA (DC)



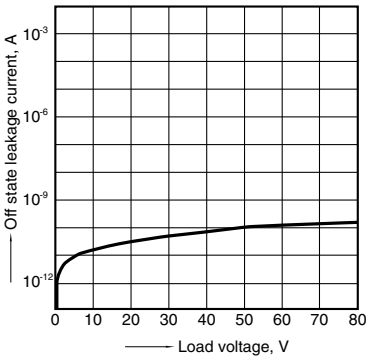
7. LED dropout voltage vs. ambient temperature characteristics
LED current: 5 to 50 mA



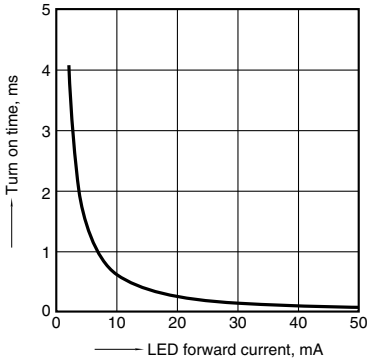
8. Current vs. voltage characteristics of output at MOS portion
Measured portion: between terminals 4 and 6;
Ambient temperature: 25°C 77°F



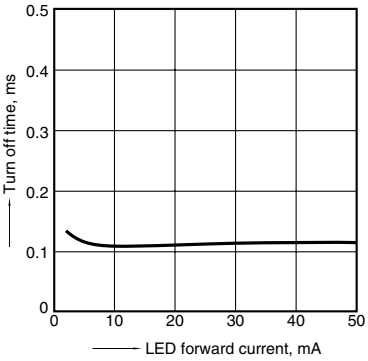
9. Off state leakage current vs. load voltage characteristics
Measured portion: between terminals 4 and 6;
Ambient temperature: 25°C 77°F



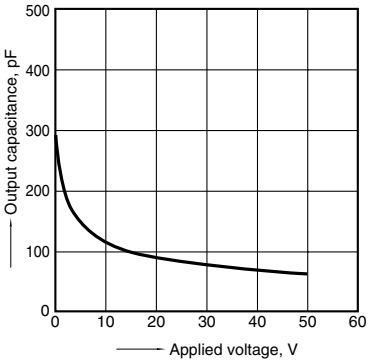
10. Turn on time vs. LED forward current characteristics
Measured portion: between terminals 4 and 6;
Load voltage: 10 V (DC);
Continuous load current: 100 mA (DC);
Ambient temperature: 25°C 77°F



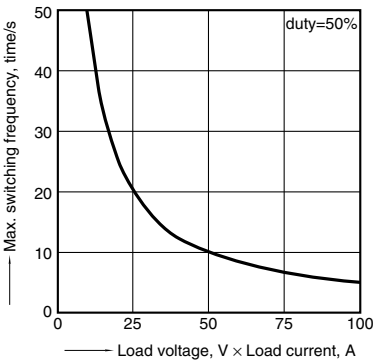
11. Turn off time vs. LED forward current characteristics
Measured portion: between terminals 4 and 6;
Load voltage: 10 V (DC);
Continuous load current: 100 mA (DC);
Ambient temperature: 25°C 77°F



12. Output capacitance vs. applied voltage characteristics
Measured portion: between terminals 4 and 6;
Frequency: 1 MHz;
Ambient temperature: 25°C 77°F



13. Max. switching frequency vs. load voltage and load current
LED current: 5 mA
Ambient temperature: 25°C 77°F



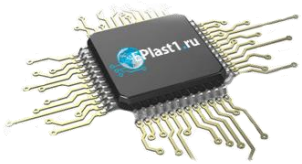
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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