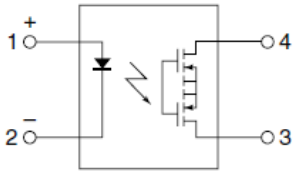
New Product Introduction

June 27, 2011

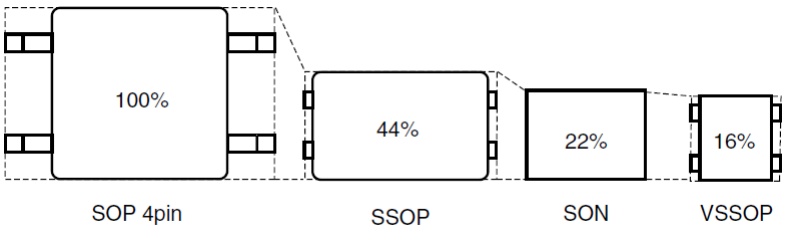
AQY221R2T:
New VSSOP PhotoMOS® Relays with Smallest Footprint Available

mm inch



1. Features:

- **4.6 mm² mounting area. Smallest in our line-up.**
  29% mounting area reduction from SON type, which contributes to device miniaturization and higher density mounting.



- **Low on resistance and low on output capacitance available at CxR10.**
  - Output capacitance (Cout): 14 pF (typical)
  - On resistance (Ron): 0.8Ω (typical)

2. Applications:

- **Measuring and testing equipment**
  IC tester, Probe card, Board tester and other testing equipment

- **Telecommunication equipment**

3. Release Schedule: June 2011

4. Ordering Information:

TYPES

Type		Output rating*1		Part No. (Tape and reel packing style)*2		Packing quantity in the tape and reel
		Load voltage	Load current	Picked from the 1 and 4-pin side	Picked from the 2 and 3-pin side	
AC/DC type	Low on resistance (R type)	40 V	250 mA	AQY221R2TY	AQY221R2TW	1,000 pcs.

Notes: *1 Indicate the peak AC and DC values.
*2 Only tape and reel package is available.
For space reasons, only "1R2" is marked on the product as the part number.

5. Technical Information: Please refer to attached datasheet for details.

RATING

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

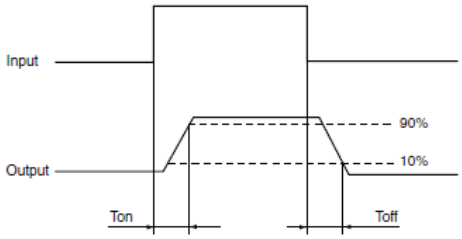
Item		Symbol	AQY221R2T	Remarks
Input side	LED forward current	I_F	50 mA	
	LED reverse voltage	V_R	5 V	
	Peak forward current	I_{FP}	1 A	f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P_{in}	75 mW	
Output side	Load voltage (peak AC)	V_L	40 V	
	Continuous load current	I_L	0.25 A	Peak AC, DC
	Peak load current	I_{peak}	0.75 A	100 ms (1shot), V_L = DC
	Power dissipation	P_{out}	250 mW	
Total power dissipation		P_T	300 mW	
I/O isolation voltage		V_{iso}	200 V AC	
Operating temperature		T_{opr}	–40°C to +85°C –40°F to +185°F	Non-condensing at low temperatures
Storage temperature		T_{stg}	–40°C to +100°C –40°F to +212°F	

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

Item			Symbol	AQY221R2T	Condition
Input	LED operate current	Typical	I_{Fon}	0.5 mA	I_L = Max.
		Maximum		3 mA	
	LED turn off current	Minimum	I_{Foff}	0.1 mA	I_L = Max.
		Typical		0.4 mA	
	LED dropout voltage	Typical	V_F	1.14 V	I_F = 5 mA
		Maximum		1.5 V	
Output	On resistance	Typical	R_{on}	0.8 Ω	I_F = 5 mA, I_L = Max.
		Maximum		1.25 Ω	
	Output capacitance	Typical	C_{out}	14 pF	I_F = 0 mA, f = 1 MHz, V_B = 0 V
		Maximum		18 pF	
	Off state leakage current	Typical	I_{Leak}	0.02 nA	I_F = 0 mA, V_L = Max.
		Maximum		10 nA	
Transfer characteristics	Turn on time*	Typical	T_{on}	0.1 ms	I_F = 5 mA, V_L = 10 V, R_L = 40 Ω
		Maximum		0.5 ms	
	Turn off time*	Typical	T_{off}	0.06 ms	I_F = 5 mA, V_L = 10 V, R_L = 40 Ω
		Maximum		0.2 ms	
	I/O capacitance	Typical	C_{iso}	0.4 pF	f = 1 MHz, V_B = 0 V
		Maximum		1.5 pF	

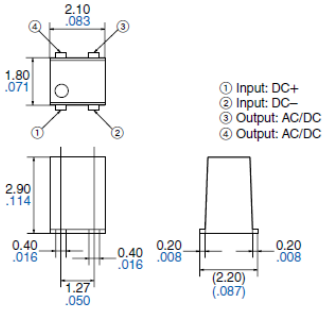
Note: Please refer to the "Schematic and Wiring Diagrams" for connection method.

*Turn on/Turn off time



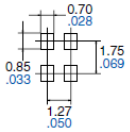
DIMENSIONS (mm inch)

External dimensions



General tolerance: ±0.1 ±.004

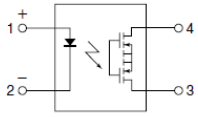
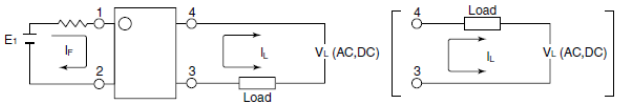
Recommended mounting pad (Top view)



Tolerance: ±0.1 ±.004

SCHEMATIC AND WIRING DIAGRAMS

E_1: Power source at input side, I_F: LED forward current, V_L: Load voltage, I_L: Load current

Schematic	Output configuration	Load	Connection	Wiring diagram
	1 Form A	AC/DC	—	

Any questions, please contact your local Panasonic Electric Works Sales representatives.

Ref#: M-402