



**THE DATASHEET OF  
AQY221R2TY**



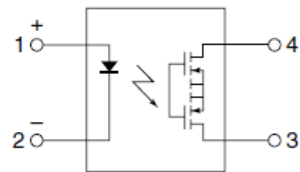
**New Product Introduction**

June 27, 2011

**AQY221R2T:**  
**New VSSOP PhotoMOS® Relays with Smallest Footprint Available**

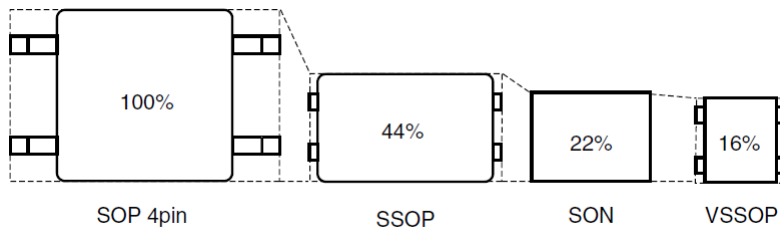


mm inch



**1. Features:**

- **4.6 mm<sup>2</sup> 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)

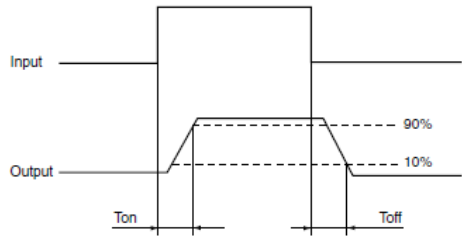
Item		Symbol	AQY221R2T	Remarks
Input side	LED forward current	I <sub>F</sub>	50 mA	
	LED reverse voltage	V <sub>R</sub>	5 V	
	Peak forward current	I <sub>FP</sub>	1 A	f = 100 Hz, Duty factor = 0.1%
	Power dissipation	P <sub>in</sub>	75 mW	
Output side	Load voltage (peak AC)	V <sub>L</sub>	40 V	
	Continuous load current	I <sub>L</sub>	0.25 A	Peak AC, DC
	Peak load current	I <sub>peak</sub>	0.75 A	100 ms (1shot), V <sub>L</sub> = DC
	Power dissipation	P <sub>out</sub>	250 mW	
Total power dissipation		P <sub>T</sub>	300 mW	
I/O isolation voltage		V <sub>iso</sub>	200 V AC	
Operating temperature		T <sub>opr</sub>	-40°C to +85°C -40°F to +185°F	Non-condensing at low temperatures
Storage temperature		T <sub>stg</sub>	-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	0.5 mA	I <sub>L</sub> = Max.	
		Maximum	3 mA		
	LED turn off current	Minimum	0.1 mA	I <sub>L</sub> = Max.	
		Typical	0.4 mA		
LED dropout voltage	Typical	V <sub>F</sub>	1.14 V	I <sub>F</sub> = 5 mA	
	Maximum		1.5 V		
Output	On resistance	Typical	R <sub>on</sub>	I <sub>F</sub> = 5 mA, I <sub>L</sub> = Max.	
		Maximum			1.25 Ω
	Output capacitance	Typical	C <sub>out</sub>	14 pF	I <sub>F</sub> = 0 mA, f = 1 MHz, V <sub>B</sub> = 0 V
		Maximum		18 pF	
Off state leakage current	Typical	I <sub>Leak</sub>	0.02 nA	I <sub>F</sub> = 0 mA, V <sub>L</sub> = Max.	
	Maximum		10 nA		
Transfer characteristics	Turn on time*	Typical	T <sub>on</sub>	I <sub>F</sub> = 5 mA, V <sub>L</sub> = 10 V, R <sub>L</sub> = 40 Ω	
		Maximum			0.5 ms
	Turn off time*	Typical	T <sub>off</sub>	0.06 ms	I <sub>F</sub> = 5 mA, V <sub>L</sub> = 10 V, R <sub>L</sub> = 40 Ω
		Maximum		0.2 ms	
I/O capacitance	Typical	C <sub>iso</sub>	0.4 pF	f = 1 MHz, V <sub>B</sub> = 0 V	
	Maximum		1.5 pF		

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

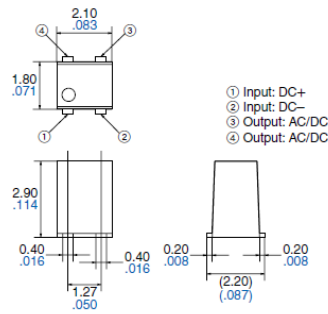
\*Turn on/Turn off time



**DIMENSIONS (mm inch)**

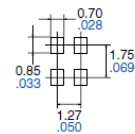


External dimensions



General tolerance:  $\pm 0.1 \pm .004$

Recommended mounting pad (Top view)



Tolerance:  $\pm 0.1 \pm .004$

**SCHEMATIC AND WIRING DIAGRAMS**

E<sub>i</sub>: Power source at input side, I<sub>F</sub>: LED forward current, V<sub>L</sub>: Load voltage, I<sub>L</sub>: 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

## Looking for pricing, stock, or lifecycle information?

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