

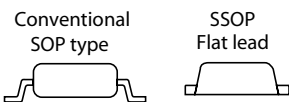


SSOP 4pin 1-Form-A Relay
AQY221N3V (Flat Lead, Tube)
AQY221N3VY (Tape&Reel,
3,500pcs/reel)
AQY221N3V1Y (Tape&Reel,
1,000pcs/reel)

PhotoMOS RELAYS

Features

- * SSOP4pin Package
(Half Size of SOP4pin)
- * Low Output Capacitance (1.0pF Typ.)
- * Low On Resistance (5.5 Ω Typ.)
- * Low CXR (5.5 pF Ω Typ.)
- * Ultra Low Leakage Current (10pA Typ.)
- * High Switching Time (20nsec Typ.)



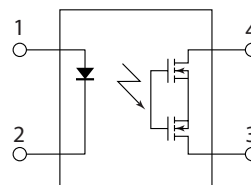
Application

- * Automatic Test Equipment
Switching Test Lines (Pin Electronics, Parametric Measurement), Switching Feedback Resistors, Switching Filter Capacitors
- * Instrumentation
Multiplexers, Data Acquisition
- * Telecommunication
Digital Signal (T1/E1) Switching

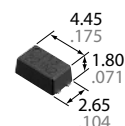
Description

AQY221N3V, AQY221N3VY, AQY221N3V1Y are 25V, 150mA, 7.5 ohm (Max) 1-Form-A relay. They feature smallest package, low output capacitance, low on resistance and ultra low leakage current.

Pin Connection



1. LED Anode
2. LED Cathode
3. MOSFET
4. MOSFET



[mm inch]

Part Numbers

Type	I/O Isolation Voltage	Output Rating*		Part Number **	Tape & Reel Packing Style	
		Load Voltage	Load Current		Tape & Reel Packing Style	
					Tube Packing Style 150 pcs / tube (Max)	3,500 pcs
AC/DC Type	1,500 V AC	25 V	150 mA	AQY221N3V	AQY221N3VY	AQY221N3V1Y

*Indicate the peak A C and DC values.

** The part numbers are marked as "221N3" on the surface of package for the small space.

Absolute Maximum Ratings *1 (Ta=25 °C 77°F)

Item		Symbol	Max Rating	Remarks
Input	LED Forward Current	I_F	50mA	
	LED Reverse Voltage	V_R	5V	
	Peak Forward Current	I_{FP}	1A	f=100 Hz, Duty Factor = 0.1%
	Power Dissipation	P_{in}	75mW	
Output	Load Voltage (Peak AC)	V_L	25V	
	Continuous Load Current	I_L	0.15A	Peak A C, DC
	Peak Load Current	I_{peak}	0.40A	100 msec (1 shot), $V_L = DC$
	Power Dissipation	P_{out}	250mW	
Total Power Dissipation		P_T	300mW	
I/O Isolation Voltage		V_{iso}	1,500V A C	
Temperature Limits	Operating	T_{opr}	-40 °C to +85 °C -40 °F to +185 °F	No Freezing in Low Temperature
	Storage	T_{stg}	-40 °C to +100 °C -40 °F to +212 °F	

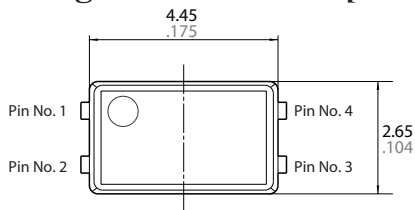
Electrical Characteristics (Ta=25 °C 77°F)

	Item	Symbol	Minimum	Typical	Maximum	Condition
Input	LED Operate Current	I_{Fon}		1.0 mA	3.0mA	$I_L = 80 \text{ mA}$
	LED Turn Off Current	I_{Foff}	0.20 mA	0.90 mA		$I_L = 80 \text{ mA}$
	LED Forward Voltage	V_F		1.14V	1.50 V	$I_F = 5 \text{ mA}$
Output	On Resistance	R_{on}		5.5 Ω	7.5 Ω	$I_F = 5 \text{ mA}$ $I_L = 80 \text{ mA}$ Within 1 s on time
	Output Capacitance	C_{out}		1.0 pF	1.5 pF	$I_F = 0$ $V_B = 0 \text{ V}$ $f = 1 \text{ MHz}$
	Off state Leakage Current	I_{Leak}		0.01 nA	10 nA	$I_F = 0$ $V_L = \text{Max.}$
Transfer Characteristics	Turn On Time	T_{on}		0.02 msec	0.5 msec	$I_F = 5 \text{ mA}$ $V_L = 10 \text{ V}$ $R_L = 125 \text{ W}$
	Turn Off Time	T_{off}		0.02 msec	0.2 msec	$I_F = 5 \text{ mA}$ $V_L = 10 \text{ V}$ $R_L = 125 \text{ W}$
	I/O Capacitance	C_{iso}		0.8 pF	1.5pF	$f = 1 \text{ MHz}$ $V_B = 0$
	Initial I/O Isolation Resistance	R_{iso}	1,000 M Ω			500V DC

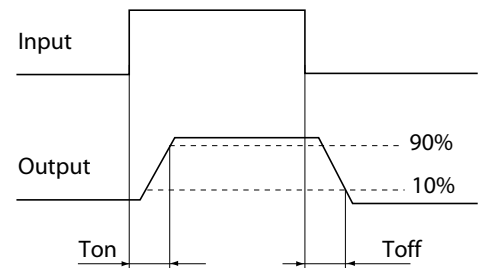
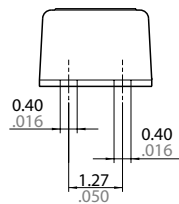
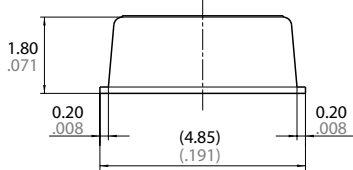
Note: Recommended LED forward Current $I_F=5\text{mA}$.

*Turn On / Off Time

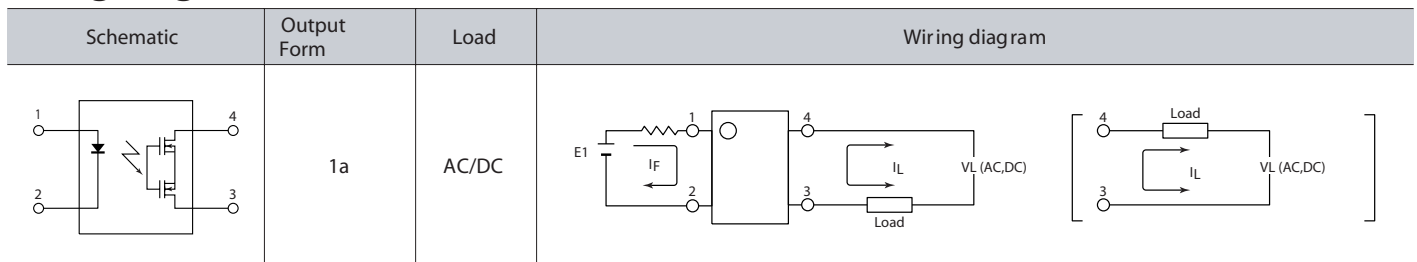
Package Dimmensions [mm inch]



Terminal thickness = 0.15 ± 0.006
General tolerance: $\pm 0.1 \pm 0.004$

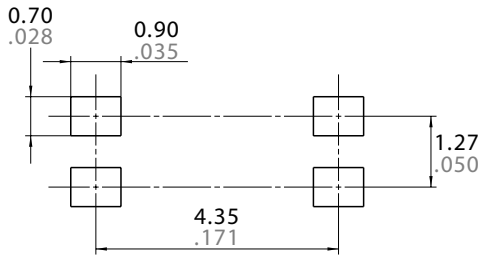


Wiring Diagram



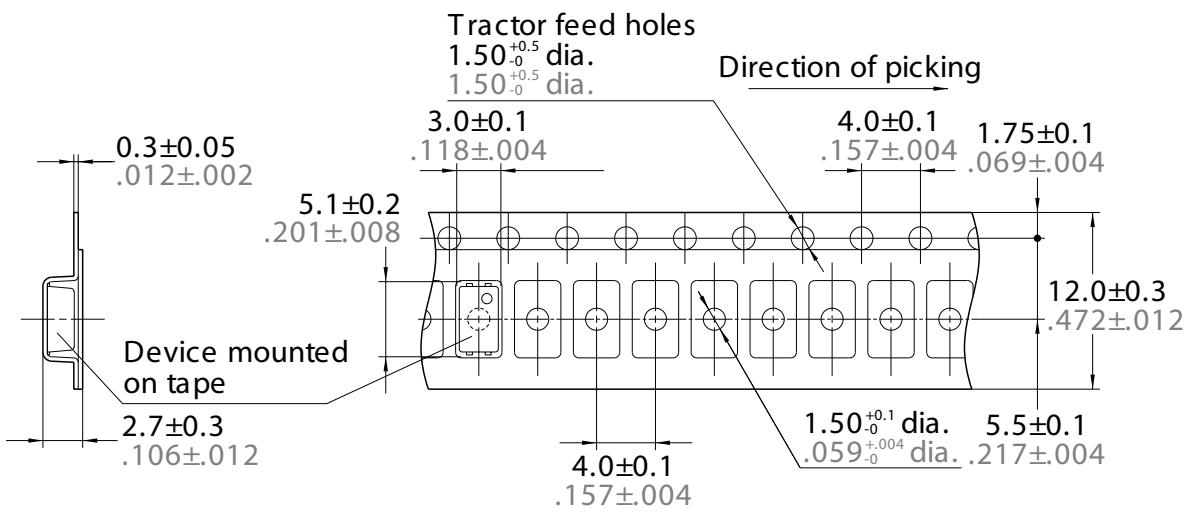
Mounting Pad [mm inch]

Recommended Mounting Pad (TOP VIEW)



Tolerance: $\pm 0.1 \pm .004$

Tape & Reel Dimensions [mm inch]



AQY221N3VY, AQY221N3V1Y : Picked from No.1 pin and No.4 pin side.

