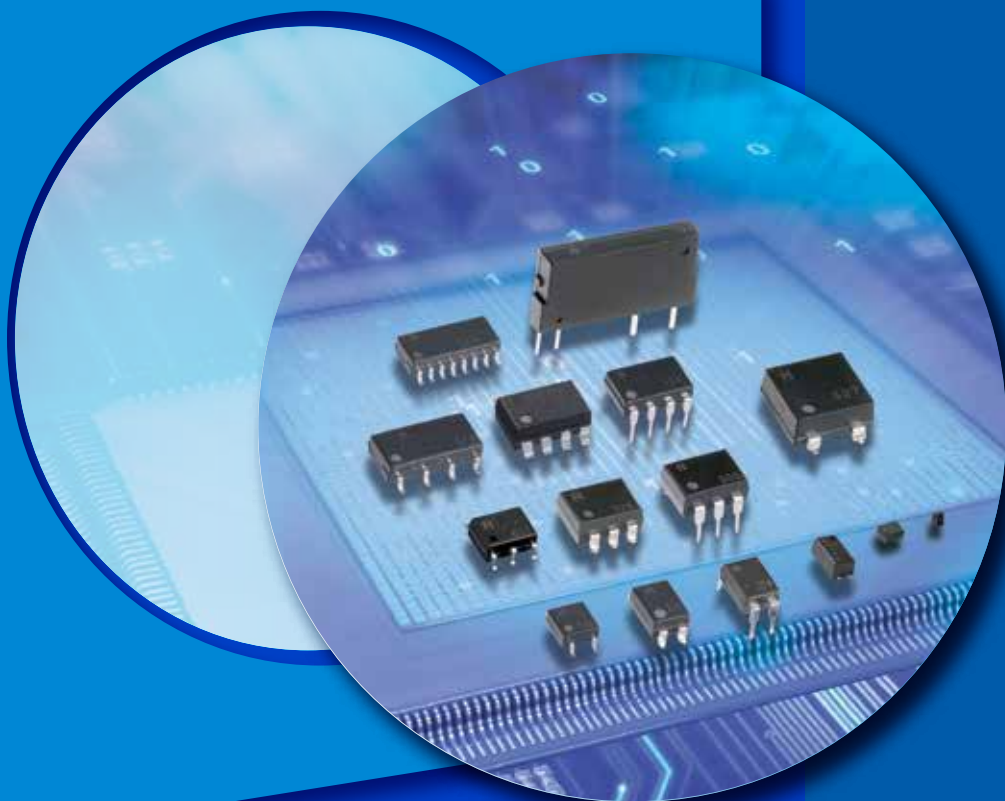


PHOTOMOS RELAYS

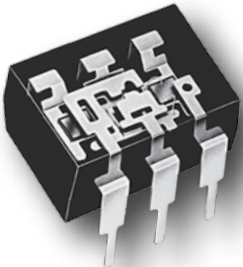
AN OVERVIEW



What makes PhotoMOS relays so successful?

Modern semiconductor technology enables fast, quiet, bounce-free switching, even in miniature sizes. PhotoMOS relays nevertheless enjoy an almost unlimited lifetime if used according to the specifications. Moreover, they are extremely reliable, unaffected by vibrations, and their

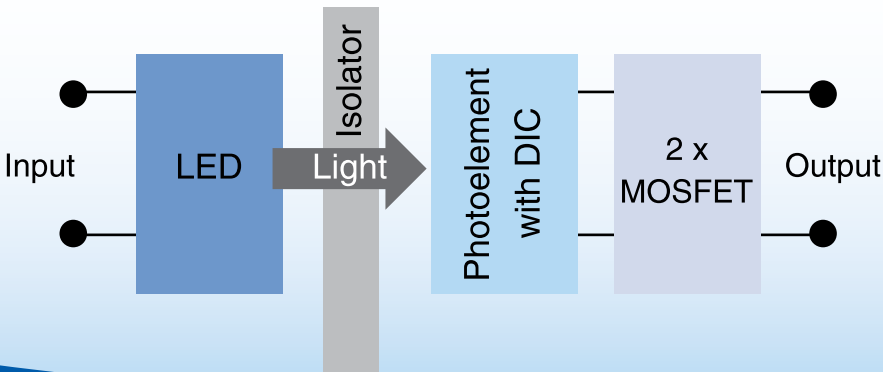
ON-resistance remains stable throughout their entire lifetime.



PhotoMOS technology

The basic construction of the PhotoMOS relay can be seen in the illustration. Light emitted from an LED on the input side passes through an isolator permeable to light and is detected by a solar cell. Via a trigger circuit, the solar cell's output voltage controls the gates of two source-coupled MOSFETs at the output. This arrangement allows PhotoMOS relays to switch both AC and DC loads.

The integration of MOSFET technology in PhotoMOS relays differentiates them significantly from semiconductor relays with triacs or transistors at the output.



Package variations



Test the new
PhotoMOS APP!



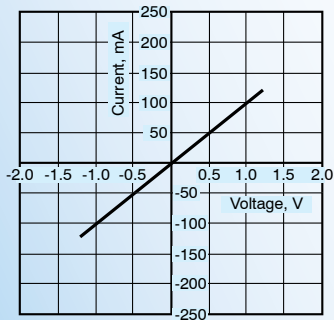
The most important advantages at a glance

- Linear output characteristics
- No threshold voltage
- Low operate current
(sensitive type $\leq 0.31\text{mA}$)
- Low output capacitance
(RF type $\leq 1\text{pF}$)
- Absolute minimum leakage current
(pA)
- Extremely long lifetime
- Stable ON-resistance over the entire lifetime
- Extremely compact design
(VSSOP, SON, SSOP, SOP)
- No contact bounce
- Highly resistant to shock and vibration
- Flexible mounting orientation

A few distinguishing features of PhotoMOS relays

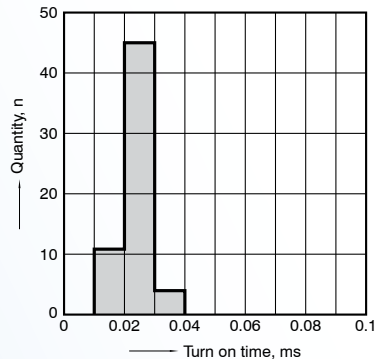
1. Linear output characteristics

(e.g. AQY225R2V)



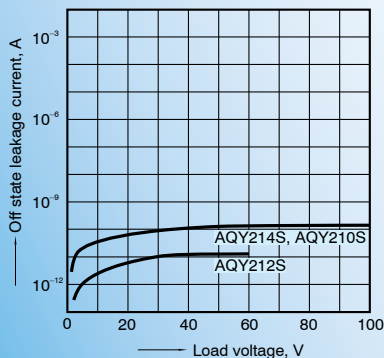
2. Fast switching times

with little variation (e.g. AQY221N3V)



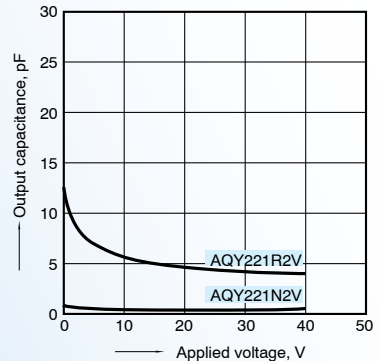
3. Low off-state leakage current

in the pA range (e.g. AQY21*S)



4. Low output capacitance

(e.g. AQY221*V)



Typical applications

- Measuring devices and technology
- IC and PC board testers
- Multiplexers
- Medical technology
- Industrial control systems
- Battery management
- Signal/alarm contacts
- Outputs for programmable controllers
- Pulse and counter outputs
- Isolation monitoring

PhotoMOS relays: Popular type selection table

	Type ¹⁾	Package	Contact	Voltage (V) ²⁾	Current (A) ²⁾	R _{on} ³⁾ (Ω)	C _{out} ³⁾ (pF)	Info.	
	AQY211EH(A)	DIP4	1a	30	1.0	0.25	240	General use	
	AQY212EH(A)			60	0.55	0.85	80		
	AQY212GH(A)				1.1	0.34	220		
	AQY210EH(A)			350	0.13	18	45		
	AQY214EH(A)			400	0.12	26	45		
	AQY216EH(A)			600	0.05	52	35		
	AQY212S	SOP4	1a	60	0.5	0.83	80		
	AQY212GS				1.0	0.34	220		
	AQY212G2S				1.25	0.2	180		
	AQY210S			350	0.12	17	45		
	AQY214S		400	0.1	25	45			
	AQY412S		1b	60	0.5	1	450		
	AQY410S			350	0.12	18	110		
	AQY414S			400	0.1	26	100		
	AQY232S	SOP4	1a	60	0.5	0.85	80	Low operate current	
	AQY230S			350	0.12	19	45		
	AQY234S			400	0.1	27	45		
	AQV112KL(A)	DIP6	1a	60	0.5	0.55	300	Short circuit protected	
	AQY210KS	SOP4		350	0.12	23	42		
	AQV251G	DIP6	1a	30	3.5	0.035	350	High power	
	AQV252G2S	SOP6		50	3	0.04	360		
	AQV252G	DIP6		60	2.5	0.08	240		
	AQV255GS	SOP6		80	1.25	0.09	300		
	AQV259H(A)	DIP6		1.000	0.03	85	80		
	AQV258H(A)	DIP6		1.500	0.02	345	80		
	AQY221N3T	VSSOP	1a	25	0.15	5.5	1.1	Low CxR for high frequencies	
	AQY221N2T			40	0.12	9.5	1.1		
	AQY222R2T			60	0.4	0.8	27		
	AQY225R3T			100	0.12	8.8	5.8		
	AQY221N3M	SON		25	0.15	5.5	1.1		
	AQY221N2M			40	0.12	9.5	1.1		
	AQY221R2M			40	0.25	0.8	14		
	AQY221N2V	SSOP		40	0.12	9.5	1		
	AQY221R2V			40	0.25	0.75	12.5		
	AQY221R4V			40	0.5	0.55	24		
	AQY225R2V			80	0.12	10.5	4.5		
	AQY225R3V			100	0.12	8.8	5.8		
	AQY221N2S	SOP4		40	0.12	9.5	1		
	AQY221R2S			40	0.25	0.8	13		
	AQY225R2S			80	0.15	10.5	4.5		
	AQZ202		1a	60	3.0	0.11	1400	AC and DC	
	AQZ205			100	2.0	0.23	1400		
	AQZ204			400	0.5	2	600		
	AQZ404		1b	400	0.5	2.8	2000		

min

1) A = SMD type, 2) Maximum values (DC or peak AC), 3) Typical value

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Please contact our Global Sales Companies in:

Europe		
▶ Headquarters	Panasonic Electric Works Europe AG	Rudolf-Diesel-Ring 2, 83607 Holzkirchen, Tel. +49 (0) 8024 648-0, Fax +49 (0) 8024 648-111, www.panasonic-electric-works.com
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▶ Nordic Countries	Panasonic Electric Works Europe AG Panasonic Eco Solutions Nordic AB	Filial Nordic, Knarrarnäsgatan 15, 164 40 Kista, Sweden, Tel. +46 859476680, Fax +46 859476690, www.panasonic-electric-works.se
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