

PhotoMOS® Selector Chart

GU GE RF HE HF HS PD Power
GU: General use & wide variation

Product name		GU SOP									
		1 Form A					1 Form A				
		AC/DC					AC/DC				
Appearance configuration *Standoff height included											
Part No.		AQY212S	AQY210S	AQY214S	AQV212S	AQV215S	AQV217S	AQV210S	AQV214S	AQV216S	
Output	Load voltage	60V	350V	400V	60V	100V	200V	350V	400V	600V	
	Peak AC	60V	350V	400V	60V	100V	200V	350V	400V	600V	
	DC	60V	350V	400V	60V	100V	200V	350V	400V	600V	
	Continuous load current *6-pin type: in case of A connection	1A				0.5A					0.5A
	0.5A	0.5A	0.12A	0.1A	0.5A	0.3A	0.16A	0.12A	0.1A	0.04A	
	Peak load current	1.5A	0.3A	0.24A	1.5A	0.9A	0.48A	0.3A	0.3A	0.12A	
	Power dissipation	300mW					450mW				
	On resistance *6-pin type: in case of A connection	Typ.	0.83Ω	17Ω	25Ω	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω
	Max.	2.5Ω	25Ω	35Ω	2.5Ω	4.0Ω	15Ω	35Ω	50Ω	120Ω	
	Output capacitance (Typ.)		80pF	45pF		80pF	110pF	70pF	45pF		
Off state leakage current (Max.)		1μA			1μA						
Input	LED forward current	50mA					50mA				
	LED reverse voltage	5V					5V				
	Peak forward current	1A					1A				
	Power dissipation	75mW					75mW				
	LED operate current	Typ.	0.9mA			0.7mA					
	Max.	3mA			3mA						
	LED turn off current	Min.	0.4mA			0.4mA					
Typ.	0.85mA			0.65mA							
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)					1.25V (1.14V at I _F = 5mA)				
Max.	1.5V					1.5V					
Turn on time	Typ.	0.65ms	0.23ms	0.21ms	0.65ms	0.60ms	0.25ms	0.25ms		0.28ms	
Max.	2ms	0.5ms	0.5ms	2ms	2ms	1ms	0.5ms		0.5ms		
Turn off time	Typ.	0.08ms	0.04ms		0.08ms	0.06ms	0.05ms			0.04ms	
Max.	0.2ms	0.2ms		0.2ms	0.2ms	0.2ms			0.2ms		
Total power dissipation		350mW					500mW				
I/O isolation voltage		1,500V AC					1,500V AC				
Operating temperature		-40°C to +85°C -40°F to +185°F					-40°C to +85°C -40°F to +185°F				
Storage temperature		-40°C to +100°C -40°F to +212°F					-40°C to +100°C -40°F to +212°F				
I/O capacitance	Typ.	—					0.8pF				
Max.	1.5pF					1.5pF					
Initial I/O isolation resistance (Min.)		1,000MΩ					1,000MΩ				
Terminal layout											
• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW					TOP VIEW				
Standards		UL, C-UL, BSI					UL, C-UL				
Mass (weight) (approx.)		0.084g .003oz					0.125g .004oz				
Packing style		Tube packing, Tape and reel packing									
Page		P.67					P.70				

Product name		GU SOP High Capacity			GU SOP High Capacity Voltage-sensitive	GU High Capacity	
		1 Form A			1 Form A	1 Form A	
		AC/DC			AC/DC	AC/DC	
Appearance configuration *Standoff height included mm inch							
Part No.		AQY211G2S	AQY212G2S	AQY212GS	AQY212FG2S	AQY212GH	
Load voltage	Peak AC	40V	60V		60V	60V	
	DC	40V	60V		60V	60V	
Output	Continuous load current	1.5A	1.6A		1.25A	1.1A	
		1A	1.25A		1A		
		0.5A	1A				
	Peak load current	4.0A	3.0A		3.0A	3.0A	
Power dissipation		400mW			400mW	500mW	
On resistance	Typ.	0.1Ω	0.2Ω	0.34Ω	0.2Ω	0.34Ω	
	Max.	0.15Ω	0.5Ω	0.7Ω	0.5Ω	0.7Ω	
Output capacitance (Typ.)		180pF	150pF	220pF	150pF	220pF	
Off state leakage current (Max.)		1μA			1μA	1μA	
Input	LED forward current		50mA		Input voltage: 6V	50mA	
	LED reverse voltage		5V		Input reverse voltage: 5V	5V	
	Peak forward current		1A		—	1A	
	Power dissipation		75mW		65mW	75mW	
	LED operate current	Typ.	0.9mA	1.1mA		Operate voltage: 1.4V 4V	1.1mA
		Max.	3mA	3mA			3mA
	LED turn off current	Min.	0.2mA	0.3mA		Turn off voltage: 0.8V 1.4V	0.3mA
Typ.		0.8mA	1mA		1mA		
LED dropout voltage	Typ.	1.32V (1.14V at I _F = 5mA)			Input current: 8.5mA (V _{IN} = 5V)	1.32V (1.14V at I _F = 5mA)	
	Max.	1.5V				1.5V	
Turn on time	Typ.	1ms	1.3ms		0.7ms	1.3ms	
	Max.	3ms	5ms		5ms	5ms	
Turn off time	Typ.	0.12ms	0.1ms		0.1ms	0.1ms	
	Max.	0.5ms	0.5ms		0.5ms	0.5ms	
Total power dissipation		450mW			450mW	550mW	
I/O isolation voltage		1,500V AC			500V AC	5,000V AC	
Operating temperature		-40°C to +85°C -40°F to +185°F			-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	
Storage temperature		-40°C to +100°C -40°F to +212°F			-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	
I/O capacitance	Typ.	0.8pF			0.8pF	0.8pF	
	Max.	1.5pF			1.5pF	1.5pF	
Initial I/O isolation resistance (Min.)		1,000MΩ			1,000MΩ	1,000MΩ	
Terminal layout							
• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW			TOP VIEW	BOTTOM VIEW TOP VIEW	
Standards (): Under application		(UL, C-UL, VDE)*			UL, C-UL, VDE	UL, C-UL, VDE	
Mass (weight) (approx.)		0.084g .003oz			0.084g .003oz	0.19g .007oz	
Packing style		Tube packing, Tape and reel packing					
Page		P.74			P.77	P.80	

* For the latest information on compliance with international standards, please visit our website.

PhotoMOS® Selector Chart

GU
GE
RF
HE
HF
HS
PD
Power
 GU: General use & wide variation

Product name		GU							
		1 Form A							
		AC/DC							
Appearance configuration *Standoff height included									
Part No.		AQV212	AQV215	AQV217	AQV210	AQV214	AQV216	AQV214H	
Output	Load voltage	60V	100V	200V	350V	400V	600V	400V	
	Peak AC	60V	100V	200V	350V	400V	600V	400V	
	DC	60V	100V	200V	350V	400V	600V	400V	
	Continuous load current *6-pin type: in case of A connection	1A	0.55A	0.32A	0.18A	0.13A	0.12A	0.05A	0.12A
	0.5A								
	Peak load current	1.5A	0.96A	0.54A	0.4A	0.3A	0.15A	0.3A	
	Power dissipation	500mW							
	On resistance *6-pin type: in case of A connection	Typ.	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω	30Ω
	Max.	2.5Ω	4Ω	15Ω	35Ω	50Ω	120Ω	50Ω	
	Output capacitance (Typ.)	80pF, 110pF, 70pF, 45pF							
Off state leakage current (Max.)	1μA								
Input	LED forward current	50mA							
	LED reverse voltage	5V							
	Peak forward current	1A							
	Power dissipation	75mW							
	LED operate current	Typ.	1mA						1.3mA
	Max.	3mA						3mA	
LED turn off current	Min.	0.4mA						0.4mA	
Typ.	0.79mA						1.2mA		
LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)							
Max.	1.5V								
Turn on time	Typ.	0.65ms	0.60ms	0.25ms	0.25ms	0.21ms	0.28ms	0.6ms	
	Max.	2ms	2ms	1ms	0.5ms	0.5ms	0.5ms	0.8ms	
Turn off time	Typ.	0.08ms	0.06ms	0.05ms	0.05ms	0.05ms	0.04ms	0.05ms	
	Max.	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	
Total power dissipation	550mW								
I/O isolation voltage	1,500V AC							5,000V AC	
Operating temperature	-40°C to +85°C -40°F to +185°F								
Storage temperature	-40°C to +100°C -40°F to +212°F								
I/O capacitance	Typ.	0.8pF							
	Max.	1.5pF							
Initial I/O isolation resistance (Min.)	1,000MΩ								
Terminal layout	Through hole terminal			Surface mount terminal					
• Tolerance: ±0.1 ±.004 mm inch		BOTTOM VIEW			TOP VIEW				
Standards	UL, C-UL							UL, C-UL, BSI	
Mass (weight) (approx.)	0.453g .016oz								
Packing style	Tube packing, Tape and reel packing								
Page	P.83								

Product name		GU SOP			GU						
		2 Form A			2 Form A						
Appearance configuration *Standoff height included		AC/DC			AC/DC						
		mm inch									
Part No.		AQW212S	AQW210S	AQW214S	AQW212	AQW215	AQW217	AQW210	AQW214	AQW216	
Output	Load voltage	Peak AC	60V	350V	400V	60V	100V	200V	350V	400V	600V
		DC	60V	350V	400V	60V	100V	200V	350V	400V	600V
	Continuous load current	1A									
		0.5A									
	Peak load current		0.4A	0.1A	0.08A	0.5A	0.3A	0.16A	0.12A	0.1A	0.04A
	Power dissipation		600mW			800mW					
	On resistance	Typ.	0.83Ω	16Ω	30Ω	0.83Ω	2.3Ω	11Ω	23Ω	30Ω	70Ω
		Max.	2.5Ω	35Ω	50Ω	2.5Ω	4Ω	15Ω	35Ω	50Ω	120Ω
	Output capacitance (Typ.)		80pF	45pF		80pF	110pF	70pF	45pF		
	Off state leakage current (Max.)		1μA			1μA					
Input	LED forward current		50mA			50mA					
	LED reverse voltage		5V			5V					
	Peak forward current		1A			1A					
	Power dissipation		75mW			75mW					
	LED operate current	Typ.	0.9mA			0.9mA					
		Max.	3mA			3mA					
	LED turn off current	Min.	0.4mA			0.4mA					
Typ.		0.8mA			0.8mA						
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)						
	Max.	1.5V			1.5V						
Turn on time	Typ.	0.65ms	0.23ms	0.21ms	0.65ms	0.60ms	0.25ms	0.25ms	0.31ms	0.28ms	
	Max.	2ms	0.5ms	0.5ms	2ms	2ms	1.0ms	0.5ms	0.5ms	0.5ms	
Turn off time	Typ.	0.08ms	0.04ms		0.08ms	0.06ms	0.05ms			0.04ms	
	Max.	0.2ms	0.2ms		0.2ms	0.2ms	0.2ms			0.2ms	
Total power dissipation		650mW			850mW						
I/O isolation voltage		1,500V AC			1,500V AC						
Operating temperature		-40°C to +85°C -40°F to +185°F			-40°C to +85°C -40°F to +185°F						
Storage temperature		-40°C to +100°C -40°F to +212°F			-40°C to +100°C -40°F to +212°F						
I/O capacitance	Typ.	0.8pF			0.8pF						
	Max.	1.5pF			1.5pF						
Initial I/O isolation resistance (Min.)		1,000MΩ			1,000MΩ						
Terminal layout											
	• Tolerance: ±0.1 ±.004 mm inch	TOP VIEW			BOTTOM VIEW			TOP VIEW			
Standards		UL, C-UL, BSI			UL, C-UL						
Mass (weight) (approx.)		0.195g .007oz			0.5g .017oz						
Packing style		Tube packing, Tape and reel packing									
Page		P.87			P.90						

PhotoMOS® Selector Chart

GU GE RF HE HF HS PD Power
GU: General use & wide variation

Product name		GU SOP			GU		
		1 Form B		1 Form B	1 Form B		
		AC/DC		AC/DC	AC/DC		
Appearance configuration *Standoff height included							
Part No.		AQY412S	AQY410S	AQY414S	AQV414S	AQV414	
Output	Load voltage	60V		350V	400V	400V	
	Peak AC	60V		350V	400V	400V	
	DC	60V		350V	400V	400V	
	Continuous load current *6-pin type: in case of A connection	1A					
		0.5A	0.5A		0.12A	0.1A	0.1A
	Peak load current	1.5A		0.3A	0.24A	0.3A	
	Power dissipation	300mW			450mW	500mW	
	On resistance *6-pin type: in case of A connection	Typ.	1Ω		18Ω	26Ω	26Ω
		Max.	2.5Ω		25Ω	35Ω	50Ω
	Output capacitance (Typ.)	500pF		110pF	100pF	100pF	
Off state leakage current (Max.)			1μA	1μA	1μA		
Input	LED forward current	50mA		50mA	50mA	50mA	
	LED reverse voltage	5V		5V	5V	5V	
	Peak forward current	1A		1A	1A	1A	
	Power dissipation	75mW		75mW	75mW	75mW	
	LED operate current	Typ.	0.9mA		0.6mA	0.6mA	1mA
		Max.	3mA		3mA	3mA	3mA
	LED turn off current	Min.	0.4mA		0.4mA	0.4mA	0.4mA
Typ.		0.85mA		0.55mA	0.55mA	0.95mA	
LED dropout voltage	Typ.	1.25V (1.14V at I _f = 5mA)		1.25V (1.14V at I _f = 5mA)	1.25V (1.14V at I _f = 5mA)	1.25V (1.14V at I _f = 5mA)	
	Max.	1.5V		1.5V	1.5V	1.5V	
Turn on time	Typ.	0.9ms		0.52ms	0.47ms	0.47ms	
	Max.	3ms		1ms	1ms	1ms	
Turn off time	Typ.	0.21ms		0.23ms	0.28ms	0.28ms	
	Max.	1ms		1ms	1ms	1ms	
Total power dissipation	350mW			500mW	550mW		
I/O isolation voltage	1,500V AC			1,500V AC	1,500V AC		
Operating temperature	-40°C to +85°C -40°F to +185°F			-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F		
Storage temperature	-40°C to +100°C -40°F to +212°F			-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF		0.8pF	0.8pF		
	Max.	1.5pF		1.5pF	1.5pF		
Initial I/O isolation resistance (Min.)	1,000MΩ			1,000MΩ	1,000MΩ		
Terminal layout							
• Tolerance: ±0.1 ±.004 mm inch	TOP VIEW		TOP VIEW	BOTTOM VIEW	TOP VIEW		
Standards	UL, C-UL, VDE	UL, C-UL, BSI		UL, C-UL	UL, C-UL		
Mass (weight) (approx.)	0.084g .003oz			0.125g .004oz	0.453g .016oz		
Packing style	Tube packing, Tape and reel packing						
Page	P.93			P.96	P.100		

Product name		GU SOP		GU		GU SOP		
		2 Form B		2 Form B		1 Form A & 1 Form B		
		AC/DC		AC/DC		AC/DC		
Appearance configuration *Standoff height included mm inch								
		Part No.		AQW414S		AQW414		AQW612S AQW610S
Output	Load voltage	Peak AC	400V		400V		60V 350V	
		DC	400V		400V		60V 350V	
	Continuous load current	1A						
		0.5A					0.45A	
	Peak load current	0.08A		0.1A		1.5A 0.3A		
	Power dissipation	600mW		800mW		600mW		
	On resistance	Typ.	26Ω		26Ω		1Ω 18Ω	
		Max.	50Ω		50Ω		2.5Ω 25Ω	
	Output capacitance (Typ.)	100pF		100pF		80pF (N.O.) 500pF(N.C.) 45pF (N.O.) 100pF (N.C.)		
	Off state leakage current (Max.)	1μA		1μA		1μA		
Input	LED forward current	50mA		50mA		50mA		
	LED reverse voltage	5V		5V		5V		
	Peak forward current	1A		1A		1A		
	Power dissipation	75mW		75mW		75mW		
	LED operate current	Typ.	0.9mA		0.7mA		0.9mA	
		Max.	3mA		3mA		3mA	
	LED turn off current	Min.	0.4mA		0.4mA		0.4mA	
Typ.		0.8mA		0.64mA		0.8mA		
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)		1.25V (1.14V at I _F = 5mA)		1.25V (1.14V at I _F = 5mA)		
	Max.	1.5V		1.5V		1.5V		
Turn on time	Typ.	0.43ms		0.46ms		0.65ms (N.O.) 0.9ms (N.C.) 0.28ms (N.O.) 0.52ms (N.C.)		
	Max.	1ms		1ms		3ms 1ms		
Turn off time	Typ.	0.3ms		0.40ms		0.08ms (N.O.) 0.2ms (N.C.) 0.04ms (N.O.) 0.23ms (N.C.)		
	Max.	1ms		1ms		1ms 1ms		
Total power dissipation	650mW		850mW		650mW			
I/O isolation voltage	1,500V AC		1,500V AC		1,500V AC			
Operating temperature	-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F			
Storage temperature	-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F			
I/O capacitance	Typ.	0.8pF		0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)	1,000MΩ		1,000MΩ		1,000MΩ			
Terminal layout								
	• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW		TOP VIEW			
Standards	UL, C-UL, BSI		UL, C-UL		UL, C-UL, VDE UL, C-UL, BSI			
Mass (weight) (approx.)	0.195g .007oz		0.5g .017oz		0.195g .007oz			
Packing style	Tube packing, Tape and reel packing							
Page	P.103		P.106		P.109			

PhotoMOS® Selector Chart

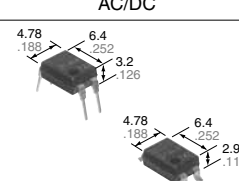
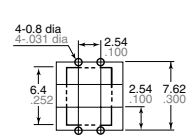
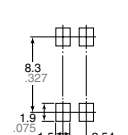
GU GE RF HE HF HS PD Power
GU: General use & wide variation

Product name		GU		GU SOP Short Circuit Protection (Latch type)	GU Short Circuit Protection (Non-latch type)
		1 Form A & 1 Form B		1 Form A	1 Form A
		AC/DC		AC/DC	DC
Appearance configuration *Standoff height included					
mm inch					
Part No.		AQW614		AQY210KS	AQV112KL
Output	Load voltage	Peak AC		350V	—
		DC		350V	60V
	Continuous load current *6-pin type: in case of A connection	1A			
		0.5A			
	Peak load current		0.3A	0.12A	0.5A
	Power dissipation		800mW	400mW	500mW
	On resistance *6-pin type: in case of A connection	Typ.	27Ω	23.5Ω	0.55Ω
		Max.	50Ω	35Ω	2Ω
	Output capacitance (Typ.)		45pF (N.O.) 100pF (N.C.)	42pF	300pF
	Off state leakage current (Max.)		1μA	1μA	1μA
Input	LED forward current		50mA	50mA	50mA
	LED reverse voltage		5V	5V	5V
	Peak forward current		1A	1A	1A
	Power dissipation		75mW	75mW	75mW
	LED operate current	Typ.	0.9mA	1.1mA	0.8mA
		Max.	3mA	3mA	10mA
	LED turn off current	Min.	0.4mA	0.3mA	0.3mA
Typ.		0.8mA	1mA	0.7mA	
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)	1.13V (1.32V at I _F = 50mA)	1.17V (1.35V at I _F = 50mA)	
	Max.	1.5V	1.5V	1.5V	
Turn on time	Typ.	0.28ms (N.O.) 0.43ms (N.C.)	0.7ms	2.0ms	
	Max.	1ms	2.0ms	5.0ms	
Turn off time	Typ.	0.04ms (N.O.) 0.3ms (N.C.)	0.07ms	0.1ms	
	Max.	1ms	1ms	1ms	
Total power dissipation		850mW	450mW	550mW	
I/O isolation voltage		1,500V AC	1,500V AC	1,500VAC	
Operating temperature		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	
Storage temperature		-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	
I/O capacitance	Typ.	0.8pF	0.8pF	0.8pF	
	Max.	1.5pF	1.5pF	1.5pF	
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ	1,000MΩ	
Terminal layout		Through hole terminal Surface mount terminal		Through hole terminal Surface mount terminal	
• Tolerance: ±0.1 ±.004 mm inch					
Standards		UL, C-UL		UL, C-UL, BSI	UL, C-UL, VDE
Mass (weight) (approx.)		0.5g .017oz		0.087g .003oz	0.453g .016oz
Packing style		Tube packing, Tape and reel packing			
Page		P.112		P.115	P.119

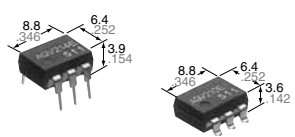
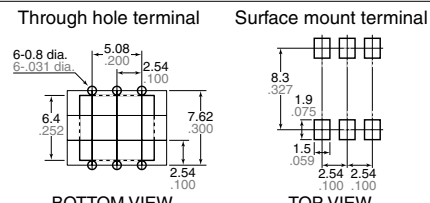
Product name		GU SOP Current Limiting		GU Current Limiting			
		1 Form A		2 Form A			
		AC/DC		AC/DC			
Appearance configuration *Standoff height included							
mm inch							
Part No.		AQY210LS		AQY210HL		AQW210HL	
Output	Load voltage	Peak AC	350V	350V	350V	350V	
		DC	350V	350V	350V	350V	
	Continuous load current	1A					
		0.5A					
	Peak load current		0.12A	0.12A	0.1A		
	Power dissipation		0.18A (Output Limit Current [typ.])	0.18A (Output Limit Current [typ.])	0.18A (Output Limit Current [typ.])		
	On resistance	Typ.	20Ω	20Ω	20Ω		
		Max.	25Ω	25Ω	25Ω		
	Output capacitance (Typ.)		45pF	45pF	45pF		
	Off state leakage current (Max.)		1μA	1μA	1μA		
Input	LED forward current		50mA	50mA	50mA		
	LED reverse voltage		5V	5V	5V		
	Peak forward current		1A	1A	1A		
	Power dissipation		75mW	75mW	75mW		
	LED operate current	Typ.	1.2mA	1.2mA	1.2mA		
		Max.	3mA	3mA	3mA		
	LED turn off current	Min.	0.4mA	0.4mA	0.4mA		
Typ.		1.1mA	1.1mA	1.1mA			
LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)			
	Max.	1.5V	1.5V	1.5V			
Turn on time	Typ.	0.5ms	0.5ms	0.5ms			
	Max.	2ms	2ms	2ms			
Turn off time	Typ.	0.08ms	0.08ms	0.08ms			
	Max.	1ms	1ms	1ms			
Total power dissipation		450mW	550mW	850mW			
I/O isolation voltage		1,500V AC	5,000V AC	5,000V AC			
Operating temperature		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F			
Storage temperature		-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F			
I/O capacitance	Typ.	0.8pF	0.8pF	0.8pF			
	Max.	1.5pF	1.5pF	1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ	1,000MΩ			
Terminal layout							
• Tolerance: ±0.1 ±.004	mm inch						
Standards		UL, C-UL, BSI					
Mass (weight) (approx.)		0.084g .003oz	0.19g .007oz	0.4g .014oz			
Packing style		Tube packing, Tape and reel packing					
Page		P.123	P.126	P.129			

PhotoMOS® Selector Chart

GU
GE
RF
HE
HF
HS
PD
Power
 GE: General use and Economical

Product name		GE					
		1 Form A					
		AC/DC					
Appearance configuration *Standoff height included							
Part No.		AQY211EH	AQY212EH	AQY210EH	AQY214EH	AQY216EH	
Output	Load voltage	Peak AC	30V	60V	350V	400V	600V
		DC	30V	60V	350V	400V	600V
	Continuous load current	1A	1A	0.55A	0.13A	0.12A	0.05A
		0.5A					
		Peak load current	3A	1.5A	0.4A	0.3A	0.15A
	Power dissipation	500mW					
	On resistance	Typ.	0.25Ω	0.85Ω	18Ω	26Ω	52Ω
		Max.	0.5Ω	2.5Ω	25Ω	35Ω	120Ω
	Output capacitance (Typ.)	240pF		80pF	45pF		35pF
	Off state leakage current (Max.)	1μA					
Input	LED forward current	50mA					
	LED reverse voltage	5V					
	Peak forward current	1A					
	Power dissipation	75mW					
	LED operate current	Typ.	1.2mA				
		Max.	3mA				
	LED turn off current	Min.	0.4mA				
Typ.		1.1mA					
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)					
	Max.	1.5V					
Turn on time	Typ.	1.5ms	1ms	0.5ms			
	Max.	5ms	4ms	2ms			
Turn off time	Typ.	0.1ms	0.05ms	0.08ms		0.04ms	
	Max.	1ms	1ms	1ms		1ms	
Total power dissipation	550mW						
I/O isolation voltage	5,000V AC						
Operating temperature	-40°C to +85°C -40°F to +185°F						
Storage temperature	-40°C to +100°C -40°F to +212°F						
I/O capacitance	Typ.	0.8pF					
	Max.	1.5pF					
Initial I/O isolation resistance (Min.)	1,000MΩ						
Terminal layout	Through hole terminal		Surface mount terminal				
							
• Tolerance: ±0.1 ±.004 mm inch		BOTTOM VIEW		TOP VIEW			
Standards () : Under application	UL, C-UL (BSI)*		UL, C-UL, BSI				
Mass (weight) (approx.)	0.19g .007oz						
Packing style	Tube packing, Tape and reel packing						
Page	P.132						

* For the latest information on compliance with international standards, please visit our website.

Product name		GE				
		1 Form A				
		AC/DC				
Appearance configuration *Standoff height included						
Part No.		AQV210E	AQV214E	AQV210EH	AQV214EH	
Output	Load voltage	350V	400V	350V	400V	
	Peak AC					
	DC	350V	400V	350V	400V	
	Continuous load current *6-pin type: in case of A connection	1A				
		0.5A				
	Peak load current	0.4A	0.3A	0.4A	0.3A	
	Power dissipation	500mW				
	On resistance *6-pin type: in case of A connection	Typ.	23Ω	30Ω	23Ω	30Ω
		Max.	35Ω	50Ω	35Ω	50Ω
	Output capacitance (Typ.)	45pF				
Off state leakage current (Max.)	1μA					
Input	LED forward current	50mA				
	LED reverse voltage	5V				
	Peak forward current	1A				
	Power dissipation	75mW				
	LED operate current	Typ.	1.1mA		1.6mA	
		Max.	3mA		3mA	
	LED turn off current	Min.	0.3mA		0.4mA	
Typ.		1mA		1.5mA		
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)				
	Max.	1.5V				
Turn on time	Typ.	0.5ms		0.7ms		
	Max.	2ms		2ms		
Turn off time	Typ.	0.05ms				
	Max.	1ms				
Total power dissipation	550mW					
I/O isolation voltage	1,500V AC		5,000V AC			
Operating temperature	-40°C to +85°C -40°F to +185°F					
Storage temperature	-40°C to +100°C -40°F to +212°F					
I/O capacitance	Typ.	0.8pF				
	Max.	1.5pF				
Initial I/O isolation resistance (Min.)	1,000MΩ					
Terminal layout						
• Tolerance: ±0.1 ±.004	mm inch					
Standards	UL, C-UL		UL, C-UL, BSI			
Mass (weight) (approx.)	0.453g .016oz					
Packing style	Tube packing, Tape and reel packing					
Page	P.136					

PhotoMOS® Selector Chart

GU GE RF HE HF HS PD Power
GE: General use and Economical

Product name		GE				
		2 Form A				
		AC/DC				
Appearance configuration *Standoff height included						
Part No.		AQW212EH	AQW210EH	AQW214EH	AQW216EH	
Output	Load voltage	Peak AC	60V	350V	400V	600V
		DC	60V	350V	400V	600V
	Continuous load current	1A				
		0.5A	0.5A	0.12A	0.1A	0.04A
	Peak load current	1.5A	0.36A	0.3A	0.12A	
	Power dissipation	800mW				
	On resistance	Typ.	0.83Ω	18Ω	26Ω	52Ω
		Max.	2.5Ω	25Ω	35Ω	120Ω
	Output capacitance (Typ.)	80pF		45pF		35pF
	Off state leakage current (Max.)	1μA				
Input	LED forward current	50mA				
	LED reverse voltage	5V				
	Peak forward current	1A				
	Power dissipation	75mW				
	LED operate current	Typ.	1.2mA			
		Max.	3mA			
LED turn off current	Min.	0.4mA				
	Typ.	1.1mA				
LED dropout voltage	Typ.	1.25V (1.14V at I _f = 5mA)				
	Max.	1.5V				
Turn on time	Typ.	1.0ms	0.5ms			
	Max.	4.0ms	2ms			
Turn off time	Typ.	0.08ms			0.04ms	
	Max.	1ms			1ms	
Total power dissipation	850mW					
I/O isolation voltage	5,000V AC					
Operating temperature	-40°C to +85°C -40°F to +185°F					
Storage temperature	-40°C to +100°C -40°F to +212°F					
I/O capacitance	Typ.	0.8pF				
	Max.	1.5pF				
Initial I/O isolation resistance (Min.)	1,000MΩ					
Terminal layout						
• Tolerance: ±0.1 ±.004 mm inch						
Standards	UL, C-UL, BSI					
Mass (weight) (approx.)	0.4g .014oz					
Packing style	Tube packing, Tape and reel packing					
Page	P.140					

Product name		GE									
		1 Form B			1 Form B						
		AC/DC			AC/DC						
Appearance configuration *Standoff height included											
		mm		inch							
Part No.		AQY412EH	AQY410EH	AQY414EH	AQV414E	AQV412EH	AQV410EH	AQV414EH			
Load voltage	Peak AC	60V	350V	400V	400V	60V	350V	400V			
	DC	60V	350V	400V	400V	60V	350V	400V			
Output	Continuous load current *6-pin type: in case of A connection	1A									
		0.5A	0.55A	0.13A	0.12A	0.12A	0.55A	0.13A	0.12A		
Peak load current		1.5A	0.4A	0.3A	0.3A	1.5A	0.4A	0.3A			
Power dissipation		500mW			500mW						
On resistance *6-pin type: in case of A connection	Typ.	1Ω	18Ω	26Ω	26Ω	1Ω	18Ω	25.2Ω			
	Max.	2.5Ω	25Ω	35Ω	50Ω	2.5Ω	35Ω	50Ω			
Output capacitance (Typ.)		500pF	110pF	100pF	100pF	500pF	110pF	100pF			
Off state leakage current (Max.)		10μA			1μA	10μA					
Input	LED forward current		50mA			50mA					
	LED reverse voltage		5V			5V					
	Peak forward current		1A			1A					
	Power dissipation		75mW			75mW					
	LED operate current	Typ.	1.4mA			1.45mA	1.9mA				
		Max.	3mA			3mA	3mA				
	LED turn off current	Min.	0.4mA			0.3mA	0.4mA				
Typ.		1.3mA			1.4mA	1.8mA					
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)						
	Max.	1.5V			1.5V						
Turn on time	Typ.	3ms	1ms	0.8ms	0.7ms	3ms	1.5ms	1.3ms			
	Max.	10ms	3ms	3ms	2ms	8ms	3ms	3ms			
Turn off time	Typ.	0.2ms	0.3ms	0.2ms	0.1ms	0.3ms					
	Max.	1ms	1ms	1ms	1ms	1.5ms					
Total power dissipation		550mW			550mW						
I/O isolation voltage		5,000V AC			1,500V AC	5,000V AC					
Operating temperature		-40°C to +85°C -40°F to +185°F			-40°C to +85°C -40°F to +185°F						
Storage temperature		-40°C to +100°C -40°F to +212°F			-40°C to +100°C -40°F to +212°F						
I/O capacitance	Typ.	0.8pF			0.8pF						
	Max.	1.5pF			1.5pF						
Initial I/O isolation resistance (Min.)		1,000MΩ			1,000MΩ						
Terminal layout	Through hole terminal	Surface mount terminal			Through hole terminal	Surface mount terminal					
• Tolerance: ±0.1 ±.004 mm inch		BOTTOM VIEW			TOP VIEW		BOTTOM VIEW			TOP VIEW	
Standards		UL, C-UL, VDE	UL, C-UL, BSI			UL, C-UL	UL, C-UL, VDE	UL, C-UL, BSI			
Mass (weight) (approx.)		0.19g .007oz			0.453g .016oz						
Packing style		Tube packing, Tape and reel packing									
Page		P.144			P.147						

PhotoMOS® Selector Chart

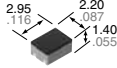
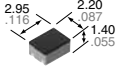
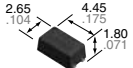
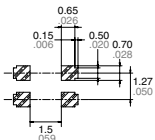
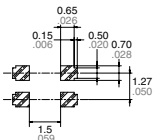
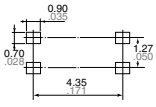
GU GE RF HE HF HS PD Power
 GE: General use and Economical

Product name		GE							
		2 Form B		1 Form A & 1 Form B					
		AC/DC		AC/DC					
Appearance configuration *Standoff height included mm inch									
Part No.		AQW414EH		AQW612EH	AQW610EH	AQW614EH			
Output	Load voltage	400V		60V	350V	400V			
		DC		60V	350V	400V			
	Continuous load current	1A							
		0.5A			0.5A				
	Peak load current	0.3A		1.5A	0.36A	0.3A			
	Power dissipation	800mW			800mW				
	On resistance	Typ.	26Ω		1Ω	18Ω	26Ω		
		Max.	35Ω		2.5Ω	25Ω	35Ω		
	Output capacitance (Typ.)	100pF		80pF (N.O.), 500pF (N.C.)	45pF (N.O.), 100pF (N.C.)				
	Off state leakage current (Max.)	10μA			1μA (N.O.), 10μA (N.C.)				
Input	LED forward current	50mA			50mA				
	LED reverse voltage	5V			5V				
	Peak forward current	1A			1A				
	Power dissipation	75mW			75mW				
	LED operate current	Typ.	1.3mA			1.4mA			
		Max.	3mA			3mA			
	LED turn off current	Min.	0.4mA			0.4mA			
Typ.		1.2mA			1.3mA				
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)			1.25V (1.14V at I _F = 5mA)				
	Max.	1.5V			1.5V				
Turn on time	Typ.	0.8ms		1ms (N.O.), 3ms (N.C.)	0.5ms (N.O.), 1ms (N.C.)	0.5ms (N.O.), 0.8ms (N.C.)			
	Max.	3ms		4ms (N.O.), 10ms (N.C.)	3ms	3ms			
Turn off time	Typ.	0.2ms		0.05ms (N.O.), 0.2ms (N.C.)	0.08ms (N.O.), 0.3ms (N.C.)	0.08ms (N.O.), 0.2ms (N.C.)			
	Max.	1ms		1ms	1ms	1ms			
Total power dissipation	850mW			850mW					
I/O isolation voltage	5,000V AC			5,000V AC					
Operating temperature	-40°C to +85°C -40°F to +185°F			-40°C to +85°C -40°F to +185°F					
Storage temperature	-40°C to +100°C -40°F to +212°F			-40°C to +100°C -40°F to +212°F					
I/O capacitance	Typ.	0.8pF			0.8pF				
	Max.	1.5pF			1.5pF				
Initial I/O isolation resistance (Min.)	1,000MΩ			1,000MΩ					
Terminal layout	Through hole terminal		Surface mount terminal		Through hole terminal		Surface mount terminal		
• Tolerance: ±0.1 ±.004 mm inch		BOTTOM VIEW		TOP VIEW		BOTTOM VIEW		TOP VIEW	
Standards	UL, C-UL, BSI		UL, C-UL, VDE		UL, C-UL, BSI				
Mass (weight) (approx.)	0.5g .018oz				0.5g .018oz				
Packing style	Tube packing, Tape and reel packing								
Page	P.151				P.154				

Product name		RF		RF VSSOP CxR5	RF VSSOP CxR10			
		1 Form A		1 Form A	1 Form A			
		AC/DC		AC/DC	AC/DC			
Appearance configuration *Standoff height included								
Part No.		AQV221	AQV225	AQY221N3T	AQY221R6T	AQY221R2T	AQY221N2T	
Output	Load voltage	Peak AC	40V	80V	25V	30V	40V	
		DC	40V	80V	25V	30V	40V	
	Continuous load current *6-pin type: in case of A connection	1A				0.8A		
		0.5A					0.25A	0.12A
	Peak load current	0.18A	0.15A	—	1.5A	0.75A	—	
	Power dissipation	230mW		250mW	250mW			
	On resistance *6-pin type: in case of A connection	Typ.	22Ω	36Ω	5.5Ω	0.18Ω	0.8Ω	9.5Ω
		Max.	35Ω	50Ω	7.5Ω	0.35Ω	1.25Ω	12.5Ω
	Output capacitance (Typ.)	5.6pF		4.8pF	1.1pF	37.5pF	14pF	1.1pF
	Off state leakage current (Max.)	10nA		10nA	10nA			
Input	LED forward current	50mA		50mA	50mA			
	LED reverse voltage	5V		5V	5V			
	Peak forward current	1A		1A	1A			
	Power dissipation	75mW		75mW	75mW			
	LED operate current	Typ.	0.9mA		0.7mA	0.5mA	0.5mA	0.7mA
		Max.	3mA		3mA	3mA	3mA	3mA
	LED turn off current	Min.	0.4mA		0.2mA	0.1mA	0.1mA	0.2mA
Typ.		0.85mA		0.6mA	0.4mA	0.4mA	0.6mA	
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)		1.14V	1.14V			
	Max.	1.5V		1.5V	1.5V			
Turn on time	Typ.	0.1ms		0.01ms	0.1ms	0.1ms	0.01ms	
	Max.	0.3ms		0.2ms	0.5ms	0.5ms	0.2ms	
Turn off time	Typ.	0.03ms		0.03ms	0.06ms	0.06ms	0.03ms	
	Max.	0.1ms		0.2ms	0.2ms	0.2ms	0.2ms	
Total power dissipation	280mW		300mW	300mW				
I/O isolation voltage	1,500V AC		200V AC	200V AC				
Operating temperature	-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F				
Storage temperature	-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F				
I/O capacitance	Typ.	0.8pF		0.4pF	0.4pF			
	Max.	1.5pF		1.5pF	1.5pF			
Initial I/O isolation resistance (Min.)	1,000MΩ		—	—				
Terminal layout	Through hole terminal		Surface mount terminal		Surface mount terminal			
• Tolerance: ±0.1 ±.004 mm inch								
Standards	UL, C-UL		—		—			
Mass (weight) (approx.)	0.453g .016oz		0.026g .001oz		0.026g .001oz			
Packing style	Tube packing, Tape and reel packing		Tape and reel packing		Tape and reel packing			
Page	P.158		P.162		P.162			

PhotoMOS® Selector Chart

GU GE **RF** HE HF HS PD Power
 RF: Low on-resistance & Low output capacitance

Product name		RF SON C×R5		RF SON C×R10		RF SSOP C×R5	
		1 Form A		1 Form A		1 Form A	
		AC/DC		AC/DC		AC/DC	
Appearance configuration *Standoff height included							
mm inch							
Part No.		AQY221N3M		AQY221R2M		AQY221N2M	
Load voltage		25V		40V		40V	
Peak AC		25V		40V		40V	
DC		25V		40V		40V	
Continuous load current *6-pin type: in case of A connection		1A		0.25A		0.12A	
0.5A		0.15A		0.25A		0.15A	
Peak load current		—		0.75A		—	
Power dissipation		250mW		250mW		250mW	
On resistance *6-pin type: in case of A connection		Typ. 5.5Ω Max. 7.5Ω		0.8Ω 1.25Ω		9.5Ω 12.5Ω	
Output capacitance (Typ.)		1.1pF		14pF		1.1pF	
Off state leakage current (Max.)		10nA		10nA		10nA	
LED forward current		50mA		50mA		50mA	
LED reverse voltage		5V		5V		5V	
Peak forward current		1A		1A		1A	
Power dissipation		75mW		75mW		75mW	
LED operate current		Typ. 1mA Max. 3mA		0.8mA 3mA		1mA 3mA	
LED turn off current		Min. 0.2mA Typ. 0.9mA		0.1mA 0.7mA		0.2mA 0.9mA	
LED dropout voltage		Typ. 1.35V (1.14V at I _F = 5mA) Max. 1.5V		1.35V (1.14V at I _F = 5mA) 1.5V		1.35V (1.14V at I _F = 5mA) 1.5V	
Turn on time		Typ. 0.02ms Max. 0.2ms		0.2ms 0.5ms		0.02ms 0.2ms	
Turn off time		Typ. 0.02ms Max. 0.2ms		0.04ms 0.2ms		0.02ms 0.2ms	
Total power dissipation		300mW		300mW		300mW	
I/O isolation voltage		200V AC		200V AC		1,500V AC	
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F	
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F	
I/O capacitance		Typ. 0.8pF Max. 1.5pF		0.8pF 1.5pF		0.8pF 1.5pF	
Initial I/O isolation resistance (Min.)		—		—		1,000MΩ	
Terminal layout							
• Tolerance: ±0.1 ±.004 mm inch							
Standards		—		—		—	
Mass (weight) (approx.)		0.024g .001oz		0.024g .001oz		0.064g .002oz	
Packing style		Tape and reel packing*		Tape and reel packing*		Tape and reel packing*	
Page		P.168		P.168		P.172	

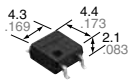
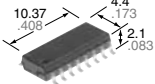
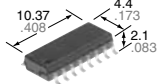



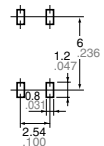
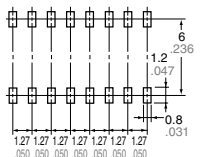
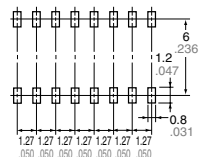
* Packing quantity of 1,000 pieces is possible.

Product name		RF SSOP C×R10				RF SSOP C×R10 Voltage-sensitive		
		1 Form A				1 Form A		
		AC/DC				AC/DC		
Appearance configuration *Standoff height included								
		New						
Part No.		AQY221R6V	AQY221R4V	AQY221R2V	AQY221N2V	AQY221FR2V	AQY221FN2V	
Output	Load voltage	Peak AC	30V	40V	40V	40V	40V	
		DC	30V	40V	40V	40V	40V	
	Continuous load current	1A	1A					
		0.5A		0.5A	0.25A	0.12A	0.25A	0.12A
	Peak load current		1.5A	1A	0.75A	0.3A	0.75A	0.2A
	Power dissipation		250mW				250mW	
	On resistance	Typ.	0.18Ω	0.55Ω	0.75Ω	9.5Ω	0.75Ω	9.5Ω
		Max.	0.35Ω	1Ω	1.25Ω	12.5Ω	1.25Ω	12.5Ω
	Output capacitance (Typ.)		37.5pF	24pF	12.5pF	1pF	12.5pF	1pF
	Off state leakage current (Max.)		10nA				10nA	
Input	LED forward current		50mA			Input voltage: 6V		
	LED reverse voltage		5V			Input reverse voltage: 5V		
	Peak forward current		1A			—		
	Power dissipation		75mW			65mW		
	LED operate current	Typ.	0.7mA	0.9mA		1mA		
		Max.	3mA	3mA		3mA		
	LED turn off current	Min.	0.1mA	0.1mA		0.2mA		
Typ.		0.6mA	0.8mA		0.9mA			
LED dropout voltage	Typ. Max.	1.35V (1.14V at I _F = 5mA) 1.5V				Input current (typ.): 8.5mA (V _{IN} = 5V)		
Turn on time	Typ.	0.2ms	0.25ms	0.1ms	0.02ms	0.05ms	0.01ms	
	Max.	0.5ms	0.75ms	0.5ms	0.5ms	0.5ms	0.5ms	
Turn off time	Typ.	0.07ms	0.08ms		0.02ms	0.06ms	0.03ms	
	Max.	0.2ms	0.2ms		0.2ms	0.2ms	0.2ms	
Total power dissipation		300mW				300mW		
I/O isolation voltage		1,500VAC				500V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F				-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F				-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF				0.8pF		
	Max.	1.5pF				1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ				1,000MΩ		
Terminal layout								
• Tolerance: ±0.1 ±.004	mm inch							
Standards		—						
Mass (weight) (approx.)		0.064g .002oz				0.064g .002oz		
Packing style		Tape and reel packing*				Tape and reel packing*		
Page		P.172				P.176		

* Packing quantity of 1,000 pieces is possible.

PhotoMOS® Selector Chart

GU GE RF HE HF HS PD Power
RF: Low on-resistance & Low output capacitance

Product name		RF SOP C×R10		RF SOP C×R10		RF SOP C×R10 Voltage-sensitive		
		1 Form A		4 Form A		4 Form A		
		AC/DC		AC/DC		AC/DC		
Appearance configuration *Standoff height included								
mm inch								
Part No.		AQY221R2S	AQY221N2S	AQS221R2S	AQS221N2S	AQS221FR2S	AQS221FN2S	
Output	Load voltage	Peak AC	40V	40V	40V	40V	40V	
		DC	40V	40V	40V	40V	40V	
	Continuous load current	1A						
		0.5A						
	Peak load current							
	Power dissipation	300mW		600mW		600mW		
	On resistance	Typ.	0.8Ω	9.5Ω	0.8Ω	9.5Ω	0.75Ω	9.5Ω
		Max.	1.25Ω	12.5Ω	1.25Ω	12.5Ω	1.25Ω	12.5Ω
	Output capacitance (Typ.)		13pF	1pF	13pF	1pF	12.5pF	1pF
	Off state leakage current (Max.)		10nA		10nA		10nA	
Input	LED forward current	50mA		50mA		Input voltage: 6V		
	LED reverse voltage	5V		5V		Input reverse voltage: 5V		
	Peak forward current	1A		1A		—		
	Power dissipation	75mW		75mW		260mW (65mW per channel)		
	LED operate current	Typ.	0.5mA	0.9mA	0.5mA	0.9mA	Operate voltage: 1.3V	
		Max.	3mA	3mA	3mA	3mA	4V	
	LED turn off current	Min.	0.1mA	0.2mA	0.1mA	0.1mA	Turn off voltage: 0.8V	
Typ.		0.4mA	0.85mA	0.4mA	0.85mA	1.3V		
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)		1.25V (1.14V at I _F = 5mA)		Input current (typ.): 8.5mA (V _{IN} = 5V)		
Max.		1.5V		1.5V				
Turn on time	Typ.	0.1ms	0.03ms	0.15ms	0.03ms	0.07ms	0.02ms	
	Max.	0.5ms	0.5ms	0.5ms	0.2ms	0.5ms	0.5ms	
Turn off time	Typ.	0.06ms	0.03ms	0.06ms	0.03ms	0.07ms	0.02ms	
	Max.	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	
Total power dissipation		350mW		650mW		650mW		
I/O isolation voltage		500V AC	1,500V AC	500V AC		500V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF		0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ		1,000MΩ		
Terminal layout								
• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW		TOP VIEW		TOP VIEW		
Standards		—		—		—		
Mass (weight) (approx.)		0.084g .003oz		0.195g .007oz		0.195g .007oz		
Packing style		Tube packing, Tape and reel packing						
Page		P.180		P.184		P.188		

Product name		RF SSOP CxR		RF SOP CxR		
		1 Form A		1 Form A		
		AC/DC		AC/DC		
Appearance configuration *Standoff height included						
		mm inch				
Part No.		AQY225R2V		AQY222R1S		
Output	Load voltage	Peak AC	80V	60V	80V	80V
		DC	80V	60V	80V	80V
	Continuous load current	1A				
		0.5A		0.5A	0.35A	0.15A
	Peak load current		0.3A	1A	0.7A	0.45A
	Power dissipation		250mW		300mW	
	On resistance	Typ.	10.5Ω	0.8Ω	0.8Ω	10.5Ω
		Max.	15Ω	1.2Ω	1.2Ω	15Ω
	Output capacitance (Typ.)		4.5pF	24.5pF	37.5pF	4.5pF
	Off state leakage current (Max.)		10nA		10nA	
Input	LED forward current		50mA		50mA	
	LED reverse voltage		5V		5V	
	Peak forward current		1A		1A	
	Power dissipation		75mW		75mW	
	LED operate current	Typ.	0.5mA	0.5mA	0.5mA	0.5mA
		Max.	3mA	3mA	3mA	3mA
	LED turn off current	Min.	0.1mA	0.1mA	0.1mA	0.1mA
Typ.		0.45mA	0.45mA	0.45mA	0.45mA	
LED dropout voltage	Typ.	1.32V (1.14V at If = 5mA)	1.32V (1.14V at If = 5mA)	1.32V (1.14V at If = 5mA)	1.32V (1.14V at If = 5mA)	
	Max.	1.5V	1.5V	1.5V	1.5V	
Turn on time	Typ.	0.05ms	0.15ms	0.25ms	0.05ms	
	Max.	0.5ms	0.5ms	0.75ms	0.5ms	
Turn off time	Typ.	0.05ms	0.06ms	0.08ms	0.05ms	
	Max.	0.2ms	0.2ms	0.2ms	0.2ms	
Total power dissipation		300mW		350mW		
I/O isolation voltage		1,500V AC		1,500V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ		
Terminal layout						
• Tolerance: ±0.1 ±.004	mm inch			TOP VIEW		
Standards		—	—	UL, C-UL	—	
Mass (weight) (approx.)		0.064g .002oz		0.084g .003oz		
Packing style		Tape and reel packing*		Tube packing, Tape and reel packing		
Page		P.192		P.195		

* Packing quantity of 1,000 pieces is possible.

PhotoMOS® Selector Chart

GU GE **RF** HE HF HS PD Power
 RF: Low on-resistance & Low output capacitance

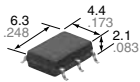
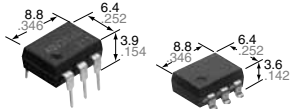



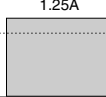
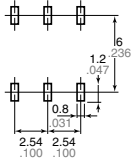
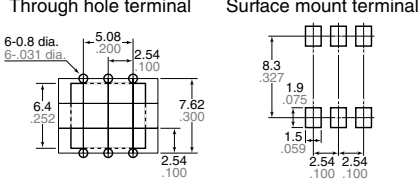
Product name		RF SOP CxR		RF SOP Low on-resistance		RF Low on-resistance	
		2 Form A		1 Form A		1 Form A	
		AC/DC		AC/DC		AC/DC	
Appearance configuration *Standoff height included							
Part No.		AQW223R2S		AQV227NS		AQV224NS	
Load voltage	Peak AC	250V		200V		400V	
	DC	250V		200V		400V	
Continuous load current *6-pin type: in case of A connection	1A						
	0.5A						
Peak load current		0.14A		0.05A		0.04A	
Power dissipation		600mW		450mW		360mW	
On resistance *6-pin type: in case of A connection	Typ. Max.	11Ω 15Ω		30Ω 50Ω		70Ω 100Ω	
Output capacitance (Typ.)		33pF		10pF		10pF	
Off state leakage current (Max.)		10nA		10nA		10nA	
LED forward current		50mA		50mA		50mA	
LED reverse voltage		5V		5V		5V	
Peak forward current		1A		1A		1A	
Power dissipation		75mW		75mW		75mW	
LED operate current	Typ. Max.	0.5mA 3mA		0.7mA 3mA		0.9mA 3mA	
LED turn off current	Min. Typ.	0.1mA 0.45mA		0.4mA 0.65mA		0.4mA 0.85mA	
LED dropout voltage	Typ. Max.	1.32V (1.14V at If = 5mA) 1.5V		1.25V (1.14V at If = 5mA) 1.5V		1.25V (1.14V at If = 5mA) 1.5V	
Turn on time	Typ. Max.	0.15ms 0.5ms		0.12ms 0.5ms		0.1ms 0.5ms	
Turn off time	Typ. Max.	0.05ms 0.2ms		0.05ms 0.2ms		0.08ms 0.2ms	
Total power dissipation		650mW		500mW		410mW	
I/O isolation voltage		1,500V AC		1,500V AC		1,500V AC	
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F	
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F	
I/O capacitance	Typ. Max.	0.8pF 1.5pF		0.8pF 1.5pF		0.8pF 1.5pF	
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ		1,000MΩ	
Terminal layout						Through hole terminal 	
• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW		TOP VIEW		BOTTOM VIEW TOP VIEW	
Standards		—		UL, C-UL		UL, C-UL	
Mass (weight) (approx.)		0.195g .007oz		0.125g .004oz		0.453g .016oz	
Packing style		Tube packing, Tape and reel packing					
Page		P.199		P.202		P.206	

Product name		RF SOP Low on-resistance		RF Low on-resistance		RF SOP CxR		
		2 Form A		2 Form A		4 Form A		
		AC/DC		AC/DC		AC/DC		
Appearance configuration *Standoff height included mm inch								
		Part No.		AQW227NS		AQW227N AQW224N		AQS225R2S
Output	Load voltage	Peak AC	200V		200V 400V		80V	
		DC	200V		200V 400V		80V	
	Continuous load current	1A						
		0.5A						
	Peak load current	0.04A		0.05A 0.04A		0.07A		
	Power dissipation	0.15A		0.15A 0.12A		0.2A		
	Power dissipation	600mW		800mW		600mW		
	On resistance	Typ.	30Ω		30Ω 70Ω		10.5Ω	
		Max.	50Ω		50Ω 100Ω		15Ω	
	Output capacitance (Typ.)	10pF		10pF		4.5pF		
Off state leakage current (Max.)	10nA		10nA		10nA			
Input	LED forward current	50mA		50mA		50mA		
	LED reverse voltage	5V		5V		5V		
	Peak forward current	1A		1A		1A		
	Power dissipation	75mW		75mW		75mW		
	LED operate current	Typ.	0.7mA		0.9mA		0.9mA	
		Max.	3mA		3mA		3mA	
	LED turn off current	Min.	0.4mA		0.4mA		0.3mA	
Typ.		0.65mA		0.8mA		0.85mA		
LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)		1.25V (1.14V at If = 5mA)		1.25V (1.14V at If = 5mA)		
	Max.	1.5V		1.5V		1.5V		
Turn on time	Typ.	0.25ms		0.2ms		0.04ms		
	Max.	0.5ms		0.5ms		0.3ms		
Turn off time	Typ.	0.08ms		0.08ms		0.07ms		
	Max.	0.2ms		0.2ms		0.2ms		
Total power dissipation	650mW		850mW		650mW			
I/O isolation voltage	1,500V AC		1,500V AC		1,500V AC			
Operating temperature	-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F			
Storage temperature	-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F			
I/O capacitance	Typ.	0.8pF		0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)	1,000MΩ		1,000MΩ		1,000MΩ			
Terminal layout								
	• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW BOTTOM VIEW TOP VIEW		TOP VIEW			
Standards	UL, C-UL		UL, C-UL		—			
Mass (weight) (approx.)	0.195g .007oz		0.5g .018oz		0.195g .007oz			
Packing style	Tube packing, Tape and reel packing							
Page	P.210		P.213		P.216			

PhotoMOS® Selector Chart

GU GE RF **HE** HF HS PD Power
HE: Economical & low on-resistance

Product name		HE											
		1 Form A											
		AC/DC											
Appearance configuration *Standoff height included													
Part No.		AQV251	AQV252	AQV255	AQV257	AQV253	AQV254	AQV259	AQV258	AQV253H	AQV254H	AQV256H	
Output	Load voltage	Peak AC	40V	60V	100V	200V	250V	400V	1,000V	1,500V	250V	400V	600V
		DC	40V	60V	100V	200V	250V	400V	1,000V	1,500V	250V	400V	600V
	Continuous load current *6-pin type: in case of A connection	1A											
		0.5A	0.5A	0.4A	0.35A	0.25A	0.2A	0.15A	0.03A	0.02A	0.2A	0.15A	0.13A
	Peak load current		1.8A	1.5A	1.0A	0.75A	0.6A	0.5A	0.09A	0.06A	0.6A	0.5A	0.4A
	Power dissipation		360mW										
	On resistance *6-pin type: in case of A connection	Typ.	0.6Ω	0.74Ω	1.8Ω	2.6Ω	5.5Ω	12.4Ω	85Ω	345Ω	5.5Ω	12.4Ω	20Ω
		Max.	1Ω	1.4Ω	2.5Ω	4Ω	8Ω	16Ω	200Ω	500Ω	8Ω	16Ω	30Ω
	Output capacitance (Typ.)		350pF			170pF			80pF		170pF		70pF
	Off state leakage current (Max.)		1μA						10μA		1μA		
Input	LED forward current		50mA										
	LED reverse voltage		5V										
	Peak forward current		1A										
	Power dissipation		75mW										
	LED operate current	Typ.	0.9mA						1.4mA				
		Max.	3mA						3mA				
	LED turn off current	Min.	0.4mA						0.4mA				
	Typ.	0.8mA						1.3mA					
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)											
	Max.	1.5V											
Turn on time	Typ.	1.7ms	1.4ms	0.9ms	1.5ms	0.8ms	0.6ms	0.35ms	2.4ms	1.8ms	1.2ms		
	Max.	3ms	3ms	2ms	3ms	2ms	1ms	1ms	4ms	3ms	3ms		
Turn off time	Typ.	0.07ms		0.09ms	0.1ms	0.06ms	0.05ms	0.04ms	0.04ms	0.06ms	0.05ms	0.06ms	
	Max.	0.2ms		0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	0.2ms	
Total power dissipation		410mW											
I/O isolation voltage		1,500V AC							5,000V AC				
Operating temperature		-40°C to +85°C -40°F to +185°F											
Storage temperature		-40°C to +100°C -40°F to +212°F											
I/O capacitance	Typ.	1.3pF											
	Max.	3pF											
Initial I/O isolation resistance (Min.)		1,000MΩ											
Terminal layout													
		BOTTOM VIEW					TOP VIEW						
• Tolerance: ±0.1 ±.004	mm inch												
Standards		UL, C-UL							UL, C-UL, VDE	UL, C-UL, BSI		UL, C-UL, VDE	
Mass (weight) (approx.)		0.453g .016oz											
Packing style		Tube packing, Tape and reel packing											
Page		P.219											

Product name		HE SOP High Capacity		HE High Capacity		
		1 Form A		1 Form A		
		AC/DC		AC/DC		
Appearance configuration *Standoff height included						
Part No.		AQV252G2S	AQV255GS	AQV251G	AQV252G	
Output	Load voltage	Peak AC	50V	80V	30V	60V
		DC	50V	80V	30V	60V
	Continuous load current *6-pin type: in case of A connection	3A				
		2A				
		1A				
	Peak load current		6A	3A	6.0A	
	Power dissipation		450mW		600mW	
	On resistance *6-pin type: in case of A connection	Typ.	0.04Ω	0.09Ω	0.035Ω	0.08Ω
		Max.	0.07Ω	0.15Ω	0.08Ω	0.12Ω
	Output capacitance (Typ.)		360pF	300pF	330pF	240pF
Off state leakage current (Max.)		1μA		1μA		
Input	LED forward current	50mA		50mA		
	LED reverse voltage	5V		5V		
	Peak forward current	1A		1A		
	Power dissipation	75mW		75mW		
	LED operate current	Typ.	0.6mA	0.5mA	0.55mA	0.5mA
		Max.	3mA	3mA	3mA	3mA
	LED turn off current	Min.	0.2mA	0.2mA	0.2mA	
Typ.		0.5mA	0.4mA	0.45mA		
LED dropout voltage	Typ.	1.32V (1.14V at If = 5mA)		1.14V		
	Max.	1.5V		1.5V		
Turn on time	Typ.	1.5ms	1.3ms	1.1ms		
	Max.	5.0ms	5.0ms	5.0ms		
Turn off time	Typ.	0.08ms	0.1ms	0.1ms	0.25ms	
	Max.	0.5ms	0.5ms	0.5ms	0.5ms	
Total power dissipation		500mW		650mW		
I/O isolation voltage		1,500V AC		1,500V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF		0.8pF		
	Max.	1.5pF		1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ		
Terminal layout						
• Tolerance: ±0.1 ±.004 mm inch		TOP VIEW		BOTTOM VIEW	TOP VIEW	
Standards () : Under application		(UL, C-UL, VDE)*		UL, C-UL, VDE		
Mass (weight) (approx.)		0.125g .004oz		0.453g .016oz		
Packing style		Tube packing, Tape and reel packing				
Page		P.223		P.227		

* For the latest information on compliance with international standards, please visit our website.

PhotoMOS® Selector Chart

GU GE RF **HE** HF HS PD Power
 HE: Economical & low on-resistance

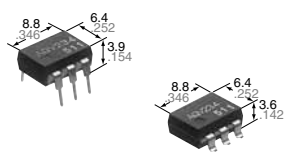
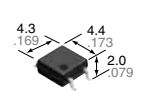
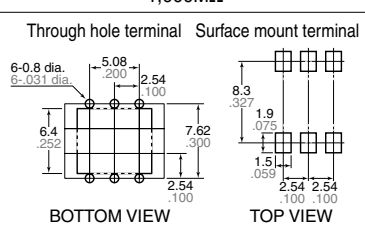
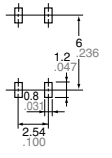
Product name		HE					
		2 Form A		1 Form B			
		AC/DC		AC/DC			
Appearance configuration *Standoff height included mm inch							
Part No.		AQW254		AQV453	AQV454	AQV454H	
Output	Load voltage	Peak AC	400V	250V	400V	400V	
		DC	400V	250V	400V	400V	
	Continuous load current *6-pin type: in case of A connection	1A					
		0.5A					
	Peak load current		0.12A	0.2A	0.15A	0.15A	
	Power dissipation		800mW	360mW	360mW	360mW	
	On resistance *6-pin type: in case of A connection	Typ.	10.2Ω	5.5Ω	11Ω	11Ω	
		Max.	16Ω	8Ω	16Ω	16Ω	
	Output capacitance (Typ.)		170pF	350pF	170pF	170pF	
	Off state leakage current (Max.)		1μA	1μA	10μA	10μA	
Input	LED forward current		50mA	50mA	50mA		
	LED reverse voltage		5V	5V	5V		
	Peak forward current		1A	1A	1A		
	Power dissipation		75mW	75mW	75mW		
	LED operate current	Typ.	0.9mA	1mA	0.9mA	1.4mA	
		Max.	3mA	3mA	3mA	3mA	
	LED turn off current	Min.	0.4mA	0.4mA	0.4mA	0.4mA	
Typ.		0.8mA	0.9mA	0.8mA	1.3mA		
LED dropout voltage	Typ.	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)	1.25V (1.14V at If = 5mA)		
	Max.	1.5V	1.5V	1.5V	1.5V		
Turn on time	Typ.	0.8ms	1.52ms	1.2ms	1.8ms		
	Max.	2ms	3ms	2ms	3ms		
Turn off time	Typ.	0.04ms	0.4ms	0.36ms	0.4ms		
	Max.	0.2ms	1ms	1ms	1ms		
Total power dissipation		850mW	410mW	410mW	410mW		
I/O isolation voltage		1,500V AC	1,500V AC	5,000V AC	5,000V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF	1.3pF	1.3pF	1.3pF		
	Max.	1.5pF	3pF	3pF	3pF		
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ	1,000MΩ	1,000MΩ		
Terminal layout		Through hole terminal Surface mount terminal 	Through hole terminal Surface mount terminal 				
• Tolerance: ±0.1 ±.004 mm inch		BOTTOM VIEW TOP VIEW	BOTTOM VIEW TOP VIEW	BOTTOM VIEW TOP VIEW	BOTTOM VIEW TOP VIEW		
Standards		UL, C-UL	UL, C-UL	UL, C-UL, BSI	UL, C-UL, BSI		
Mass (weight) (approx.)		0.5g .018oz	0.453g .016oz	0.453g .016oz	0.453g .016oz		
Packing style		Tube packing, Tape and reel packing					
Page		P.231		P.234			

Product name		HE			
		2 Form B	1 Form A & 1 Form B		
Appearance configuration *Standoff height included mm inch		AC/DC			
		AC/DC			
Part No.		AQW454	AQW654		
Output	Load voltage	Peak AC	400V	400V	
		DC	400V	400V	
	Continuous load current	1A			
		0.5A			
	Peak load current		0.12A	0.12A	
	Power dissipation		800mW	800mW	
	On resistance	Typ.	11Ω	11Ω	
		Max.	16Ω	16Ω	
	Output capacitance (Typ.)		170pF	170pF	
	Off state leakage current (Max.)		1μA	1μA	
Input	LED forward current		50mA	50mA	
	LED reverse voltage		5V	5V	
	Peak forward current		1A	1A	
	Power dissipation		75mW	75mW	
	LED operate current	Typ.	0.9mA	0.9mA	
		Max.	3mA	3mA	
	LED turn off current	Min.	0.4mA	0.4mA	
Typ.		0.8mA	0.8mA		
LED dropout voltage	Typ.	1.25V (1.14V at I _F = 5mA)	1.25V (1.14V at I _F = 5mA)		
	Max.	1.5V	1.5V		
Turn on time	Typ.	1.2ms	0.8ms (N.O.), 1.2ms (N.C.)		
	Max.	2ms	2ms		
Turn off time	Typ.	0.36ms	0.04ms (N.O.), 0.36ms (N.C.)		
	Max.	1ms	1ms		
Total power dissipation		850mW	850mW		
I/O isolation voltage		1,500V AC	1,500V AC		
Operating temperature		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F		
Storage temperature		-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F		
I/O capacitance	Typ.	0.8pF	0.8pF		
	Max.	1.5pF	1.5pF		
Initial I/O isolation resistance (Min.)		1,000MΩ	1,000MΩ		
Terminal layout	Through hole terminal	Surface mount terminal	Through hole terminal	Surface mount terminal	
• Tolerance: ±0.1 ±.004	mm inch	BOTTOM VIEW	TOP VIEW	BOTTOM VIEW	TOP VIEW
Standards		UL, C-UL		UL, C-UL	
Mass (weight) (approx.)		0.5g .018oz		0.5g .018oz	
Packing style		Tube packing, Tape and reel packing			
Page		P.237		P.240	

PhotoMOS® Selector Chart

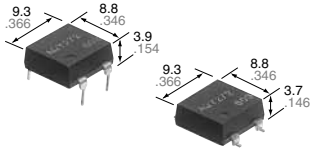
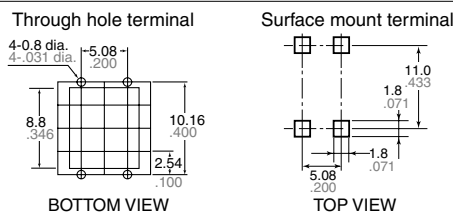
GU GE RF HE **HF** HS PD Power
 HF: Low on-resistance

Product name		HF								
		1 Form A								
		DC				AC/DC				
Appearance configuration *Standoff height included										
Part No.		AQV101	AQV102	AQV103	AQV104	AQV201	AQV202	AQV203	AQV204	
Output	Load voltage	—				40V	60V	250V	400V	
	Peak AC	—				40V	60V	250V	400V	
	DC	40V	60V	250V	400V	40V	60V	250V	400V	
	Continuous load current *6-pin type: in case of A connection	1A				1A				
	0.5A	0.7A	0.6A	0.3A	0.18A	0.5A	0.4A	0.2A	0.15A	
	Peak load current	1.8A	1.5A	0.6A	0.5A	1.8A	1.5A	0.6A	0.5A	
	Power dissipation	360mW								
	On resistance *6-pin type: in case of A connection	Typ.	0.3Ω	0.37Ω	2.7Ω	6.3Ω	0.6Ω	0.74Ω	5.5Ω	12.4Ω
	Max.	0.5Ω	0.7Ω	4Ω	8Ω	1Ω	1.4Ω	8Ω	16Ω	
	Output capacitance (Typ.)	600pF		300pF		350pF		170pF		
Off state leakage current (Max.)	1μA									
Input	LED forward current	50mA								
	LED reverse voltage	10V								
	Peak forward current	1A								
	Power dissipation	150mW								
	LED operate current	Typ.	2.3mA				2.4mA			
	Max.	5mA				5mA				
	LED turn off current	Min.	0.8mA							
Typ.	2.2mA									
LED dropout voltage	Typ.	2.3V								
Max.	3V									
Turn on time	Typ.	0.23ms	0.22ms	0.13ms	0.09ms	0.38ms	0.41ms	0.21ms	0.18ms	
Max.	1ms		1ms		1ms		1ms		1ms	
Turn off time	Typ.	0.07ms				0.08ms		0.07ms		
Max.	1ms				1ms		1ms			
Total power dissipation	410mW									
I/O isolation voltage	1,500V AC									
Operating temperature	-40°C to +85°C -40°F to +185°F									
Storage temperature	-40°C to +100°C -40°F to +212°F									
I/O capacitance	Typ.	1.3pF								
Max.	3pF									
Initial I/O isolation resistance (Min.)	1,000MΩ									
Terminal layout	Through hole terminal 				Surface mount terminal 					
• Tolerance: ±0.1 ±.004	mm inch									
Standards	UL, C-UL									
Mass (weight) (approx.)	0.453g .016oz									
Packing style	Tube packing, Tape and reel packing									
Page	P.243									

Product name		HS 1 Form A		HS SOP 1 Form A			
Appearance configuration *Standoff height included							
Part No.		AQV234		AQY232S	AQY230S	AQY234S	
Output	Load voltage	Peak AC	400V	60V	350V	400V	
		DC	400V	60V	350V	400V	
	Continuous load current *6-pin type: in case of A connection	1A					
		0.5A		0.5A			
	Peak load current		0.12A		0.12A	0.1A	
	Power dissipation		0.3A	1.5A	0.3A	0.24A	
	On resistance *6-pin type: in case of A connection	Typ. Max.	30Ω 50Ω	0.85Ω 2.5Ω	19Ω 25Ω	27Ω 35Ω	
	Output capacitance (Typ.)		45pF	80pF	32pF	35pF	
	Off state leakage current (Max.)		1μA		1μA		
	Input	LED forward current		50mA		50mA	
LED reverse voltage			5V		5V		
Peak forward current			1A		1A		
Power dissipation			75mW		75mW		
LED operate current		Typ. Max.	0.31mA 0.5mA		0.35mA 0.5mA		
LED turn off current		Min. Typ.	0.1mA 0.29mA		0.1mA 0.3mA		
LED dropout voltage		Typ. Max.	1.25V (1.1V at I _F = 2mA) 1.5V		1.25V (1.1V at I _F = 2mA) 1.5V		
Turn on time	Typ. Max.	0.89ms 2ms	1.5ms 5ms	1.2ms 5ms	0.8ms 5ms		
Turn off time	Typ. Max.	0.22ms 1ms	0.15ms 2ms	0.1ms 2ms	0.1ms 2ms		
Total power dissipation		550mW		350mW			
I/O isolation voltage		1,500V AC		1,500V AC			
Operating temperature		-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F			
Storage temperature		-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F			
I/O capacitance	Typ. Max.	0.8pF 1.5pF		0.8pF 1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ		1,000MΩ			
Terminal layout		<p>Through hole terminal Surface mount terminal</p> 					
Standards		UL, C-UL		UL, C-UL, VDE			
Mass (weight) (approx.)		0.453g .016oz		0.084g .003oz			
Packing style		Tube packing, Tape and reel packing					
Page		P248		P251			

PhotoMOS® Selector Chart

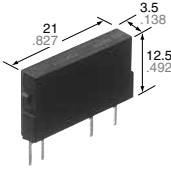
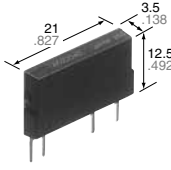
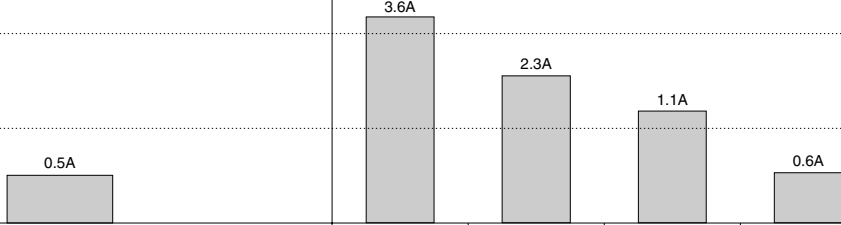
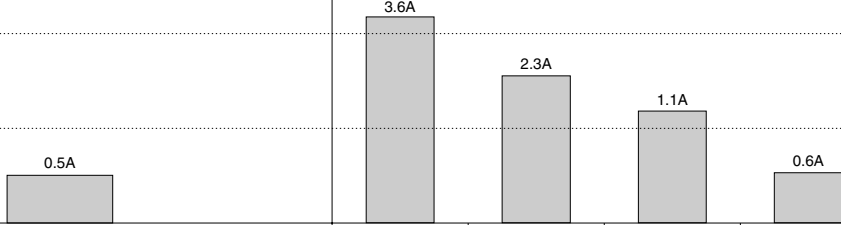
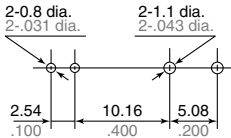
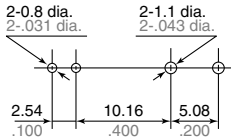
GU GE RF HE HF HS **PD** Power
 PD: Flat & power

Product name		PD			
		1 Form A			
		AC/DC			
Appearance configuration *Standoff height included					
Part No.		AQY272	AQY275	AQY277	AQY274
Load voltage	Peak AC	60V	100V	200V	400V
	DC	60V	100V	200V	400V
Output	Continuous load current *6-pin type: in case of A connection	2A	1.3A	0.65A	0.35A
		1A			
		0.5A			
	Peak load current	6A	4A	2A	1A
Power dissipation		700mW			
On resistance *6-pin type: in case of A connection	Typ.	0.11Ω	0.23Ω	0.7Ω	2.1Ω
	Max.	0.18Ω	0.34Ω	1.1Ω	3.2Ω
Output capacitance (Typ.)		1,400pF		600pF	
Off state leakage current (Max.)		10μA			
Input	LED forward current		50mA		
	LED reverse voltage		5V		
	Peak forward current		1A		
	Power dissipation		75mW		
	LED operate current	Typ.	1mA		
		Max.	3mA		
	LED turn off current	Min.	0.4mA		
Typ.		0.9mA			
LED dropout voltage	Typ.	1.25V (1.16V at I _F = 10mA)			
	Max.	1.5V			
Turn on time	Typ.	2.46ms	2.4ms	1.12ms	1.65ms
	Max.	5ms	5ms	5ms	5ms
Turn off time	Typ.	0.22ms	0.21ms	0.1ms	0.08ms
	Max.	3ms	3ms	3ms	3ms
Total power dissipation		750mW			
I/O isolation voltage		2,500V AC			
Operating temperature		-40°C to +85°C -40°F to +185°F			
Storage temperature		-40°C to +100°C -40°F to +212°F			
I/O capacitance	Typ.	0.8pF			
	Max.	1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ			
Terminal layout					
• Tolerance: ±0.1 ±.004 mm inch					
Standards		UL, C-UL, VDE			
Mass (weight) (approx.)		0.62g .022oz			
Packing style		Tube packing, Tape and reel packing			
Page		P.254			

Product name		Power								
		1 Form A								
		DC				AC/DC				
Appearance configuration *Standoff height included										
Part No.		AQZ102	AQZ105	AQZ107	AQZ104	AQZ202	AQZ205	AQZ207	AQZ204	
Output	Load voltage	Peak AC	—				60V	100V	200V	400V
		DC	60V	100V	200V	400V	60V	100V	200V	400V
	Continuous load current *6-pin type: in case of A connection	3A	4A	2.6A	1.3A	0.7A	3A	2A	1A	0.5A
		1A								
	Peak load current	9.0A	6.0A	3.0A	1.5A	9.0A	6.0A	3.0A	1.5A	
	Power dissipation	1.35W				1.6W				
	On resistance *6-pin type: in case of A connection	Typ.	0.05Ω	0.081Ω	0.34Ω	1.06Ω	0.11Ω	0.23Ω	0.7Ω	2.1Ω
		Max.	0.09Ω	0.17Ω	0.55Ω	1.6Ω	0.18Ω	0.34Ω	1.1Ω	3.2Ω
	Output capacitance (Typ.)		1,700pF		900pF		1,400pF		600pF	
	Off state leakage current (Max.)		10μA							
Input	LED forward current	50mA								
	LED reverse voltage	5V								
	Peak forward current	1A								
	Power dissipation	75mW								
	LED operate current	Typ.	1mA							
		Max.	3mA							
	LED turn off current	Min.	0.4mA							
Typ.		0.9mA								
LED dropout voltage	Typ.	1.25V (1.16V at I _F = 10mA)								
	Max.	1.5V								
Turn on time	Typ.	1.66ms	1.89ms	0.83ms	1.01ms	2.46ms	2.4ms	1.12ms	1.65ms	
	Max.	5ms	5ms	5ms	5ms	5ms	5ms	5ms	5ms	
Turn off time	Typ.	0.15ms	0.19ms	0.08ms	0.08ms	0.22ms	0.21ms	0.10ms	0.08ms	
	Max.	3ms	3ms	3ms	3ms	3ms	3ms	3ms	3ms	
Total power dissipation		1.35W				1.6W				
I/O isolation voltage		2,500V AC								
Operating temperature		-40°C to +85°C -40°F to +185°F								
Storage temperature		-40°C to +100°C -40°F to +212°F								
I/O capacitance	Typ.	0.8pF								
	Max.	1.5pF								
Initial I/O isolation resistance (Min.)		1,000MΩ								
Terminal layout										
• Tolerance: ±0.1 ±.004	mm inch									
Standards		UL, C-UL, VDE								
Mass (weight) (approx.)		1.65g .058oz								
Packing style		PA relay socket								
Page		P.258								

PhotoMOS® Selector Chart

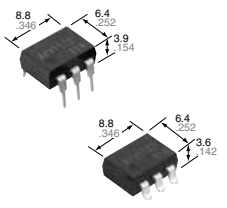
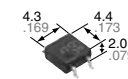
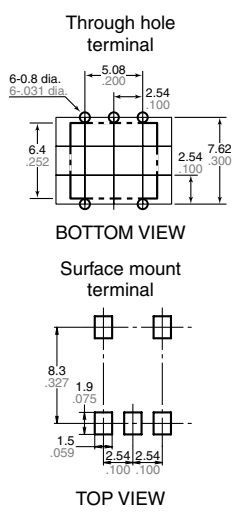
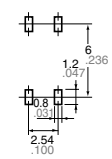
GU GE RF HE HF HS PD **Power**
Power: Slim & power

Product name		Power		Power Voltage-sensitive				
		1 Form B		1 Form A				
Appearance configuration *Standoff height included mm inch		AC/DC		DC				
								
Part No.		AQZ404		AQZ102D	AQZ105D	AQZ107D	AQZ104D	
Output	Load voltage	Peak AC	400V					
		DC	400V	60V	100V	200V	400V	
	Continuous load current *6-pin type: in case of A connection	3A						
		1A						
	Peak load current	1.5A		9A	6A	3A	1.5A	
	Power dissipation	1.6W		1.35W				
	On resistance *6-pin type: in case of A connection	Typ.	2.8Ω		0.033Ω	0.090Ω	0.33Ω	1.23Ω
		Max.	4.0Ω		0.09Ω	0.17Ω	0.55Ω	1.6Ω
	Output capacitance (Typ.)	2,000pF		1,700pF		900pF		
	Off state leakage current (Max.)	10μA		10μA				
Input	LED forward current	50mA		Input voltage: 30V				
	LED reverse voltage	5V		Input reverse voltage: 5V				
	Peak forward current	1A		—				
	Power dissipation	75mW		300mW				
	LED operate current	Typ.	1mA		Operate voltage: 1.4V			
		Max.	3mA		4V			
	LED turn off current	Min.	0.4mA		Turn off voltage: 0.8V			
Typ.		0.9mA		1.3V				
LED dropout voltage	Typ.	1.25V (1.16V at I _F = 10mA)		Input current (typ.): 6.5mA				
Turn on time	Typ.	3.9ms		3.3ms	2.2ms	1.5ms	1.2ms	
	Max.	7.5ms		10ms	10ms	10ms	10ms	
Turn off time	Typ.	0.8ms		0.2ms		0.1ms		
	Max.	3ms		3ms		3ms		
Total power dissipation	1.6W		1.35W					
I/O isolation voltage	2,500V AC		2,500V AC					
Operating temperature	-40°C to +85°C -40°F to +185°F		-40°C to +85°C (4V≤V _{IN} ≤6V), -40°C to +75°C (6V≤V _{IN} ≤15V), -40°C to +60°C (15V≤V _{IN} ≤30V) -40°F to +185°F (4V≤V _{IN} ≤6V), -40°F to +167°F (6V≤V _{IN} ≤15V), -40°F to +140°F (15V≤V _{IN} ≤30V)					
Storage temperature	-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F					
I/O capacitance	Typ.	0.8pF		0.8pF				
	Max.	1.5pF		1.5pF				
Initial I/O isolation resistance (Min.)	1,000MΩ		1,000MΩ					
Terminal layout								
• Tolerance: ±0.1 ±.004	mm inch							
Standards	UL, C-UL, VDE		UL, C-UL, VDE					
Mass (weight) (approx.)	1.65g .058oz		1.65g .058oz					
Packing style	PA relay socket		PA relay socket					
Page	P.265		P.269					

Product name		Power Voltage-sensitive				Power High Capacity		Power High Capacity	
		1 Form A				1 Form A		1 Form A	
		AC/DC				AC/DC		DC	
Appearance configuration *Standoff height included									
Part No.		AQZ202D	AQZ205D	AQZ207D	AQZ204D	AQZ262	AQZ264	AQZ192	
Output	Load voltage	Peak AC	60V	100V	200V	400V	60V	400V	—
		DC	60V	100V	200V	400V	60V	400V	60V
	Continuous load current	6A	2.7A	1.8A	0.9A	0.45A	6A	1A	10A
		1A							
		0.5A							
	Peak load current		9A	6A	3A	1.5A	10A	3A	30A
	Power dissipation		1.6W				3W		2W
	On resistance	Typ.	0.066Ω	0.180Ω	0.64Ω	2.4Ω	0.036Ω	1Ω	0.008Ω
		Max.	0.18Ω	0.34Ω	1.1Ω	3.2Ω	0.05Ω	1.4Ω	0.015Ω
	Output capacitance (Typ.)		1,400pF		600pF		1,400pF	600pF	2,100pF
Off state leakage current (Max.)		10μA				10μA	10μA	10μA	
Input	LED forward current		Input voltage: 30V				50mA	50mA	50mA
	LED reverse voltage		Input reverse voltage: 5V				5V	5V	5V
	Peak forward current		—				1A	1A	1A
	Power dissipation		300mW				75mW	75mW	75mW
	LED operate current	Typ.	Operate voltage: 1.4V				1mA	3mA	0.7mA
		Max.	4V				3mA	3mA	3mA
	LED turn off current	Min.	Turn off voltage: 0.8V				0.4mA	0.9mA	0.2mA
	Typ.	1.3V				0.9mA	0.9mA	0.5mA	
LED dropout voltage	Typ.	Input current (typ.): 6.5mA				1.25V	1.5V	1.35V (1.17V at I _f = 10mA)	
	Max.					1.5V	1.5V	1.5V	
Turn on time	Typ.	5.8ms	4.2ms	2.7ms	2.3ms	5ms	4ms	1ms	
	Max.	10ms	10ms	10ms	10ms	10ms	10ms	3ms	
Turn off time	Typ.	0.2ms		0.1ms		0.32ms	0.14ms	0.11ms	
	Max.	3ms		3ms		3ms	3ms	1ms	
Total power dissipation		1.6W				3W		2W	
I/O isolation voltage		2,500V AC				1,500V AC		3,000V AC	
Operating temperature		-40°C to +85°C (4V ≤ V _{IN} ≤ 6V), -40°C to +75°C (6V ≤ V _{IN} ≤ 15V), -40°C to +60°C (15V ≤ V _{IN} ≤ 30V) -40°F to +185°F (4V ≤ V _{IN} ≤ 6V), -40°F to +167°F (6V ≤ V _{IN} ≤ 15V), -40°F to +140°F (15V ≤ V _{IN} ≤ 30V)				-40°C to +85°C -40°F to +185°F		-40°C to +85°C -40°F to +185°F	
Storage temperature		-40°C to +100°C -40°F to +212°F				-40°C to +100°C -40°F to +212°F		-40°C to +100°C -40°F to +212°F	
I/O capacitance	Typ.	0.8pF				2pF		1.7pF	
	Max.	1.5pF				4pF		3pF	
Initial I/O isolation resistance (Min.)		1,000MΩ				1,000MΩ		1,000MΩ	
Terminal layout									
	• Tolerance: ±0.1 ±.004	mm inch							
Standards () : Under application		UL, C-UL, VDE				UL, C-UL, VDE		(UL, C-UL, VDE)*	
Mass (weight) (approx.)		1.65g .058oz				10.6g .374oz		4.3g .152oz	
Packing style		PA relay socket				—		—	
Page		P.269				P.274		P.277	

* For the latest information on compliance with international standards, please visit our website.

Photovoltaic MOSFET drivers

Product name		Photovoltaic MOSFET driver			
Appearance configuration *Standoff height included					
Part No.		APV1122	APV1121S	APV2121S	APV2111V
Output	Open voltage	Min.	6V		5V
		Typ.	8.7V		8.2V
	Short current	Min.	5μA		3μA
		Typ.	14μA		8μA
Input	LED forward current		50mA		
	LED reverse voltage		5V		
	Peak forward current		1A		
	Power dissipation		75mW		
	LED operate current	Typ.	0.6mA		0.85mA
		Max.	3mA		
	LED turn off current	Min.	0.2mA		
		Typ.	0.5mA		0.75mA
LED dropout voltage	Typ.	1.15V			
	Max.	1.5V			
Turn on time	Typ.	0.4mA		0.8mA	
Turn off time	Typ.	0.1ms			
I/O capacitance	Typ.	0.8pF			
	Max.	1.5pF			
Initial I/O isolation resistance (Min.)		1,000MΩ			
I/O isolation voltage		5,000V AC	2,500V AC	2,500V AC	1,500V AC
Operating temperature		-40°C to +85°C -40°F to +185°F			
Storage temperature		-40°C to +100°C -40°F to +212°F			
Terminal layout		 <p>Through hole terminal</p> <p>BOTTOM VIEW</p> <p>Surface mount terminal</p> <p>TOP VIEW</p>		 <p>TOP VIEW</p>	
• Tolerance: ±0.1 ±.004 mm inch					
Standards		UL, C-UL			
Mass (weight) (approx.)		0.45g .016oz	0.08g .003oz	0.06g .002oz	
Packing style		Tube packing, Tape and reel packing			Tape and reel packing*
Page		P.280			

* Packing quantity of 1,000 pieces is possible.