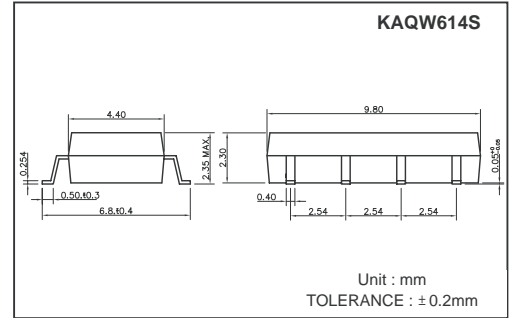


Features

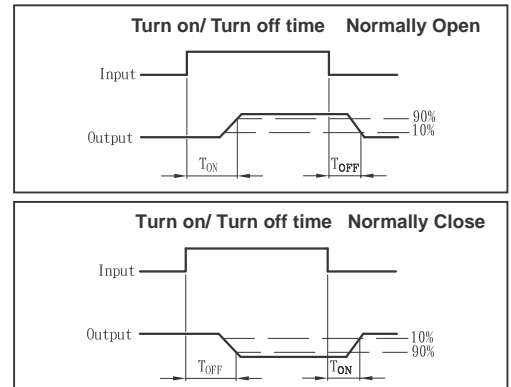
1. Normally Open and Close, Single Pole Single Throw
2. Control 400VAC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 1500VACrms



Absolute Maximum Ratings

(Ta=25°C)

Emitter (Input)	
Reverse Voltage	5.0V
Continuous Forward Current	50mA
Peak Forward Current	1A
Power Dissipation	100mW
Derate Linearly from 25°C	1.3mW/°C
Detector (Output)	
Output Breakdown Voltage	±400V
Continuous Load Current	±130mA
Power Dissipation	500mW
General Characteristics	
Isolation Test Voltage	1500VACrms
Isolation Resistance Vio=500V, Ta=25°C	≥10 ¹⁰ Ω
Total Power Dissipation	550mW
Derate Linearly from 25°C	2.5mW/°C
Storage Temperature Range	-40°C to +125°C
Operating Temperature Range	-30°C to +85°C
Junction Temperature	100°C
Soldering Temperature, 2mm from case, 10 sec.....	260°C



Electro-optical Characteristics

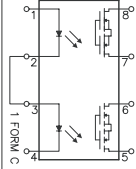
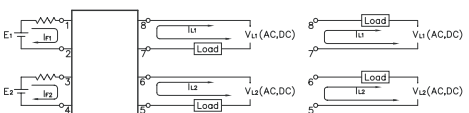
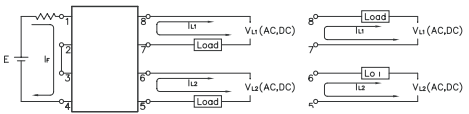
(Ta=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Emitter (Input)						
Forward Voltage	V _F	I _F = 10mA		1.8	2.0	V
Operation Input Current	I _{FON(N.O)} I _{FOFF(N.C)}	V _L = ±20V, I _L = 100mA (N.O) V _L = ±20V, I _L ≤ 5uA (N.C) t = 10mS			5	mA
Recovery Input Current	I _{FOFF(N.O)} I _{FON(N.C)}	V _L = ±20V, I _L ≤ 5uA (N.O) V _L = ±20V, I _L = 100mA (N.C) t = 10mS	0.2			mA

Detector (Output) normally open						
Output Breakdown Voltage	V _B	I _B = 50uA	400			V
Output Off-State Leakage	I _{TOFF}	V _T = 100V, I _F = 10mA		0.2	1	uA
I/O Capacitance	C _{ISO}	I _F = 0, f = 1MHz		6		pF
ON Resistance	R _{ON}	I _L = 100mA, I _F = 10mA		20	30	Ω
Turn-On Time	T _{ON}	I _F = 10mA, V _L = ±20V		0.3	1.0	ms
Turn-Off Time	T _{OFF}	t = 10ms, I _L = ±100mA		0.7	1.5	ms

Detector (Output) normally close						
Output Breakdown Voltage	V _B	I _B = 50uA	400			V
Output Off-State Leakage	I _{TOFF}	V _T = 100V, I _F = 10mA		0.2	2	uA
I/O Capacitance	C _{ISO}	I _F = 0, f = 1MHz		6		pF
ON Resistance	R _{ON}	I _L = 100mA, I _F = 10mA		40	50	Ω
Reverse (ON) Time	T _{ON}	I _F = 10mA, V _L = ±20V		0.6	1.5	ms
Operate (OFF) Time	T _{OFF}	t = 10ms, I _L = ±100mA		0.3	1.0	ms

Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQW614S		1a1b	AC/DC	-	<p>(1) Two independent 1 Form A & 1 Form B use</p>  <p>(2) 1 Form A & 1 Form B use</p> 

Data Curve (KAQW614S Normally Open LED Characteristics)

Fig.1 Load current vs. ambient temperature
Allowable ambient temperature:
-40°C to +85°C

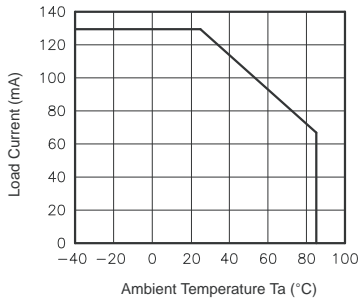


Fig.2 On resistance vs. ambient temperature
Across terminals 5 and 6 pin
LED current: 5mA
Continuous load current: 130mA(DC)

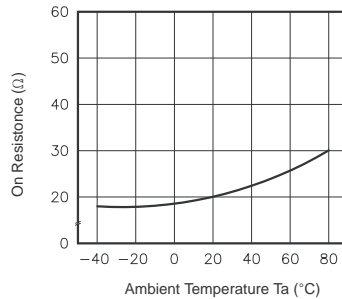


Fig.3 Turn on time vs. ambient temperature
Load voltage 400V(DC)
LED current: 5mA
Continuous load current: 130mA(DC)

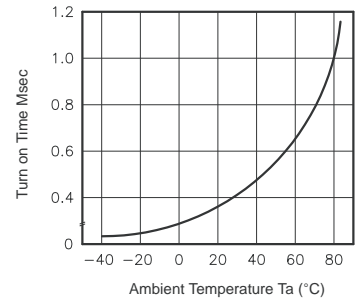


Fig.4 Turn off time vs. ambient temperature
LED current: 5mA; Load voltage:
400V(DC)
Continuous load current: 130mA(DC)

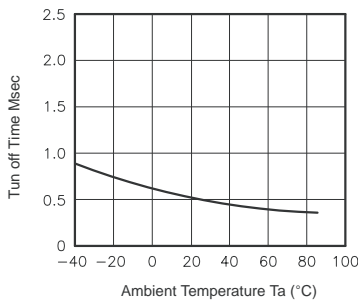


Fig.5 LED operate vs. ambient temperature
Load voltage 400V(DC)
Continuous load current: 130mA(DC)

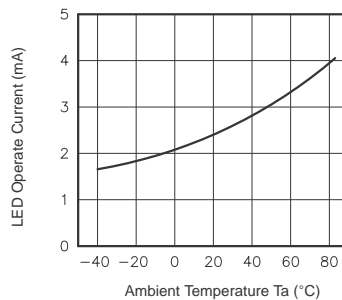


Fig.6 LED turn off current vs. ambient temperature
Load voltage 400V(DC)
Continuous load current: 130mA(DC)

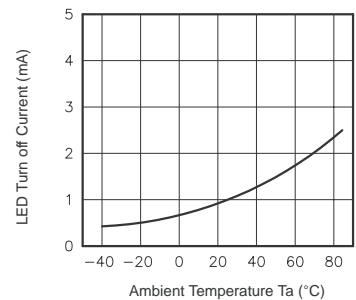


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

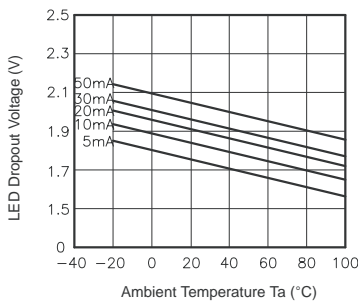


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 5 and 6 pin
Ambient temperature: 25°C

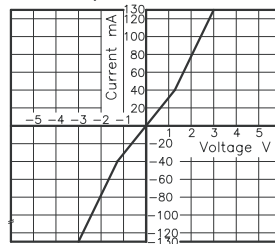


Fig.9 Off state leakage current
Across terminals 5 and 6 pin
Ambient temperature: 25°C

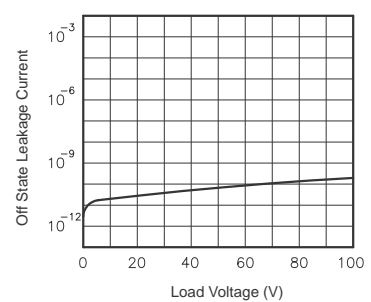


Fig.10 LED forward current vs. turn on time
Across terminals 5 and 6 pin;
Load voltage: 400V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

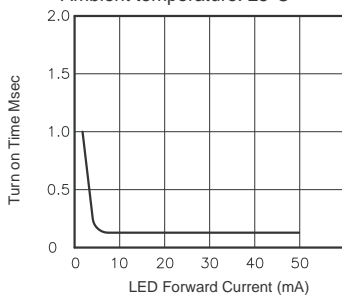


Fig.11 LED forward current vs. turn off time
Across terminals 5 and 6 pin;
Load voltage: 400V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

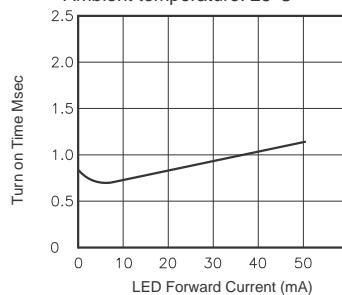
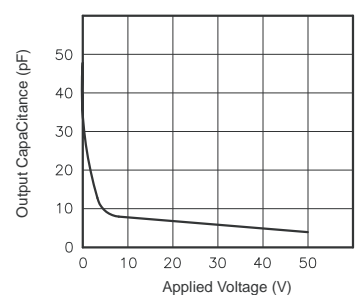


Fig.12 Applied voltage vs. output capacitance
Across terminals 5 and 6 pin
Frequency: 1MHz
Ambient temperature: 25°C



Data Curve (KAQW614S Normally Close Characteristics)

