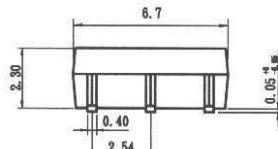
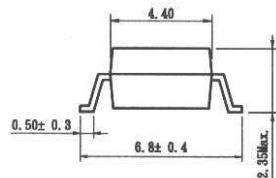
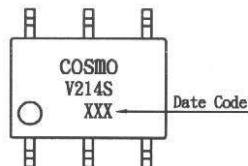
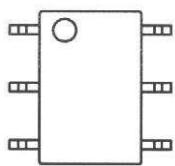


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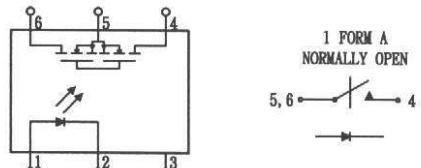
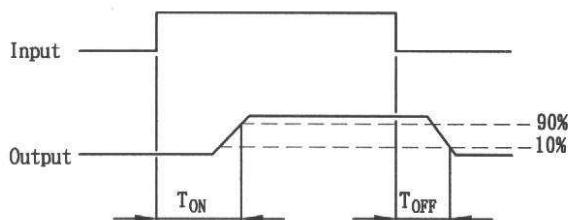
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		SHEET 1 OF 7	1

- OUTSIDE DIMENSION :



Unit:mm
Tolerance: ± 0.2 mm

- Turn on/Turn off time



Absolute Maximum Ratings ($T_A = 25^\circ C$)

Emitter (Input)

Reverse Voltage 5.0V
Continuous Forward Current 50mA
Peak Forward Current (1s) 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. 1500VAC_{RMS}
Isolation Resistance
 $V_{IO} = 500V, T_A = 25^\circ C$ $\geq 10^{10}\Omega$
Total Power Dissipation 550mW

Derate Linearly form 25° C 2.5mW/° C
Storage Temperature Range -40 to +150° C
Operating Temperature Range. -40 to +85° C
Junction Temperature 100° C
Soldering Temperature, 2mm from case, 10 sec. 260° C

ISSUE Jerry Yn , 10-07-00

CHECK

Ument Elmany / 10-07-00

APPROVED

Stan Hsu / 10-07-00

PRODUCT SPECIFICATION

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COSMO ELECTRONICS CO., LTD.	PHOTO MOS RELAYS: KAQV214S	NO. 62M10005	VER. 1
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Characteristics

($T_A = 25^\circ C$)

Description		Symbol	Min.	Typ.	Max.	Unit	Test Condition
Emitter (Input)							
Forward Voltage		V_F		1.2	1.5	V	$I_F = 10mA$
Operation Input Current		I_{FON}			5	mA	$V_L = \pm 20V, I_L = 100mA, t = 10ms$
Recovery Input Current		I_{FOFF}	0.2			mA	$V_L = \pm 20V, I_L < 5\mu A$
Detector (Output)							
Output Breakdown Voltage		V_B	400			V	$I_B = 50\mu A$
Output Off-State Leakage		$I_{T(OFF)}$		0.2	1	uA	$V_T = 100V, I_F = 0mA$
I/O Capacitance		C_{ISO}		6		pF	$I_F = 0, f = 1MHz$
ON Resistance	Connection	A		20	30		$I_L = 100mA, I_F = 10mA$
		B	R_{ON}	10	15	Ω	
		C		5	7.5		
Turn-on Time		T_{ON}		0.3	1.0	ms	$I_F = 10mA, V_L = \pm 20V$
Turn-off Time		T_{OFF}		0.7	1.5	ms	$t = 10ms, I_L = \pm 100mA$

Mos Relay Schematic and Wiring Diagrams							
Type	Schematic	Output configuration	Load	Con-nection	Wiring diagram		
KAQV214S	 	1a	AC/DC	A			

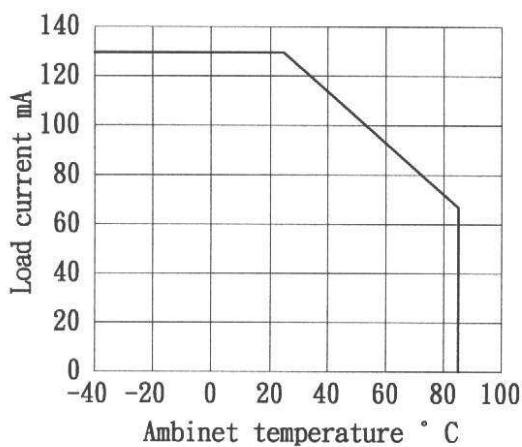
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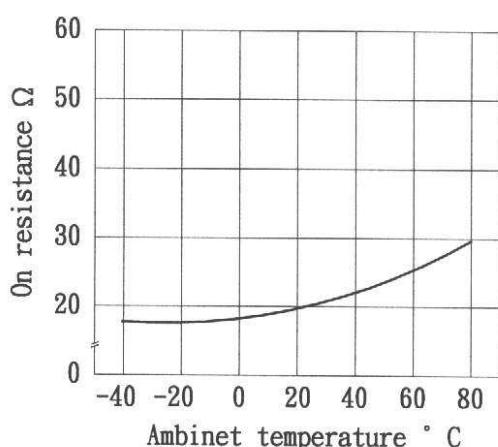
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DATA CURVE

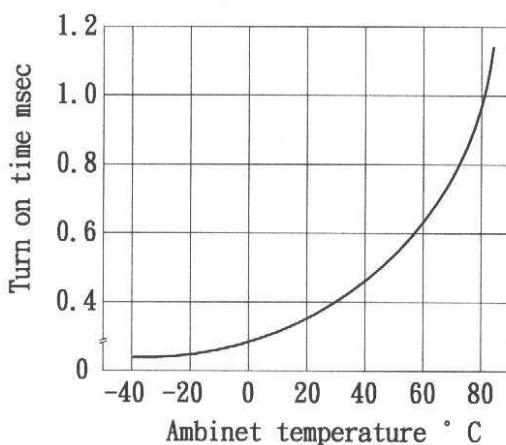
Load current vs. ambient temperature
Allowable ambient temperature:
-40°C to +85°C



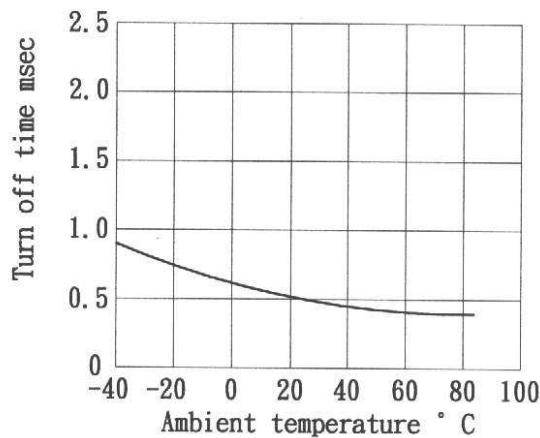
On resistance vs. ambient temperature
Across terminals 4 and 6 pin
LED current: 5mA
Continuous load current: 130 mA(DC)



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



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



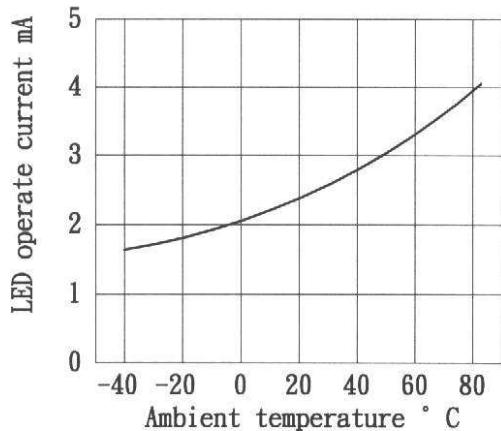
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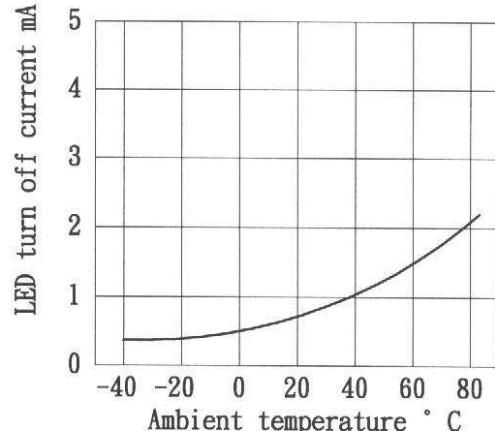
LED operate vs. ambient temperature
Load voltage: 400V(DC)

Continuous load current: 130mA(DC)



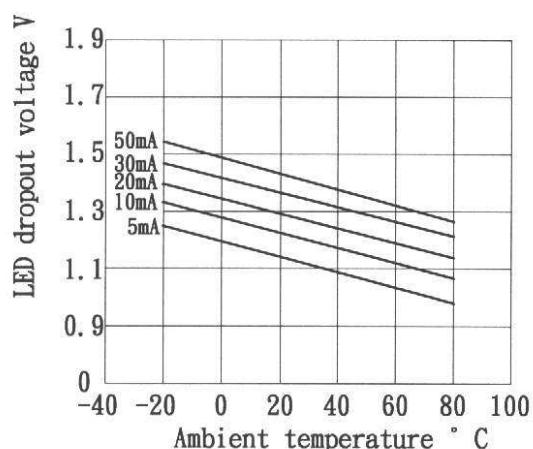
LED turn off current vs. ambient temperature
Load voltage: 400V(DC)

Continuous load current: 130mA(DC)



LED dropout voltage vs. ambient temperature

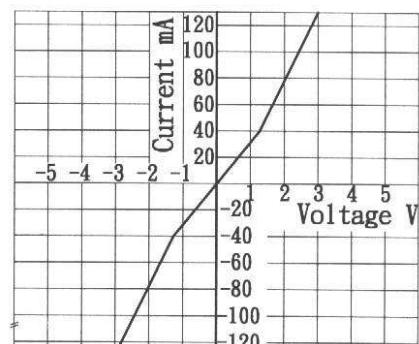
LED current: 5 to 50mA



Voltage vs. current characteristics of output at MOS FET portion

Measured portion: across terminals 4 and 6 pin

Ambient temperature: 25°C

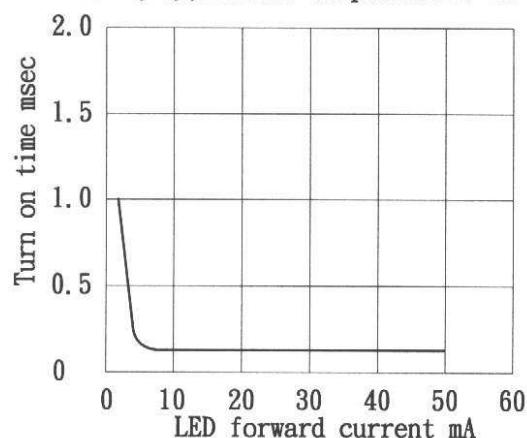


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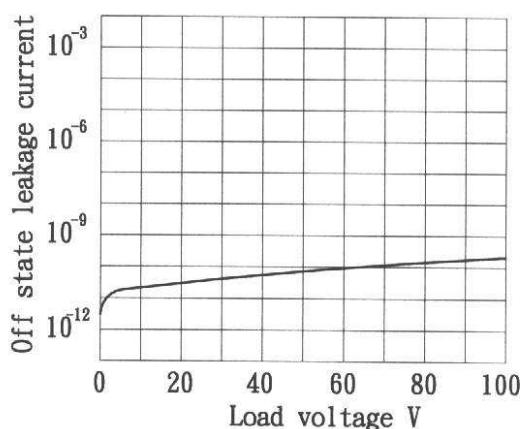
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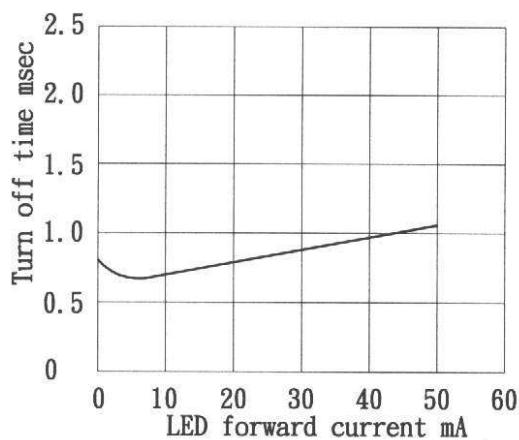
LED forward current vs. turn on time
Across terminals 4 and 6pin; Load voltage: 400V(DC); Continuous load current: 130mA(DC); Ambient temperature: 25° C



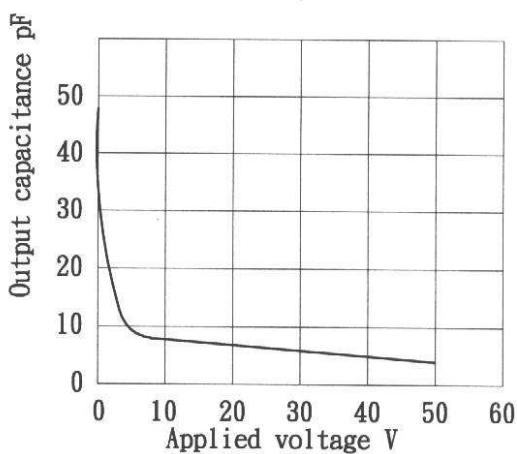
Off state leakage current
Across terminals 4 and 6pin
Ambient temperature: 25° C



LED forward current vs. turn off time
Across terminals 4 and 6pin; Load voltage: 400V(DC); Continuous load current: 130 mA(DC); Ambient temperature: 25° C



Applied voltage vs. output capacitance
Across terminals 4 and 6pin
Frequency: 1MHz; Ambient temperature: 25° C



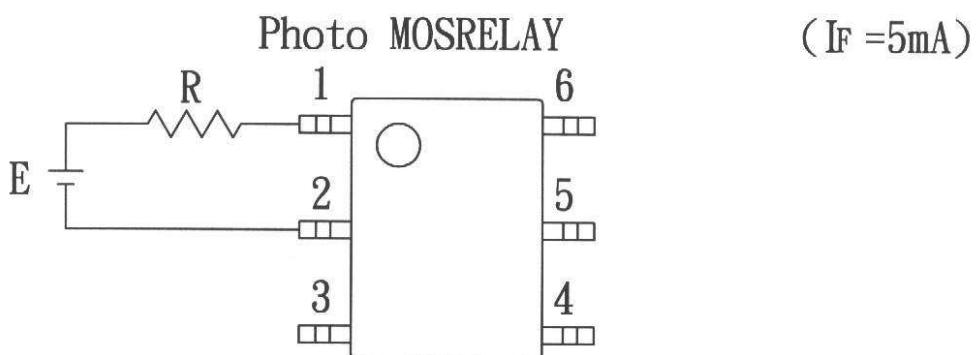
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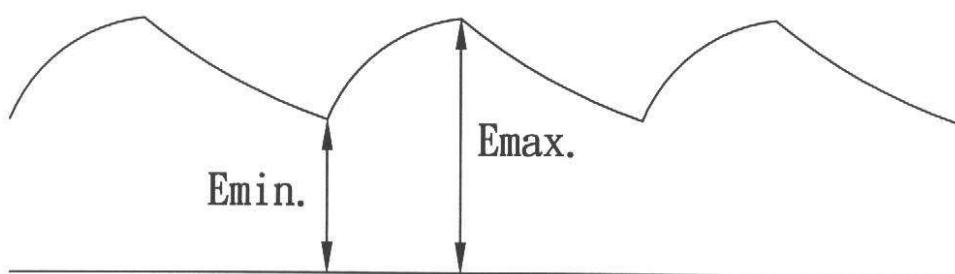
USING METHODS

Examples of resistance value to control LED forward current IF



E	R
3.3V	Approx. 330 ohm
5V	Approx. 640 ohm
12V	Approx. 1.9K ohm
15V	Approx. 2.5K ohm
24V	Approx. 4.1K ohm

- (1) LED forward current must be more than 5mA, at E min.
- (2) LED forward current must be less than 50mA, at E max.



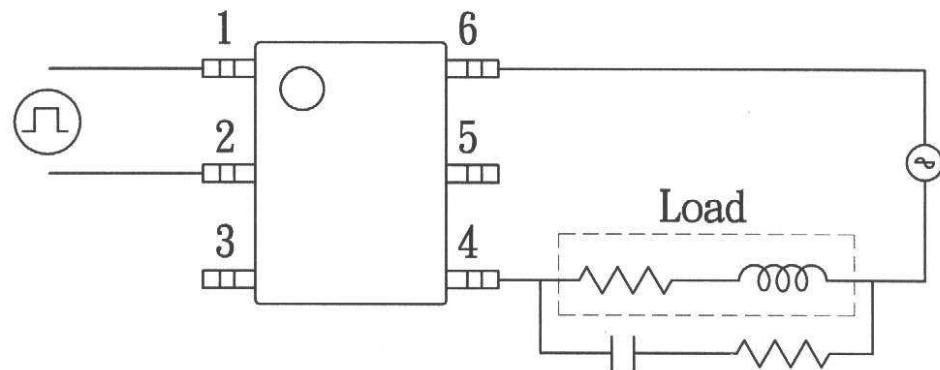
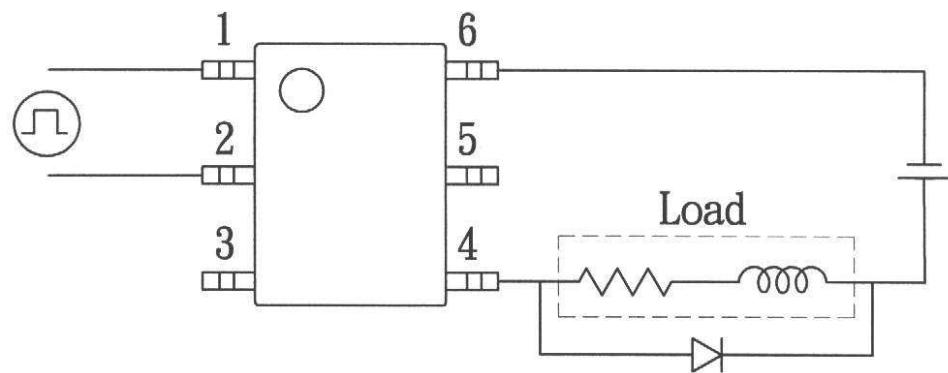
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USING METHODS

Regulate the spike voltage generated on the inductive load as follows



R-C Snubber