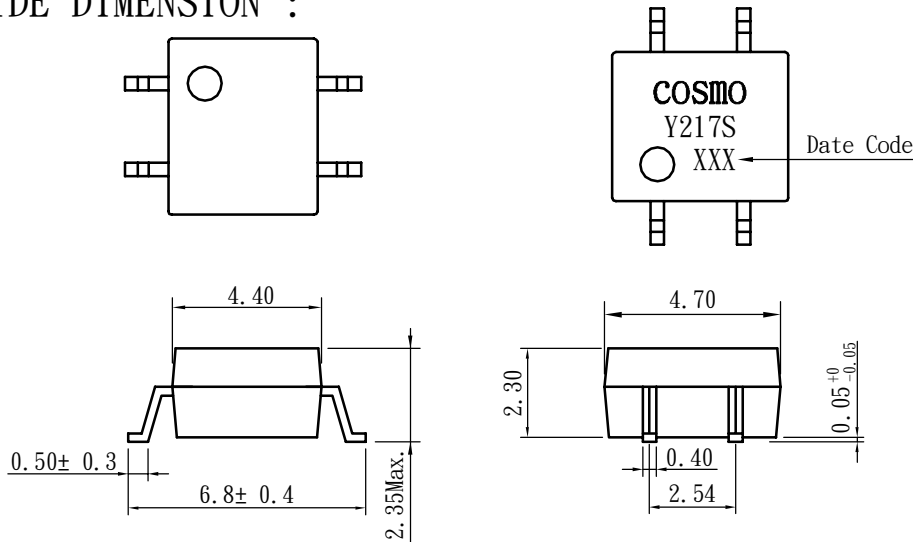


PRODUCT SPECIFICATION

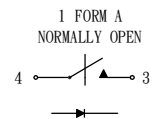
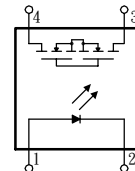
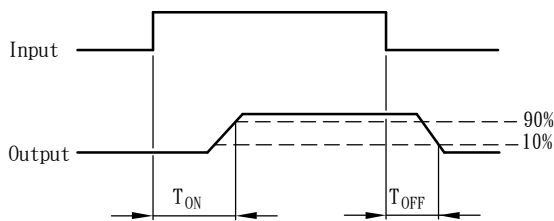
DATE: 11/19/2003

COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KAQY217S	NO. 62M00017	REV.
		SHEET 1 OF 7	1

• OUTSIDE DIMENSION :



• Turn on/Turn off time



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

Emitter (Input)

Reverse Voltage	5.0V
Continuous Forward Current	50mA
Peak Forward Current (1us)	1A
Power Dissipation.	75mW
Derate Linearly from 25°C	1.3mW/ $^\circ\text{C}$

Detector (Output)

Output Breakdown Voltage	± 200V
Continuous Load Current	± 180mA
Power Dissipation	450mW

General Characteristics

Isolation Test Voltage.	1500VAC _{RMS}
Isolation Resistance	
$V_{10}=500\text{V}, T_A=25^\circ\text{C}$	$\geq 10^{10}\Omega$
Total Power Dissipation	500mW

Derate Linearly from 25°C	2.5mW/ $^\circ\text{C}$
Storage Temperature Range	-40 to +150 $^\circ\text{C}$
Operating Temperature Range.	-40 to +85 $^\circ\text{C}$
Junction Temperature	100 $^\circ\text{C}$
Soldering Temperature, 2mm from case, 10 sec.	260$^\circ\text{C}$

PRODUCT SPECIFICATION

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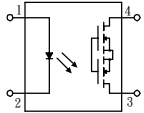
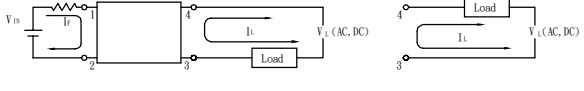
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		SHEET 2 OF 7	1

Characteristics

(T_A=25° 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}		1.5	5	mA	V _L =± 20V, I _L =100mA, t=10 ms
Recovery Input Current	I _{FOFF}	0.2			mA	V _L =± 20V, I _L <5uA
Detector (Output)						
Output Breakdown Voltage	V _B	200			V	I _B =50uA
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	R _{ON}		6	15	Ω	I _L =100mA, I _F =10mA
Turn-on Time	T _{ON}		0.4	1.0	ms	I _F =10mA, V _L =± 20V
Turn-off Time	T _{OFF}		0.3	1.0	ms	t=10ms, I _L =± 100mA

Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Con-nection	Wiring diagram
KAQY217S		1a	AC/DC	-	

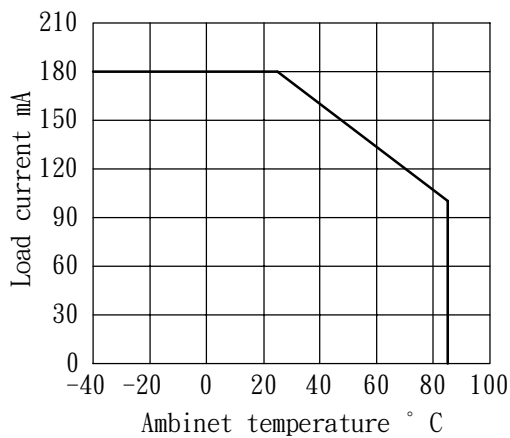
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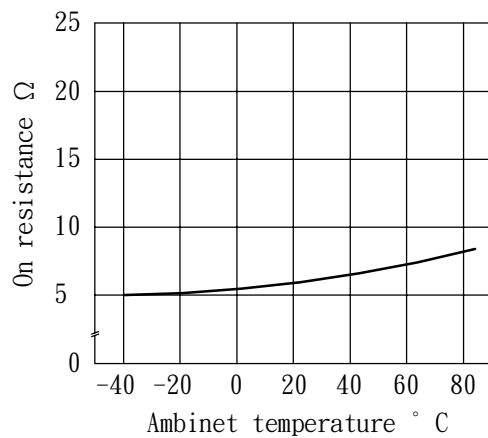
COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KAQY217S	NO. 62M00017	REV.
		SHEET 3 OF 7	1

DATA CURVE

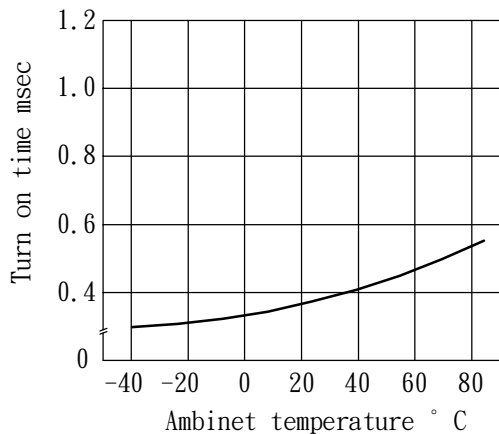
Load current vs. ambient temperature
 Allowable ambient temperature:
 -40°C to +85°C



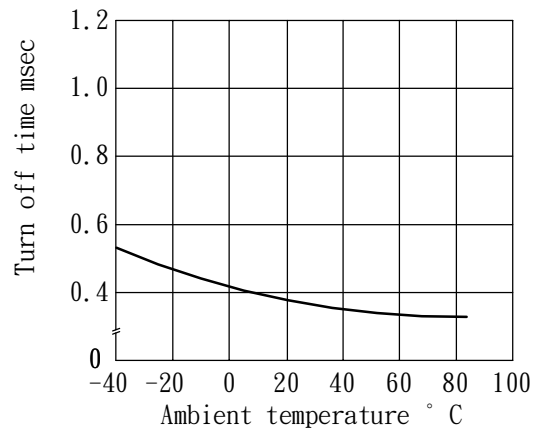
On resistance vs. ambient temperature
 Across terminals 3 and 4 pin
 LED current: 5mA
 Continuous load current: 180 mA(DC)



Turn on time vs. ambient temperature
 Load voltage 200 V(DC)
 LED current :5mA
 Continuous load current: 180mA(DC)



Turn off time vs. ambient temperature
 LED current: 5mA; Load voltage: 200V(DC)
 Continuous load current: 180mA(DC)

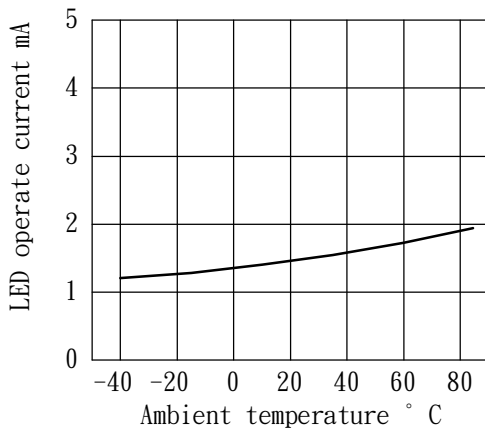


PRODUCT SPECIFICATION

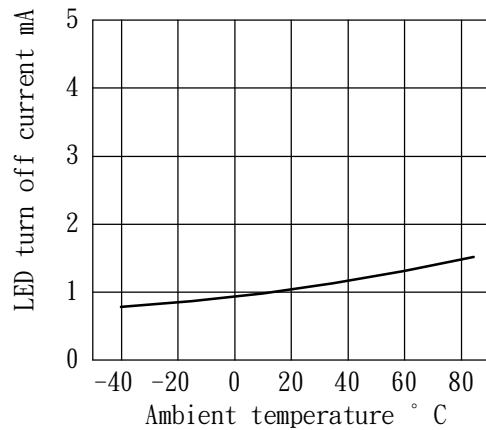
DATE: 11/19/2003

COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KAQY217S	NO. 62M00017	REV.
		SHEET 4 OF 7	1

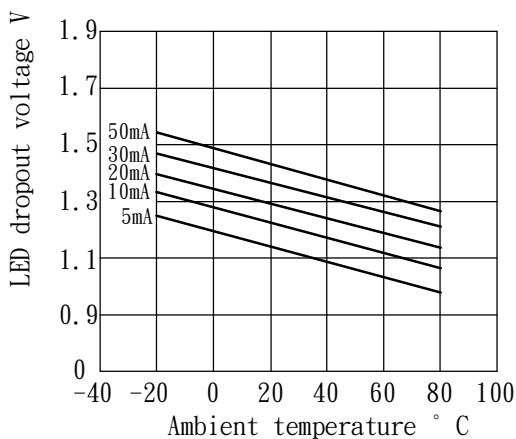
LED operate vs. ambient temperature
 Load voltage: 200V(DC)
 Continuous load current: 180mA(DC)



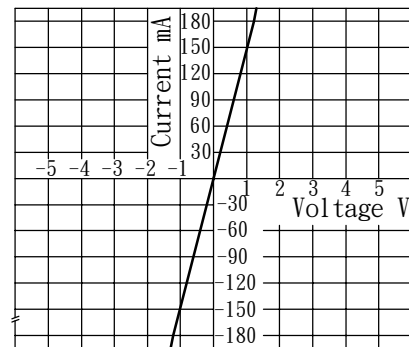
LED turn off current vs. ambient temperature
 Load voltage: 200V(DC)
 Continuous load current: 180mA(DC)



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 3 and 4 pin
 Ambient temperature: 25°C

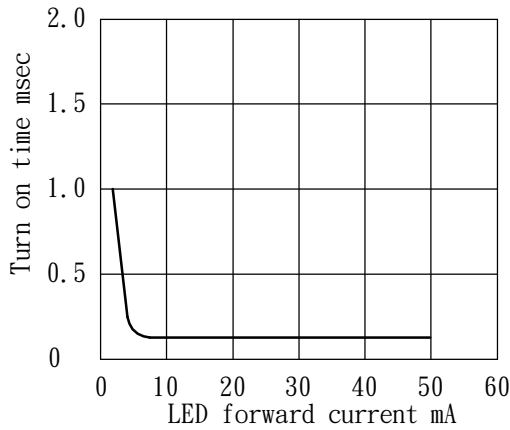


PRODUCT SPECIFICATION

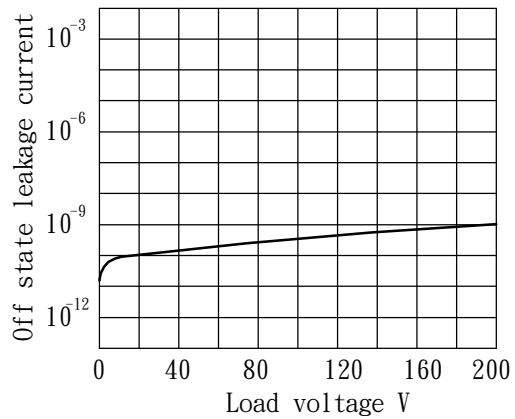
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COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KAQY217S	NO. 62M00017	REV.
		SHEET 5 OF 7	1

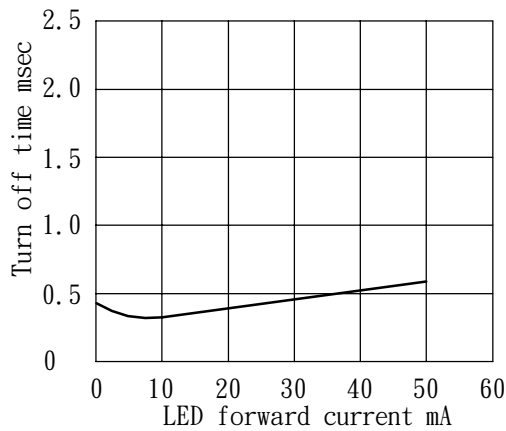
LED forward current vs. turn on time
 Across terminals 3 and 4pin; Load voltage: 200V(DC); Continuous load current: 180mA(DC); Ambient temperature: 25° C



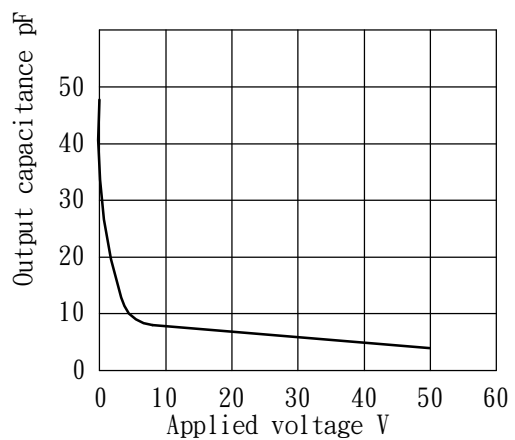
Off state leakage current
 Across terminals 3 and 4pin
 Ambient temperature: 25° C



LED forward current vs. turn off time
 Across terminals 3 and 4pin; Load voltage: 200V(DC); Continuous load current: 180 mA(DC); Ambient temperature: 25° C



Applied voltage vs. output capacitance
 Across terminals 3 and 4pin
 Frequency: 1MHz; Ambient temperature: 25° C



PRODUCT SPECIFICATION

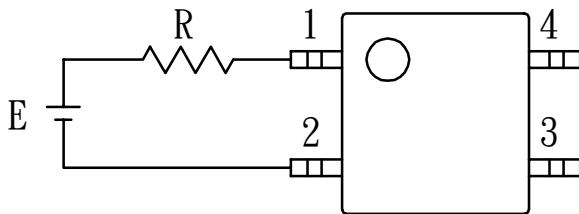
DATE: 11/19/2003

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		SHEET 6 OF 7	1

USING METHODS

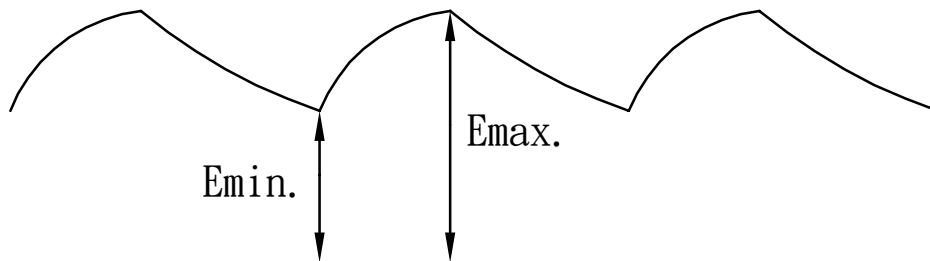
Examples of resistance value to control LED forward current I_F

($I_F = 5\text{mA}$)



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.



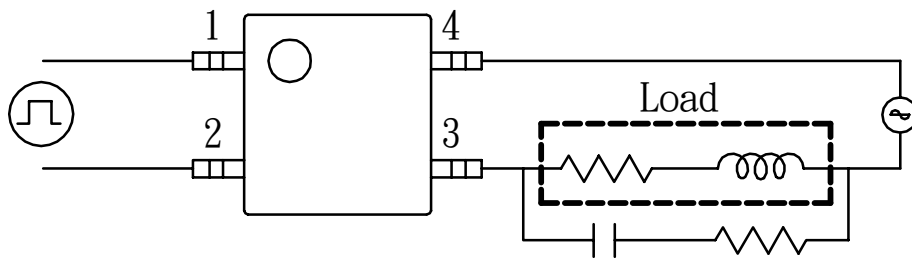
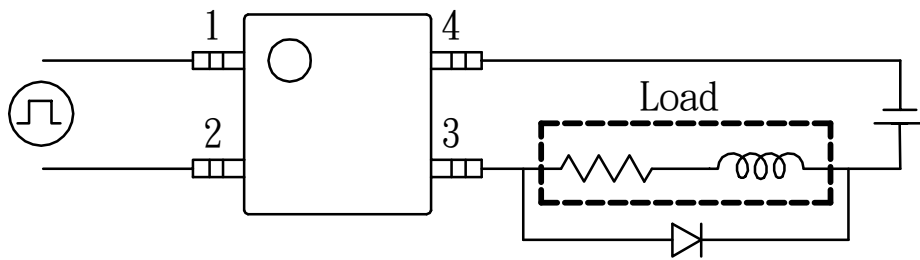
PRODUCT SPECIFICATION

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USING METHODS

Regulate the spike voltage generated on the inductive load as follows



R-C Snubber