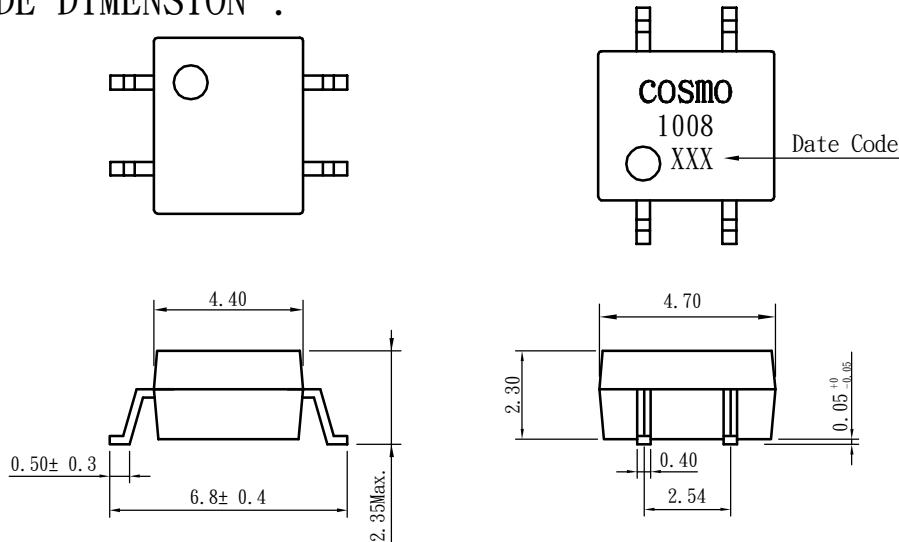


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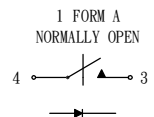
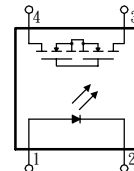
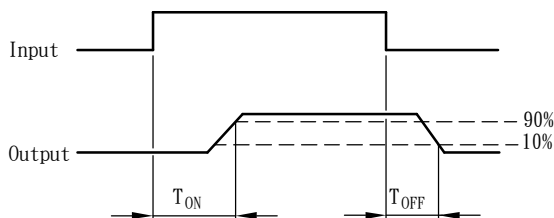
COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KCP1008	NO. 62M00016	REV. 2
		SHEET 1 OF 7	

• OUTSIDE DIMENSION :



Unit:mm
Tolerance:± 0.2 mm

• 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. 100mW

Derate Linearly from 25°C 1.3mW/ $^\circ\text{C}$

Detector (Output)

Output Breakdown Voltage $\pm 100\text{V}$

Continuous Load Current $\pm 150\text{mA}$

Power Dissipation 500mW

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 550mW

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°C

Soldering Temperature, 2mm from case, 10 sec. 260°C

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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}			2	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	100			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}		6.0	8.0	Ω	I _L =100mA, I _F =10mA
Turn-on Time	T _{ON}		0.3	2.0	ms	I _F =10mA, V _L =± 20V t=10ms, I _L =± 100mA
Turn-off Time	T _{OFF}		0.3	1.0	ms	

SOLID STATE RELAY-MOSFET OUTPUT Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Con- nection	Wiring diagram
KCP1008N		1a	AC/DC	—	

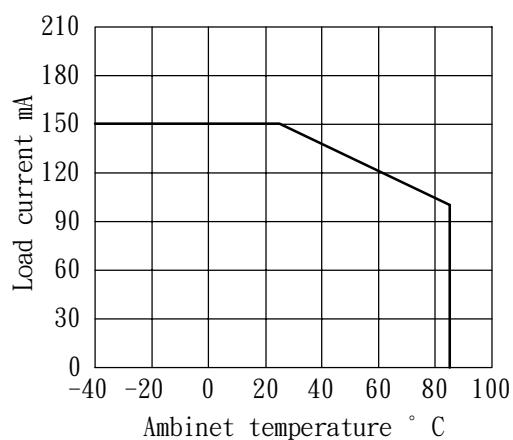
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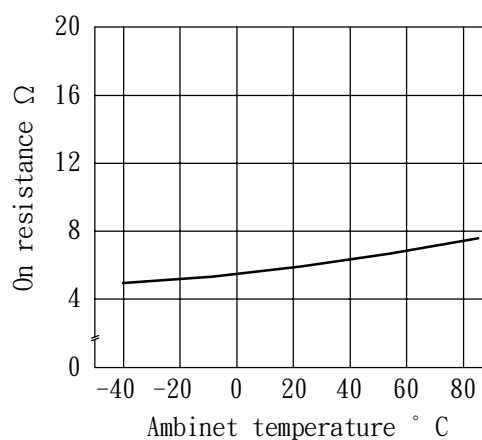
COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KCP1008	NO. 62M00016	REV. 2
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DATA CURVE

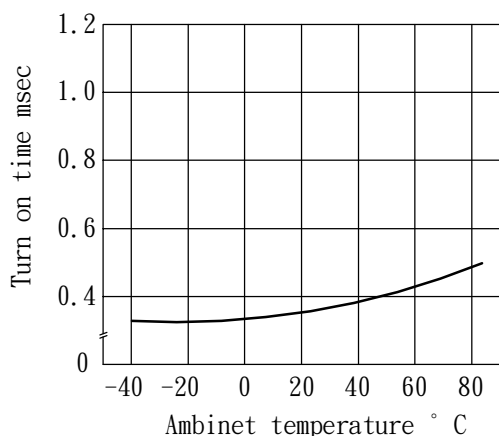
Load current vs. ambient temperature
Allowable ambient temperature:
-40°C to +85°C



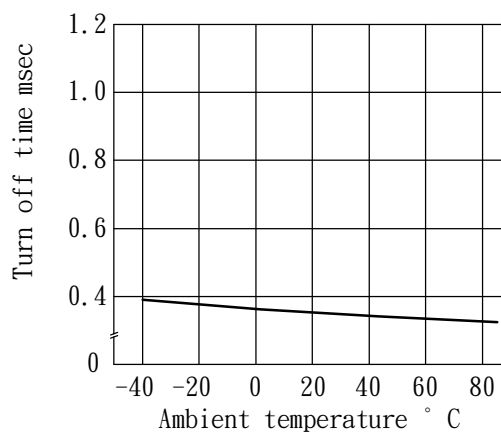
On resistance vs. ambient temperature
Across terminals 3 and 4 pin
LED current: 5mA
Continuous load current: 130 mA(DC)



Turn on time vs. ambient temperature
Load voltage 100 V(DC)
LED current :5mA
Continuous load current: 130mA(DC)



Turn off time vs. ambient temperature
LED current: 5mA; Load voltage: 100V(DC)
Continuous load current: 130mA(DC)

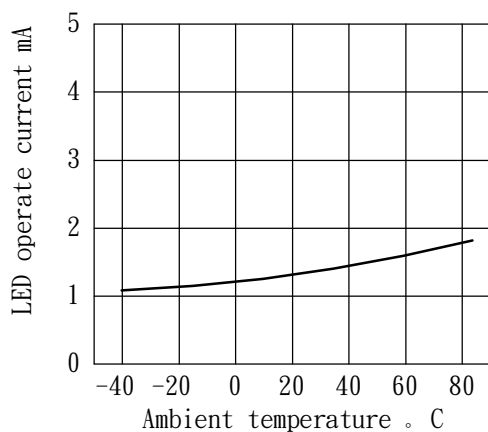


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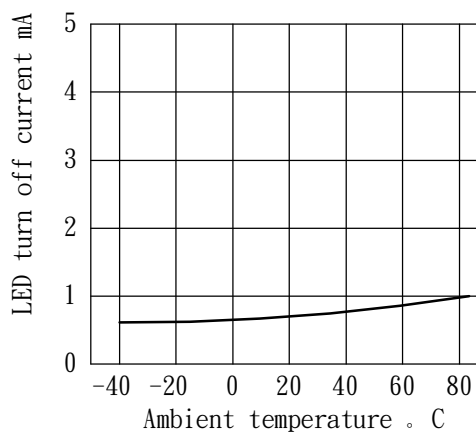
DATE:11/19/2003

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		SHEET 4 OF 7	

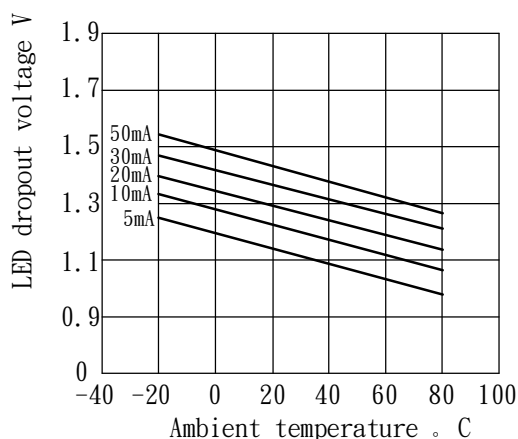
LED operate vs. ambient temperature
Load voltage: 100V(DC)
Continuous load current: 130mA(DC)



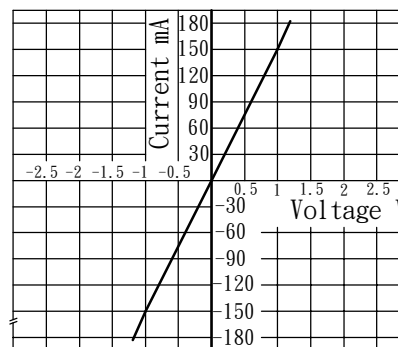
LED turn off current vs. ambient temperature
Load voltage: 100V(DC)
Continuons load current: 130mA(DC)



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 3 and 4 pin
Ambient temperature: 25. C

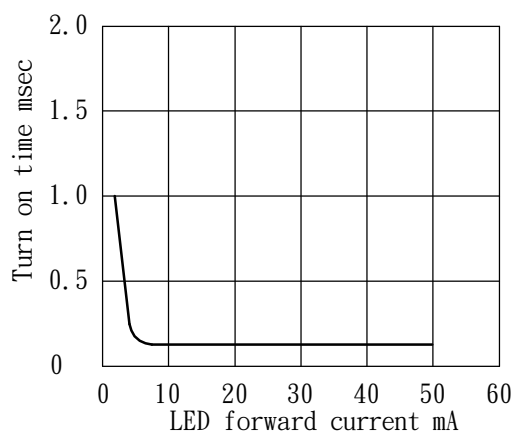


PRODUCT SPECIFICATION

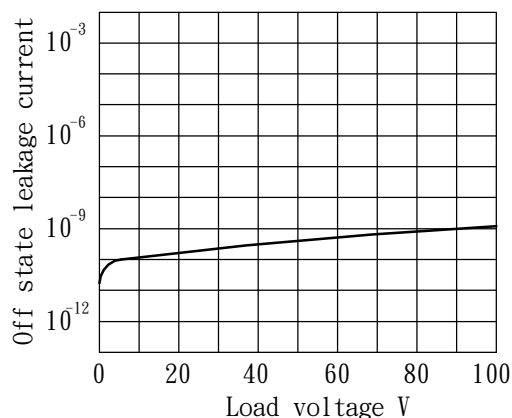
DATE:11/19/2003

COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KCP1008	NO. 62M00016	REV. 2
		SHEET 5 OF 7	

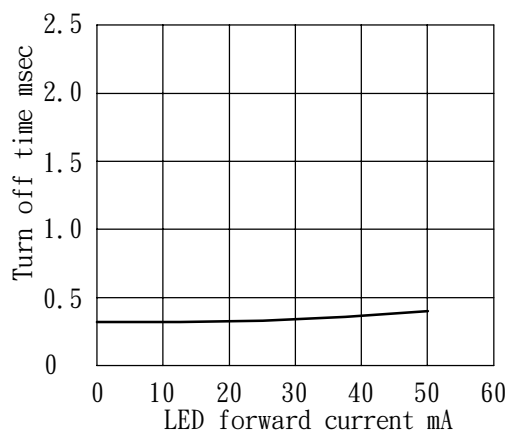
LED forward current vs. turn on time
Across terminals 3 and 4pin;Load voltage: 100V(DC);Continuous load current: 130mA(DC);Ambient temperature: 25° C



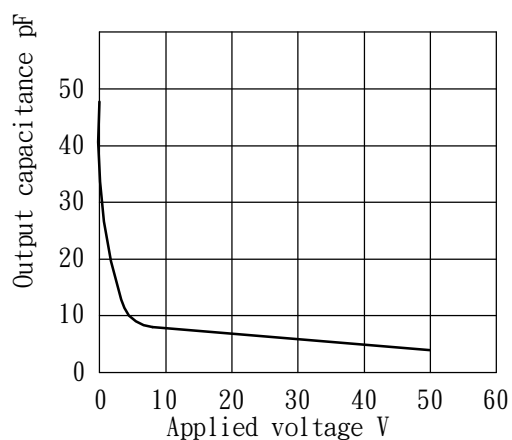
Off state leakage current
Across terminals 3 and 4pin
Ambient temperature: 25° C



LED forward current vs. turn off time
Across terminals 3 and 4pin;Load voltage: 100V(DC);Continuous load current: 130 mA(DC);Ambient temperature: 25° C



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



PRODUCT SPECIFICATION

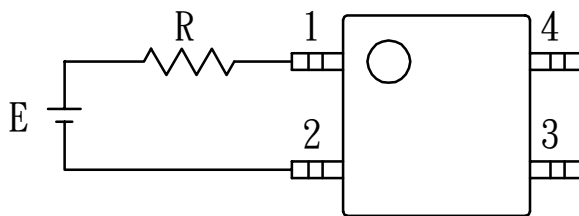
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COSMO ELECTRONICS CORPORATION	SOLID STATE RELAY-MOSFET OUTPUT KCP1008	NO. 62M00016	REV. 2
		SHEET 6 OF 7	

USING METHODS

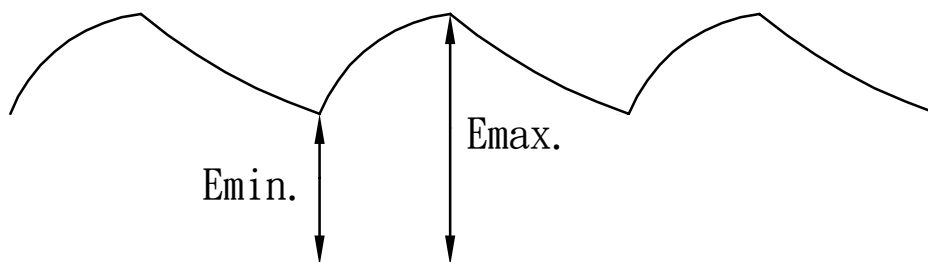
Examples of resistance value to
control LED forward current I_F

($I_F = 2\text{mA}$)



E	R
3.3V	Approx. 720 ohm
5V	Approx. 1.5K ohm
12V	Approx. 4.5K ohm
15V	Approx. 6.0K ohm
24V	Approx. 9.5K ohm

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



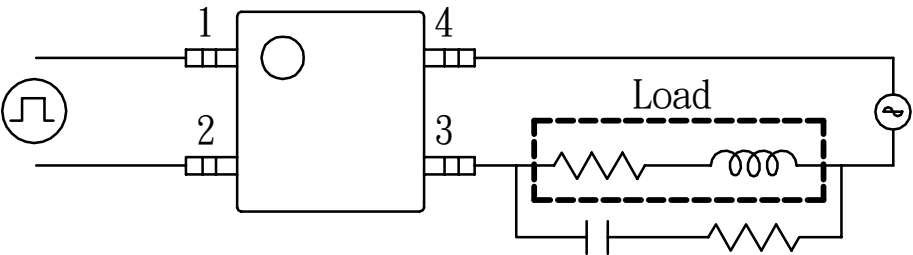
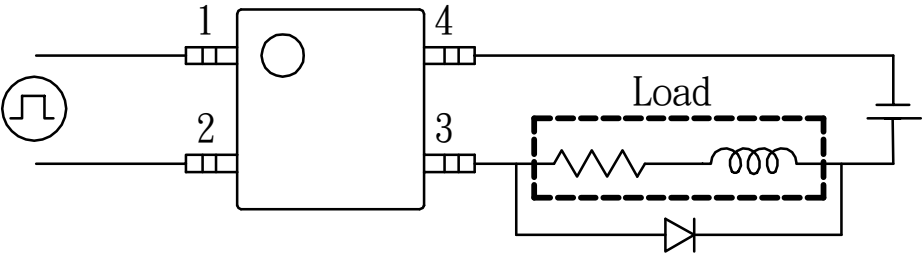
PRODUCT SPECIFICATION

DATE:11/19/2003

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USING METHODS

Regulate the spike voltage generated on the inductive load as follows



R-C Snubber