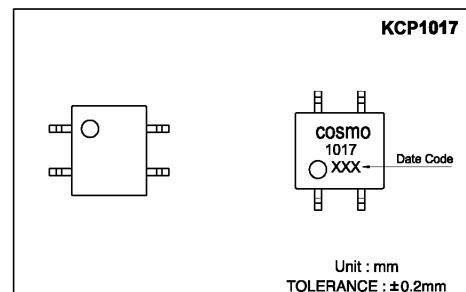


Features

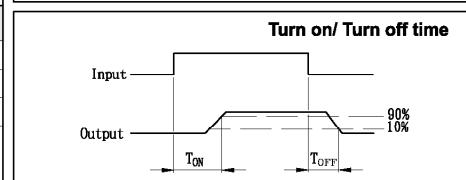
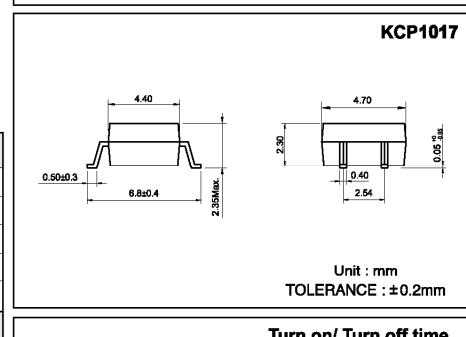
1. Normally Open, Single Pole Single Throw
2. Control 60V AC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 1mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 1500VACrms

**Absolute Maximum Ratings**

Emitter (Input)	Detector (Output)
Reverse Voltage.....	5.0V
Continuous Forward Current.....	50mA
Peak Forward Current.....	1A
Power Dissipation.....	75m W
Derate Linearly from 25°C.....	1.3mW/°C

General Characteristics

Isolation Test Voltage.....	1500VACrms	Storage Temperature Range....	-40°C to +150°C
Isolation Resistance		Operating Temperature Range...	-40°C to +85°C
Vio=500V, Ta=25°C.....	≥10 ¹⁰ Ω	Junction Temperature.....	100°C
Total Power Dissipation.....	500mW	Soldering Temperature,	
Derate Linearly from 25°C.....	2.5mW/°C	2mm from case, 10 sec.....	260°C

**Electro-optical Characteristics**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Emitter (Input)						
Forward Voltage	V _F	I _F = 10mA		1.2	1.5	V
Operation Input Current	I _{IFON}	V _L = ±20V, I _L = 100mA, t = 10ms		1		mA
Recovery Input Voltage	V _{FOFF}	V _L = ±20V, I _L ≤ 5μA	0.5	0.9		V
Detector (Output)						
Output Breakdown Voltage	V _B	I _B = 50μA	60			V
Output Off-State Leakage	I _{TOFF}	V _T = 60V, I _F = 0mA	0.2	1		uA
I/O Capacitance	C _{ISO}	I _F = 0, f = 1MHz	6			p F
ON Resistance	R _{ON}	I _L = 100mA, I _F = 10mA	7.0	16		Ω
Turn-On Time	T _{ON}	I _F = 10mA, V _L = ±20V	0.2	1.0		ms
Turn-Off Time	T _{OFF}	t = 10ms, I _L = ±100mA	0.3	1.5		ms

Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KCP1017		1a	AC/DC	—	 The wiring diagrams show the connection of the KCP1017 to a load. The first diagram shows a single-pole switch connected between pins 1 and 4, with an LED connected between pin 1 and ground. The second diagram shows a single-pole switch connected between pins 1 and 4, with an AC/DC load connected between pins 4 and 3. A diode is connected between pin 3 and ground to protect the switch from reverse voltage.

Data Curve

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



Fig.2 On resistance vs. ambient temperature
Across terminals 3 and 4 pin
LED current: 5mA
Continuous load current: 130mA(DC)

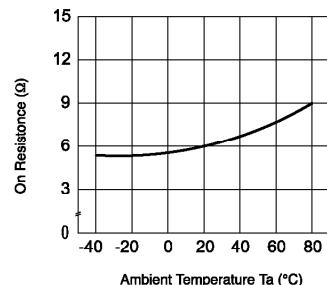


Fig.3 Turn on time vs. ambient temperature
Load voltage 60V(DC)
LED current: 5mA
Continuous load current: 130mA(DC)

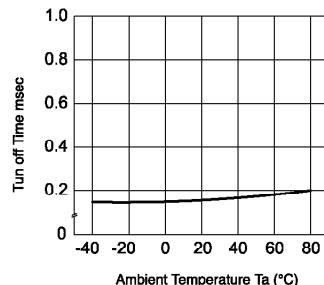


Fig.4 Turn off time vs. ambient temperature
LED current: 5mA; Load voltage:
60V(DC)
Continuous load current: 130mA(DC)

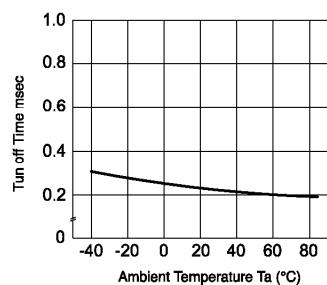


Fig.5 LED operate vs. ambient temperature
Load voltage 60V(DC)
Continuous load current: 130mA(DC)

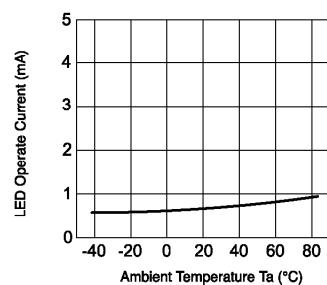


Fig.6 LED turn off current vs. ambient temperature
Load voltage 60V(DC)
Continuous load current: 130mA(DC)

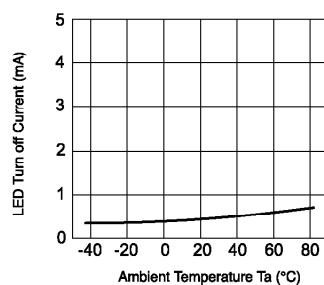


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

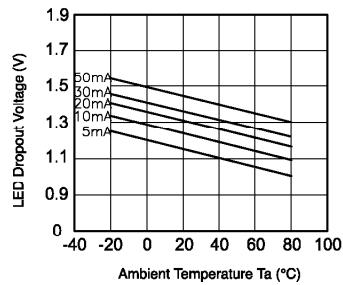


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 3 and 4 pin
Ambient temperature: 25°C

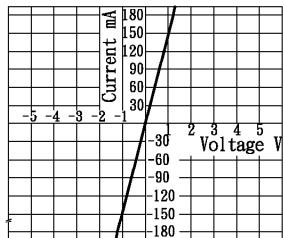


Fig.9 Off state leakage current
Across terminals 3 and 4 pin
Ambient temperature: 25°C

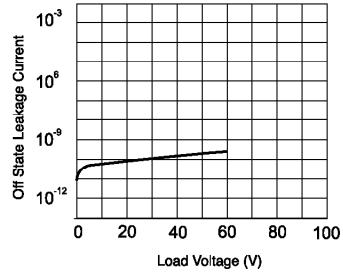


Fig.10 LED forward current vs. turn on time
Across terminals 3 and 4 pin;
Load voltage: 60V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

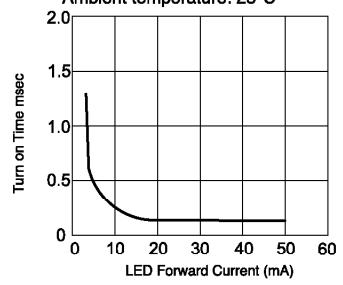


Fig.11 LED forward current vs. turn off time
Across terminals 3 and 4 pin;
Load voltage: 60V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

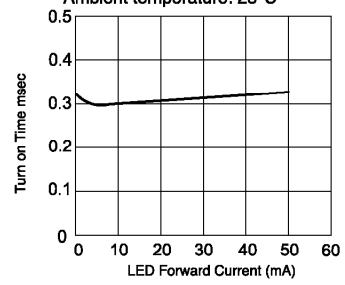


Fig.12 Applied voltage vs. output capacitance
Across terminals 3 and 4 pin
Frequency: 1MHz
Ambient temperature: 25°C

