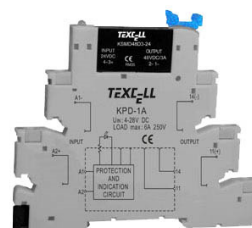


## Solid State Relay (Single Phase DC Output)

KSMD

### Features

- TTL, COMS drive compatible
- Optoelectronic isolation
- Control Voltage: 5VDC, 12VDC, 24VDC, 48VDC, 60VDC
- DIN rail mounted
- Standard footprint package
- Dielectric strength:  $\geq 2500\text{VACrms}$
- RoHS compliant



## 1. DESCRIPTION

KSMD series is DC output solid state relay with small size. The control voltage is 5VDC, 12VDC, 24VDC, 48VDC and 60VDC. Output current is 0.1A, 2A, 3A and 4A. Output voltage is 24VDC and 48VDC.

## 2. APPLICATION

Suitable for high density PCB mounted or PLC control applications.

## 3. TECHNICAL SPECIFICATION

### 1) Input Circuit

Control Voltage Range	5VDC	4-6VDC
	12VDC	9.6-14.4VDC
	24VDC	19.2-28.8VDC
	48VDC	38.4-57.6VDC
	60VDC	48-72VDC
Minimum Turn-on Voltage	5VDC	4VDC
	12VDC	9.6VDC
	24VDC	19.2VDC
	48VDC	38.4VDC
	60VDC	48VDC
Minimum Turn-off Voltage	5VDC	1VDC
	12VDC	2.4VDC
	24, 48, 60VDC	4.8VDC
Maximum Input Current	5, 12VDC	15mA
	24, 48VDC	10mA
	60VDC	5mA

## 2) Output Circuit

Load Voltage Range	24VDC	3-28VDC
	48VDC	3-58VDC
Maximum Transient Voltage	24VDC	33VDC
	48VDC	58VDC
Load Current Range	0.1A	0.001-0.1A
	2A	0.02-2A
	3A	0.02-3A
	4A	0.02-4A
Maximum Surge Current [@10ms]	0.1A	1A
	2A	20A
	3A	30A
	4A	48A
Maximum Turn-on Time		300μs
Maximum Turn-off Time		300μs
Maximum Off-state Leakage Current [@Rated Voltage]		100μA
Maximum On-state Voltage Drop [@Rated Current]	0.1A	1.5VDC
Maximum On-state Resistance	2, 3, 4A	37mΩ

## 3) General Information

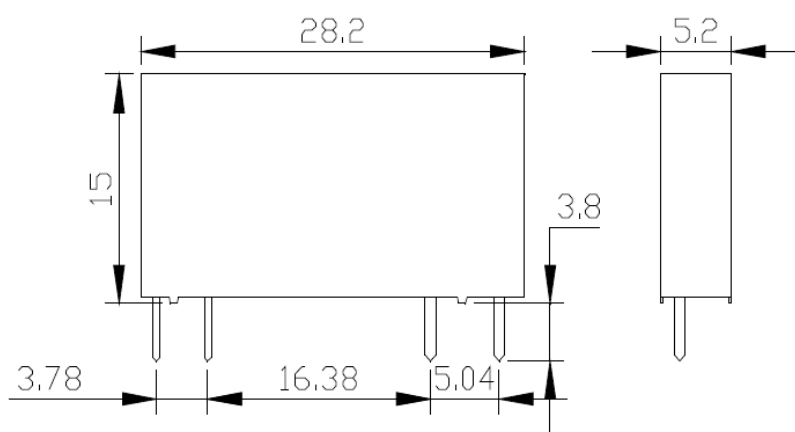
Dielectric Strength, Input/Output [50/60Hz]		≥2500VACrms
Insulation Resistance		1000MΩ [@500VDC]
Vibration		10-55Hz 1.5mm double-amplitude
Shock		Acceleration 980m/s <sup>2</sup> pulse duration 6ms
Ambient Operating Temperature Range		-30℃ ~ +80℃
Ambient Storage Temperature Range		-30℃ ~ +100℃
Weight [Typical]	KSMD....-.	4g
	KSMD....-D	30g

#### 4. ORDERING INFORMATION

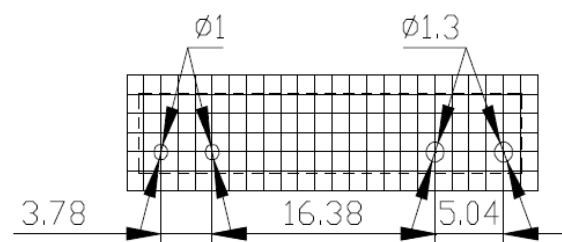
<u>KSM</u> ①	<u>D</u> ②	<u>48</u> ③	<u>D</u> ④	<u>3</u> ⑤	<u>-5</u> ⑥	<u>D</u> ⑦
① Relay Model	KSM					
② Load Type	D: DC load					
③ Load Voltage	24: 24VDC 48: 48VDC					
④ Control	D: DC control					
⑤ Load Current	0.1: 0.1Amp 2: 2Amp 3: 3Amp 4: 4Amp					
⑥ Control Voltage	5: 5VDC 12: 12VDC 24: 24VDC 48: 48VDC 60: 60VDC					
⑦ Socket	None: Without socket D: With socket					

#### 5. INSTALLATION

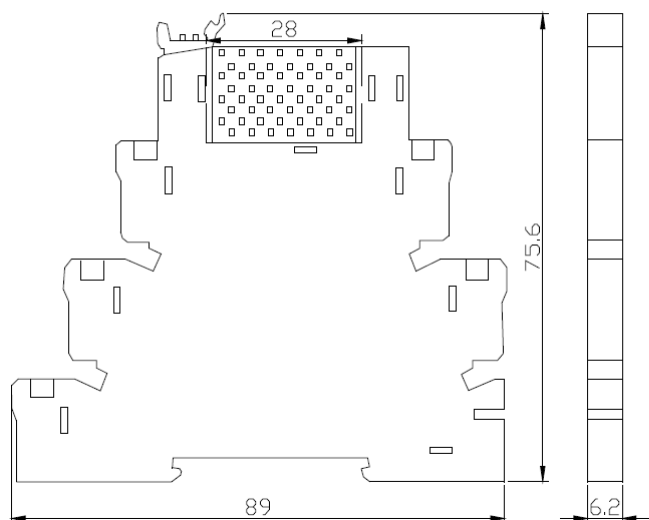
Dimension Figure



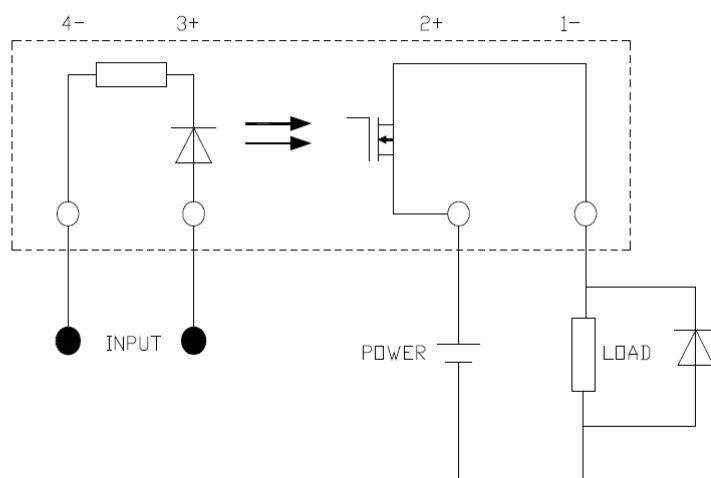
PCB Mounted Figure



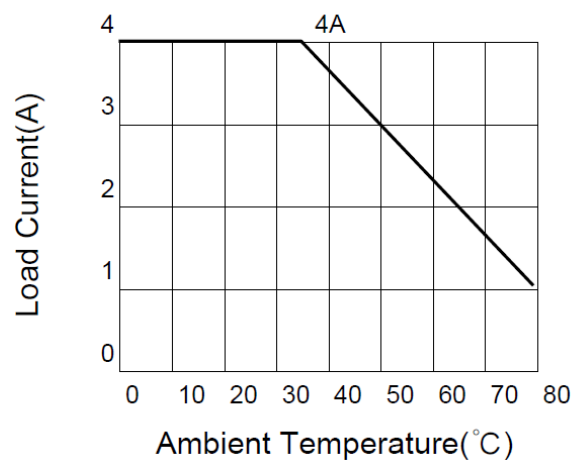
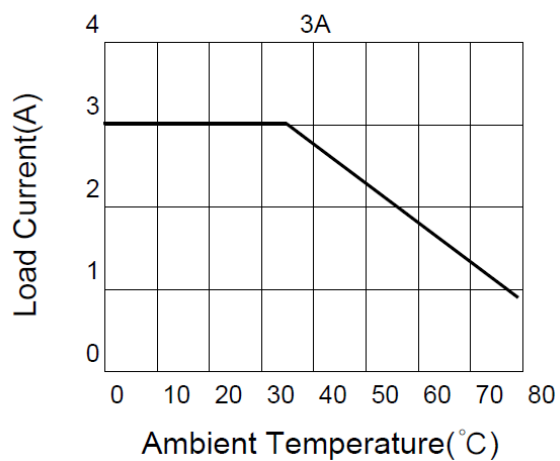
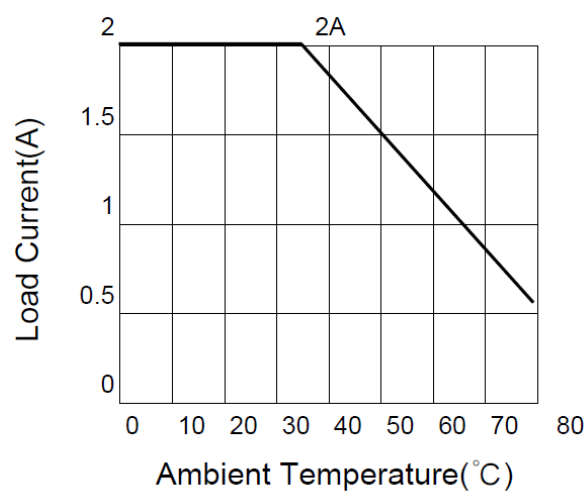
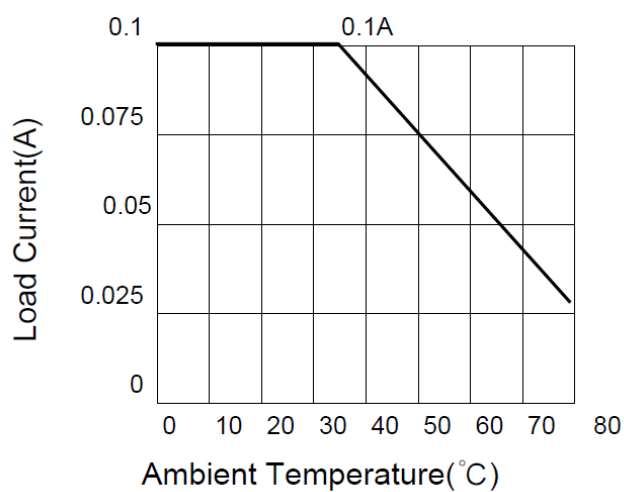
Socket Installation Drawing(Type:KPD-1A)



Wiring Method



## 6. THERMAL CURVE



# Non Repetitive Surge Current And Surge Cycle Curve

