

TMC Series

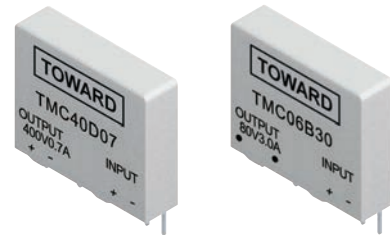
D/D·D/A·Load current:0.5~4.0A

Features

- Optically isolated
- Ultra Slim and light weight, Sil terminals type for high density mounting :
--Size:5(W) x 20(L) x 17(H) mm;
--Weight:approximately 3.0g
- Low On-state resistance
- Low input power consumption
- MOSFET output thyristor

Applications

- Temperature control system
- Industrial automatic control
- Lighting system
- Office appliances
- Factory appliances



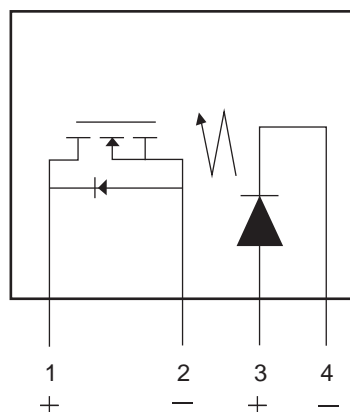
Order Code:

TMC 40 D 07

a b c d

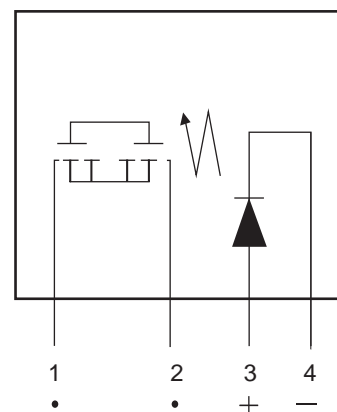
a : Model : TMC = Mini SIP Type, Current Input
 b : Output Voltage : 06 = 60V ; 10 = 100V ; 20 = 200V ; 40 = 400V
 c : Output Type : B = AC / DC Type, Current Input
 d : Output Current : 05 = 0.5A, 07 = 0.7A, 10 = 1.0A, 15 = 1.5A,
 20 = 2.0A, 28 = 2.8A, 30 = 3.0A, 40 = 4.0A

Terminal Identification



DC Type

Pin1: DC Output +
 Pin2: DC Output -
 Pin3: DC Voltage input +
 Pin4: DC Voltage input -



AC/DC Type

Pin1: AC/DC Output •
 Pin2: AC/DC Output •
 Pin3: DC Voltage input +
 Pin4: DC Voltage input -

為了持續的改進，敝司有權在不影響規格範圍的情況下修改設計。

In the interest of continuous development, our companies reserve the right to alter designs within specification range.

Rating

AC/DC Type 1) Absolute Maximum Ratings (Ambient Temperature 25°C)

| Item | | Symbol | 06B30 | 10B20 | 20B10 | 40B05 | Remarks |
|-------------------------|-----------------------------------|-------------------|---------------|-------|-------|-------|--------------------------|
| Input | LED Forward Current | I _F | 50mA | | | | |
| | LED Reverse Voltage | V _R | 5V | | | | |
| | Peak Forward Current | I _{FP} | 1A | | | | f=100Hz.Duty factor=0.1% |
| | Power Dissipation | P _{IN} | 75mW | | | | |
| output | Load Voltage (Peak AC) | V _L | 60V | 100V | 200V | 400V | |
| | Continuous Load Current (Peak AC) | I _L | 3.0A | 2.0A | 1.0A | 0.5A | |
| | Peak Load Current | I _{PEAK} | 9.0A | 6.0A | 3.0A | 1.5A | 100mS (1shot) |
| | Power Dissipation | P _{OUT} | 1.6W | | | | |
| Total Power Dissipation | | P _T | 1.6W | | | | |
| I/O Breakdown Voltage | | V _{I/O} | 2500VAC | | | | |
| Operating Temperature | | T _{OPR} | -40°C ~+85°C | | | | |
| Storage Temperature | | T _{STG} | -40°C ~+100°C | | | | |

2) Electrical Specifications (Ambient Temperature 25°C)

| Item | | Symbol | 06B30 | 10B20 | 20B10 | 40B05 | Remarks | |
|--------|---------------------------|---------------|---------|--------|-------|-------|---|---|
| Input | LED Operate Current | Typical | 1.0mA | | | | I _L =100mA V _L =10V | |
| | | Maximum | 3.0mA | | | | | |
| | LED Turn Off Current | Typical | 0.5mA | | | | I _L =100mA V _L =10V | |
| | | Maximum | 0.3mA | | | | | |
| | LED Dropout Voltage | Typical | 1.4V | | | | I _F =50mA | |
| | | Maximum | 1.7V | | | | | |
| output | On-Resistance | Typical | 0.09Ω | 0.14Ω | 0.5Ω | 2.4Ω | I _F =10mA I _L =Max Within 1 Sec on time | |
| | | Maximum | 0.18Ω | 0.28Ω | 1.0Ω | 3.6Ω | | |
| | Off-State Leakage Current | Maximum | 10 μA | | | | I _F =0mA V _L =Max | |
| Others | Switching Speed | Turn-On Time | Typical | 2.2mS | 2.4mS | 1.5mS | 1.4mS | I _F =10mA I _L =100mA V _L =10V |
| | | | Maximum | 5.0mS | | | | |
| | | Turn-Off Time | Typical | 0.1mS | 0.1mS | 0.1mS | 0.1mS | I _F =10mA I _L =100mA V _L =10V |
| | | | Maximum | 3.0mS | | | | |
| | I/O Capacitance | Typical | 0.8pF | | | | f=1MHz | |
| | | Maximum | 2.0pF | | | | | |
| | I/O Insulation Resistance | | Maximum | 1000MΩ | | | | 500VDC |
| | Maximum Operating Speed | | Maximum | 0.5cps | | | | I _F =10mA Duty Fator=50% I _L =Max, V _L =Max |

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DC Type

1) Absolute Maximum Ratings (Ambient Temperature 25°C)

| Item | | Symbol | 06D40 | 10D28 | 20D15 | 40D07 | Remarks |
|-------------------------|-----------------------------------|-------------------|---------------|-------|-------|-------|--------------------------|
| Input | LED Forward Current | I _F | 50mA | | | | |
| | LED Reverse Voltage | V _R | 5V | | | | |
| | Peak Forward Current | I _{FP} | 1A | | | | f=100Hz.Duty factor=0.1% |
| | Power Dissipation | P _{IN} | 75mW | | | | |
| output | Load Voltage (Peak AC) | V _L | 60V | 100V | 200V | 400V | |
| | Continuous Load Current (Peak AC) | I _L | 3.0A | 2.0A | 1.0A | 0.5A | |
| | Peak Load Current | I _{PEAK} | 9.0A | 6.0A | 3.0A | 1.5A | 100mS (1shot) |
| | Power Dissipation | P _{OUT} | 1.6W | | | | |
| Total Power Dissipation | | P _T | 1.6W | | | | |
| I/O Breakdown Voltage | | V _{I/O} | 2500VAC | | | | |
| Operating Temperature | | T _{OPR} | -40°C ~+85°C | | | | |
| Storage Temperature | | T _{STG} | -40°C ~+100°C | | | | |

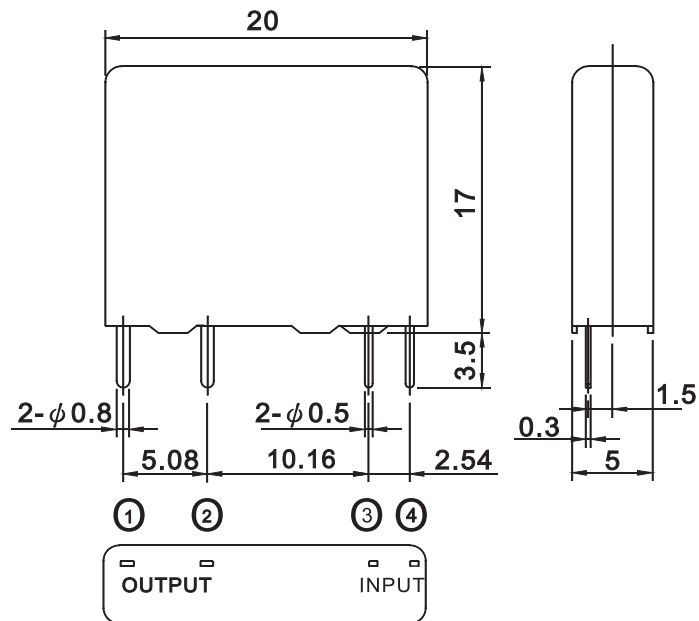
2) Electrical Specifications (Ambient Temperature 25°C)

| Item | | Symbol | 06D40 | 10D28 | 20D15 | 40D07 | Remarks | |
|-------------------------|---------------------------|---------------|------------------|--------|-------|-------|---|--|
| Input | LED Operate Current | Typical | 1.0mA | | | | I _L =100mA V _L =10V | |
| | | Maximum | 3.0mA | | | | | |
| | LED Turn Off Current | Typical | 0.5mA | | | | I _L =100mA V _L =10V | |
| | | Maximum | 0.3mA | | | | | |
| | LED Dropout Voltage | Typical | 1.4V | | | | I _F =50mA | |
| | | Maximum | 1.7V | | | | | |
| output | On-Resistance | Typical | 0.045Ω | 0.07Ω | 0.25Ω | 1.2Ω | I _F =10mA I _L =Max Within 1 Sec on time | |
| | | Maximum | 0.09Ω | 0.14Ω | 0.5Ω | 1.8Ω | | |
| | Off-State Leakage Current | Maximum | 10 μA | | | | I _F =0mA V _L =Max | |
| Others | Switching Speed | Turn-On Time | Typical | 1.3mS | 2.0mS | 1.0mS | 0.9mS | I _F =10mA I _L =100mA V _L =10V |
| | | | Maximum | 5.0mS | | | | |
| | | Turn-Off Time | Typical | 0.1mS | 0.1mS | 0.1mS | 0.1mS | I _F =10mA I _L =100mA V _L =10V |
| | | | Maximum | 3.0mS | | | | |
| | I/O Capacitance | Typical | 0.8pF | | | | f=1MHz | |
| | | Maximum | 2.0pF | | | | | |
| | I/O Insulation Resistance | Maximum | R _{I/O} | 1000MΩ | | | | 500VDC |
| Maximum Operating Speed | Maximum | - | 0.5cps | | | | I _F =10mA Duty Fator=50% I _L =Max, V _L =Max | |

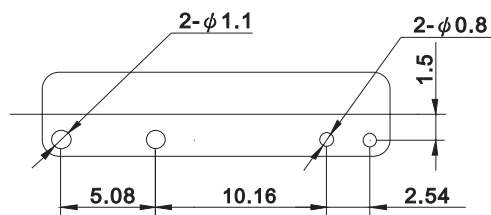
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Dimensions : (Unit : mm)



P.C.B. Layout (TOP View)



Note: Recommended trigger current is between 10mA and 20mA.

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