

Features (RoHS compliant)

Optically isolated

Low on-state resistance

Low input power consumption

MOSFET output thyristor

Ultra slim and light weight, Sil terminals type for high density mounting

Subminiature size 20.3 x 5.4 x 12.1(L x W x H)

GENERAL DESCRIPTION**1. High capacity type power PhotoMOS.**

Can switch a wide range of currents and voltage. Can control various types of loads, from very small loads to a max,4.5A AC/DC current for sequencers, motors, and lamps.

2. Low on-resistance and high sensitivity.

Low on-resistance of less than Typ.0.035Ω (MISC1004)

High sensitivity LED operate current of Typ.3mA

3. AC/DC dual use

Bi-directional control is possible. There is no need to differentiate depending on the load as was necessary with the conventional SSR

ABSOLUTE MAXIMUM RATINGS

| | |
|-------------------------------------|-----------------|
| I/O isolation voltage | 2500Vrms |
| Total power dissipation | 1.6w |
| Ambient operating temperature range | -40°C to +85°C |
| Ambient storage temperature range | -40°C to +100°C |
| Ambient humidity | 45% to 85% RH |
| Unit weight | Approx. 3g |

INPUT (TA=25°C)

| Item | Symbol | MISC1004(F) | MISC6501F) | Remarks |
|----------------------|-----------------|-------------|------------|-------------------------|
| LED Forward current | I _F | 50mA | | |
| LED Reverse Voltage | V _R | 5V | | |
| Peak forward current | I _{FP} | 1A | | f=100Hz,Duty Ratio=0.1% |
| Power Dissipation | P _{In} | 75mW | | |

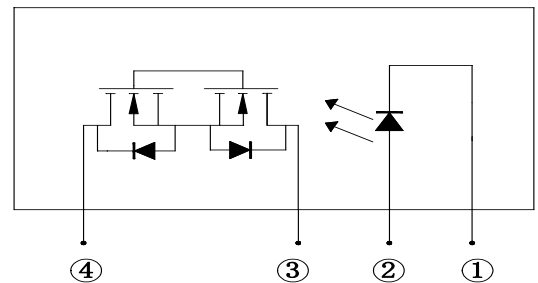
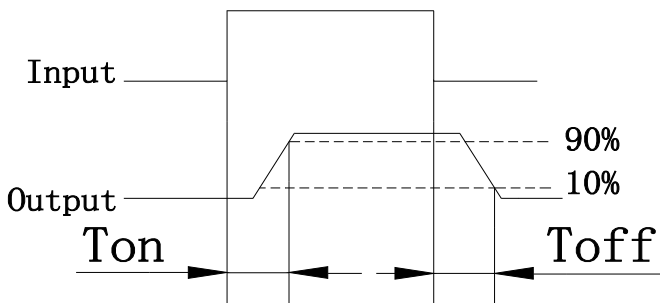
OUTPUT (TA=25°C)

| Item | Symbol | MISC1004(F) | MISC6501F) | Remarks |
|-------------------------|-------------------|-------------|------------|---------------------|
| Load voltage (Peak AC) | V _L | 100V | 650V | |
| Continuous load current | I _L | 4.5A | 1.2A | Peak AC,DC |
| Peak load current | I _{peak} | 8A | 3A | 100ms(1 shot),VL=DC |
| Power Dissipation | P _{out} | 1.6W | | |

ELECTRIAL CHARACTERISTICS

| item | | Symbol | MISC1004(F) | MISC6501(F) | Condition | |
|----------------------------------|---------------------------|---------|-------------|-------------|---|---------------------|
| INPUT | LED Operate Current | Typical | 1.0mA | | $I_L=100mA$ $V_L=10V$ | |
| | | Max | 3.0mA | | | |
| | LED Turn off Current | min | 0.4mA | | $I_L=100mA$ $V_L=10V$ | |
| | | Typical | 0.9mA | | | |
| | LED Dropout Voltage | Typical | V_F | 1.25V | | $I_F=50mA$ |
| Max | | 1.5V | | | | |
| OUTPUT | On resistance | Typical | 0.035Ω | 0.4Ω | $I_F=10mA$ $I_L=Max.$ Within 1s | |
| | | Max | 0.06Ω | 0.8Ω | | |
| | Off state leakage current | Max | I_{Leak} | 10μA | | $I_F=0mA$ $V_L=Max$ |
| Transfer characteristics | Turn on time | Typical | 0.8ms | | $I_F=10mA$ $I_L=100mA$ $V_L=10V$ | |
| | | Max | 3ms | | | |
| | Turn off time | Typical | 0.1ms | | $I_F=10mA$ $I_L=100mA$ $V_L=10V$ | |
| | | Max | 1ms | | | |
| | I/O Capacitance | Typical | Ciso | 0.8pF | | f=1MHz $V_B=0V$ |
| | | Max | | 1.5pF | | |
| Initial I/O isolation resistance | Mix | Riso | 1000MΩ | | 500VDC | |
| Max. Operating frequency | Max | --- | 0.5cps | | $I_F=10mA$ Duty factor=50% $I_L=Max,$ $V_L=Max$ | |

Turn on/Turn off time and PIN Configuration



MISCXXXX

- 1. INPUT: DC -
- 2. INPUT: DC +
- 3. OUTPUT: DC/AC
- 4. OUTPUT: DC/AC

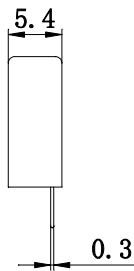
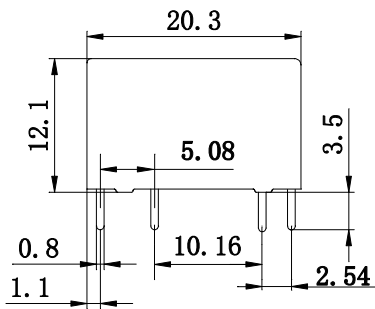
MISCXXXX (F)

- 1. INPUT: DC +
- 2. INPUT: DC -
- 3. OUTPUT: DC/AC
- 4. OUTPUT: DC/AC

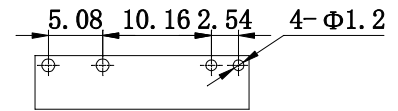
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

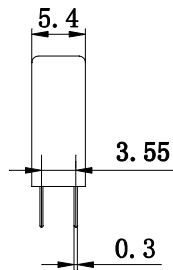
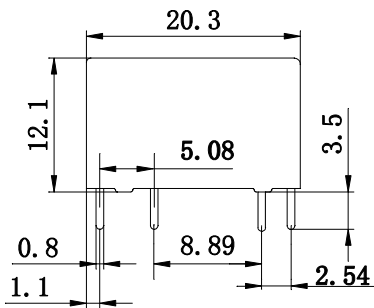
MISCXXXX



PCB LAYOUT



MISCXXXX (F)



PCB LAYOUT

