MISC MASSUSE SOLID STATE RELAY

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℃ to +85℃
Ambient storage temperature range	-40℃ to +100℃
Ambient humidity	45% to 85% RH
Unit weight	Approx. 3g

INPUT (TA=25℃)

Item	Symbol	MISC1004(F)	MISC6501(F)	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		

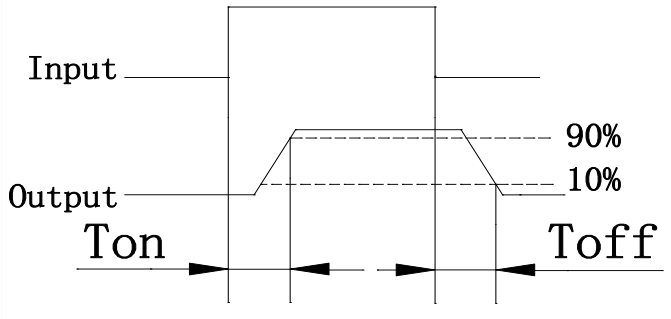
OUTPUT (TA=25℃)

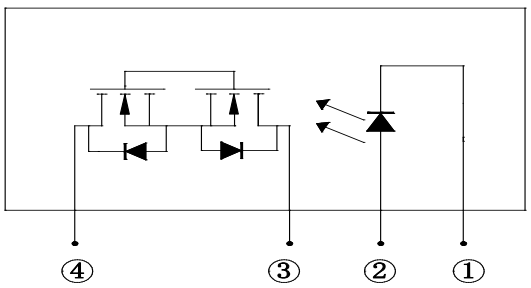
Item	Symbol	MISC1004(F)	MISC6501(F)	Remarks
Load voltage (Peak AC)	V_L	100V	650V	
Continuous load current	I_L	4.5A	1.2A	Peak AC,DC
Peak load current	I_{peak}	8A	3A	100ms(1 shot),VL=DC
Power Dissipation	P_{out}	1.6W		

ELECTRIAL CHARACTERISTICS

item			Symbol	MISC1004(F)	MISC6501(F)	Condition
INPUT	LED Operate Current	Typical	I_{Fon}	1.0mA		I_L=100mA
		Max		3.0mA		V_L=10V
	LED Turn off Current	min	I_{Foff}	0.4mA		I_L=100mA
		Typical		0.9mA		V_L=10V
	LED Dropout Voltage	Typical	V_F	1.25V		I_F=50mA
		Max		1.5V		
OUTPUT	On resistance	Typical	R_{on}	0.035Ω	0.4Ω	I_F=10mA
		Max		0.06Ω	0.8Ω	I_L=Max.Within1s
	Off state leakage current	Max	I_{Leak}	10μA		I_F=0mA V_L=Max
Transfer characteristics	Turn on time	Typical	T_{on}	0.8ms		I_F=10mA
		Max		3ms		I_L=100mA
	Turn off time	Typical	T_{off}	0.1ms		V_L=10V
		Max		1ms		
	I/O Capacitance	Typical	Ciso	0.8pF		f=1MHz
		Max		1.5pF		V_B=0V
	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





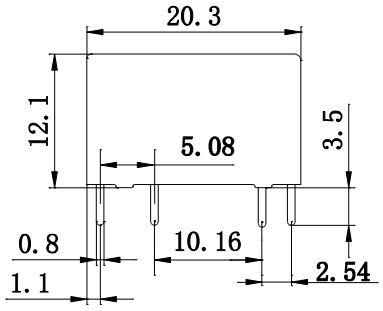
MISCXXXX
1. INPUT:DC −
2. INPUT:DC +
3. OUTPUT:DC/AC
4. OUTPUT:DC/AC

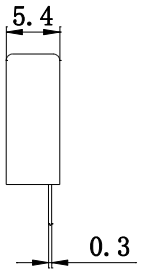
MISCXXXX(F)
1. INPUT:DC +
2. INPUT:DC −
3. OUTPUT:DC/AC
4. OUTPUT:DC/AC

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

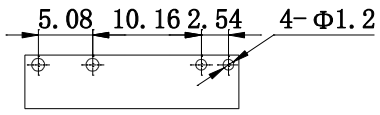
Unit: mm

MISCXXXX

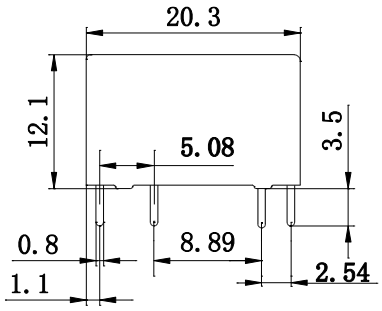


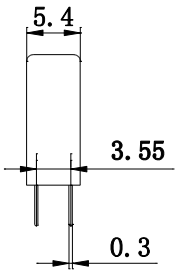


PCB LAYOUT



MISCXXXX(F)





PCB LAYOUT