

TOSHIBA SOLID STATE AC RELAY

TSS1G48, TSS1J48

OPTICALLY ISOLATED, ZERO VOLTAGE TURN-ON,
ZERO CURRENT TURN-OFF, NORMALLY OPEN SSR

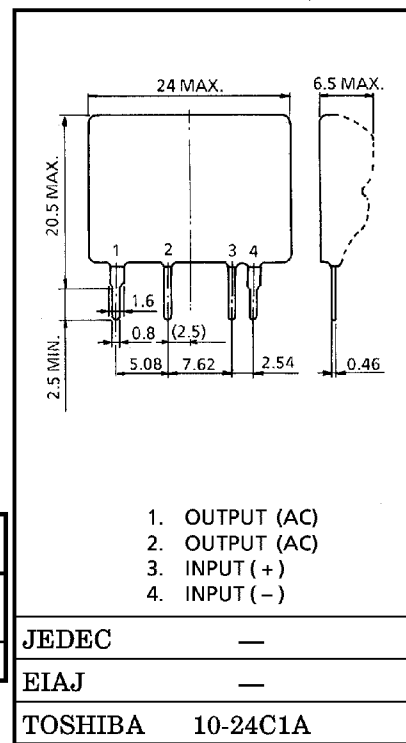
Unit in mm

- COMPUTER PERIPHERALS
- MACHINE TOOL CONTROLS
- PROCESS CONTROL SYSTEMS
- TRAFFIC CONTROL SYSTEMS

- R.M.S On-State Current : I_T (RMS) = 1A
- Non-Repetitive Peak Off-State Voltage : V_{DSM} = 400, 600V
- TTL Compatible
- Isolation Voltage : 2000V AC (t=1min.)

MAXIMUM RATINGS (Ta = 25°C)
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Input Voltage (DC) (Note 1)	V_F (IN)	5.5	V
Control Input Current (DC)	I_F (IN)	30	mA



Weight : 5g

OUTPUT (LOAD)

Non-Repetitive Peak Off-State Voltage	TSS1G48	V_{DSM}	400	V
	TSS1J48		600	
Nominal AC Line Voltage	TSS1G48	V_{AC}	120	V
	TSS1J48		240	
R.M.S On-State Current	I_T (RMS)		1	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}		20 (50Hz)	A
			22 (60Hz)	
Operating Frequency Range	f		45~65	Hz
Isolation Voltage (t=1min., Input to Output)	BV_S / AC		2000	V
Operating Temperature Range	T_{opr}		-20~80	°C
Storage Temperature Range	T_{stg}		-30~80	°C

Note 1 : Driving input rating : Insert an external resistance into SSR when the power supply over 5.5V is used.

Note 2 : Snubber network (C-R) is necessary to protect from surge voltage and dv/dt fire. Snubber network is to be connected between #1 #2 terminal.

Note 3 : Mounting : Soldering of printed wiring board should be used under 260°C and 10 second.

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Voltage	V_{FT}	$V_{AC} = 100V_{rms}$ Resistive Load	—	—	4.0	V
Drop Out Voltage	V_{FD}		0.5	—	—	V
Input Resistance	$R(IN)$		—	160	—	Ω

OUTPUT (LOAD)

Off-State Leakage Current	TSS1G48	I_{OL}	$V_{AC} = 100V_{rms}, f = 50Hz$	—	—	0.1	mA
	TSS1J48						
Peak On-State Voltage	V_{TM}	$I_T (RMS) = 1A$	—	—	1.5	V	
dv / dt (Off-State)	dv / dt	$V_{DSM} = 0.7 \times \text{Rated}$	50	—	—	V / μs	
Minimum Load Current	—		100	—	—	mA	
Turn-On Time	t_{on}	$V_{AC} = 100V_{rms}$ Resistive Load (Fig.1)	—	—	1 / 2	Cycle	
Turn-Off Time	t_{off}		—	—	1 / 2	Cycle	
Isolation Resistance	R_S	$V = 500V, R.H = 40 \sim 60\%$	10^{10}	—	—	Ω	

EQUIVALEN CIRCUIT

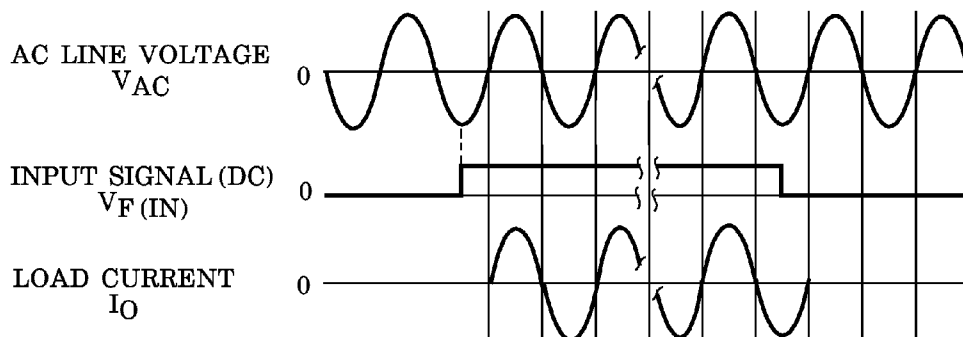
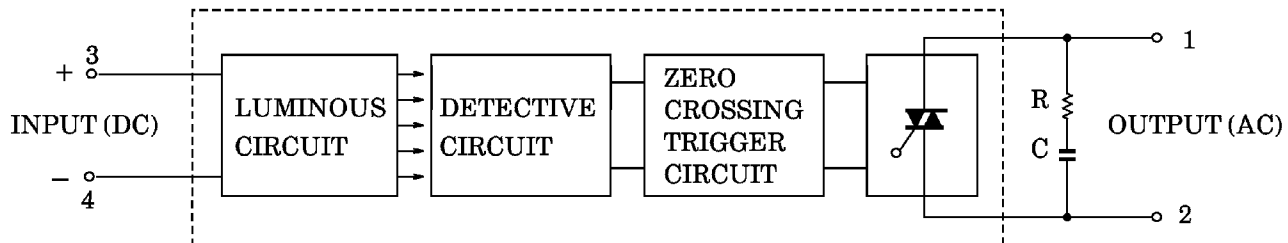


Fig.1 ZERO VOLTAGE SWITCHING WAVEFORM

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