

TOSHIBA SOLID STATE AC RELAY

TSS1G48S, TSS1J48S

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

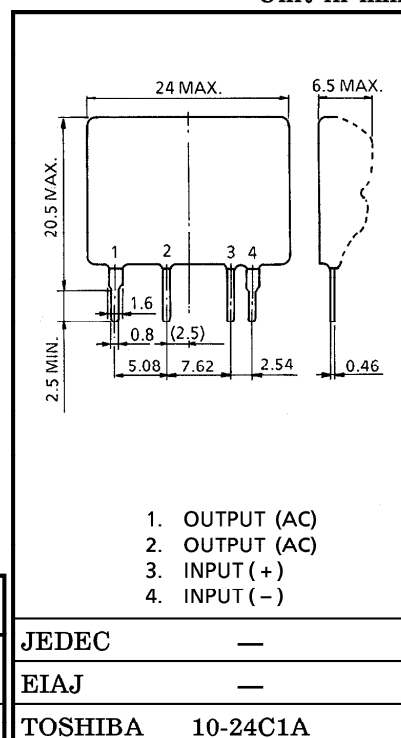
Unit in mm

COMPUTER PERIPHERALS
MACHINE TOOL CONTROLS
PROCESS CONTROL SYSTEMS
TRAFFIC CONTROL SYSTEMS

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

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)
INPUT (CONTROL)

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



Weight : 5g

OUTPUT (LOAD)

Non-Repetitive Peak Off-State Voltage	TSS1G48S	V_{DSM}	400	V
	TSS1J48S		600	
Nominal AC Line Voltage	TSS1G48S	V_{AC}	120	V
	TSS1J48S		240	
R.M.S On-State Current		$I_T(\text{RMS})$	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 ($t = 1\text{min.}$, Input to Output)		BV_S / AC	2000	V
Operating Temperature Range		T_{opr}	-20~80	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-30~80	$^\circ\text{C}$

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

Note 2 : 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	TSS1G48S	I_{OL}	$V_{AC}=100V_{rms}, f=50Hz$	—	—	1	mA
	TSS1J48S		$V_{AC}=200V_{rms}, f=50Hz$	—	—	2	
Peak On-State Voltage	V_{TM}	$I_T(RMS)=1A$		—	—	1.5	V
dv / dt (Off-State)	dv / dt	$V_{DSM}=0.7\times Rated$		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	$V=500V, R.H=40\sim60\%$		10^{10}	—	—	Ω

EQUIVALEN CIRCUIT

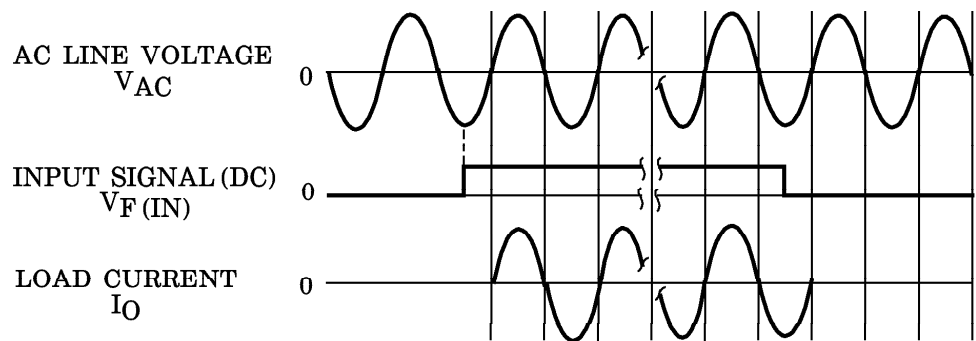
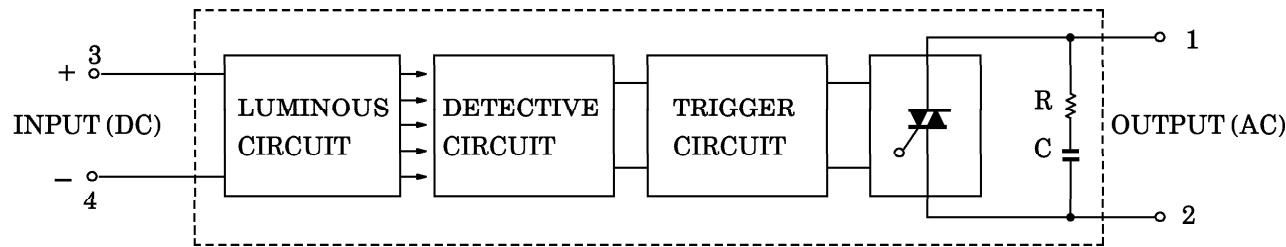


Fig.1 ZERO VOLTAGE SWITCHING WAVEFORM

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