

TOSHIBA SOLID STATE AC RELAY

TSS1G48S, TSS1J48S

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

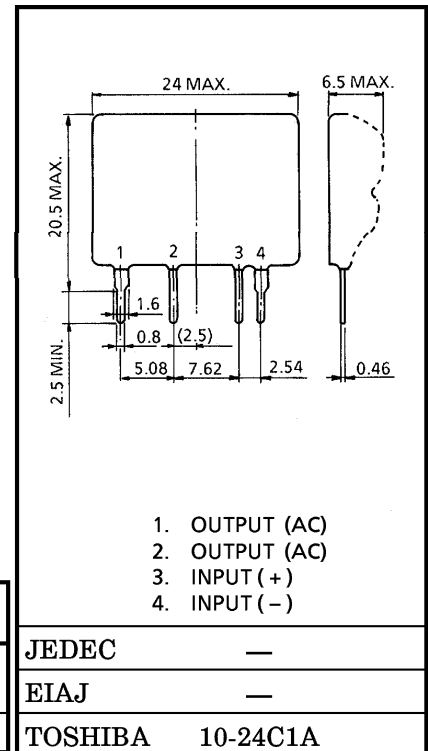
Unit in mm

COMPUTER PERIPHERALS
MACHINE TOOL CONTROLS
PROCESS CONTROL SYSTEMS
TRAFFIC CONTROL SYSTEMS

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

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



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 (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	

Weight : 5g

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.

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					$V_{AC} = 200V_{rms}, f = 50Hz$	
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

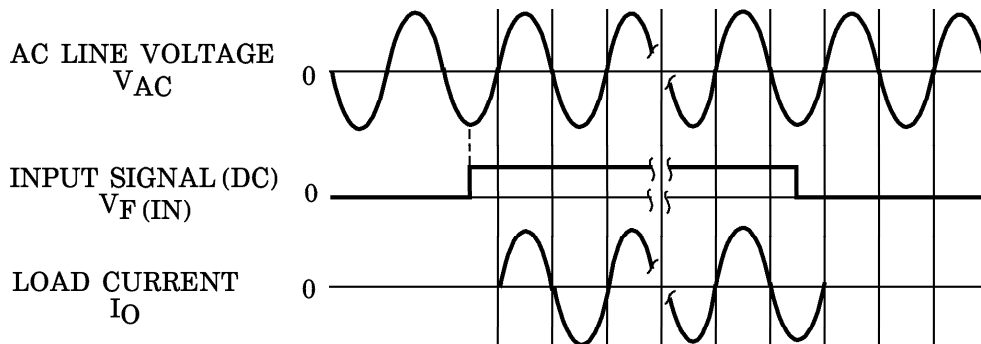
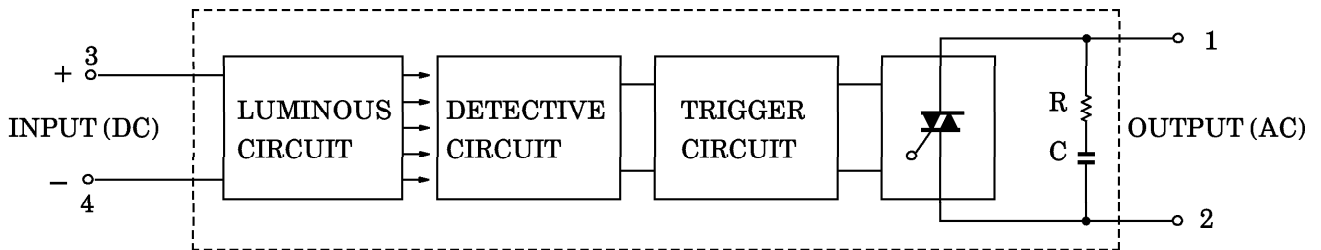
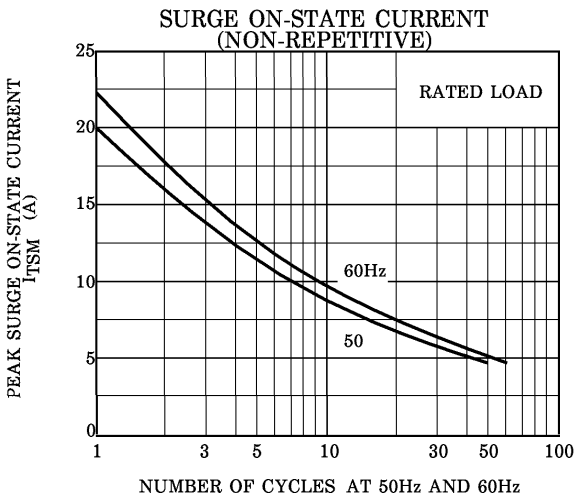
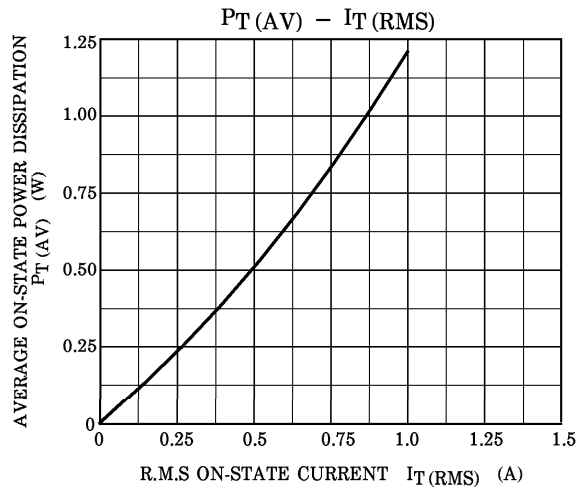
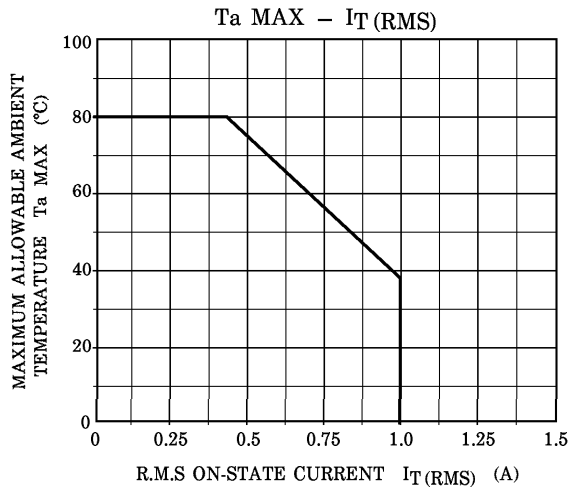


Fig.1 ZERO VOLTAGE SWITCHING WAVEFORM



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