

## TOSHIBA SOLID STATE AC RELAY

**TSS2G48, TSS2J48**

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

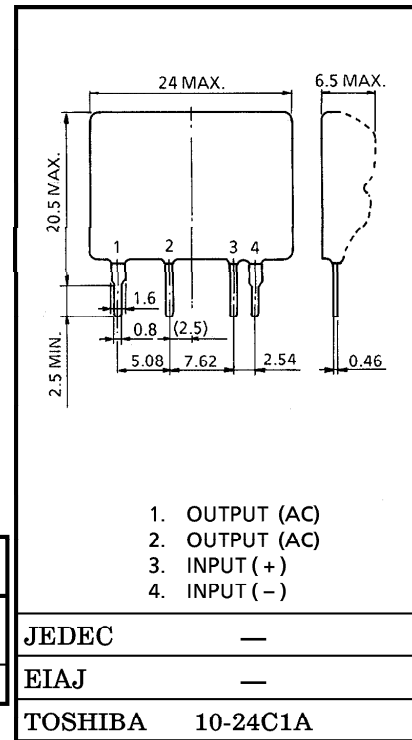
- R.M.S On-State Current :  $I_T$  (RMS) = 2A
- Non-Repetitive Peak Off-State Voltage :  $V_{DSM}$  = 400, 600V
- TTL Compatible
- Isolation Voltage : 2000V AC (t = 1min.)

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

OUTPUT (LOAD)

Non-Repetitive Peak Off-State Voltage	TSS2G48	V <sub>DSM</sub>	400	V
	TSS2J48		600	
Nominal AC Line Voltage	TSS2G48	V <sub>AC</sub>	120	V
	TSS2J48		240	
R.M.S On-State Current		I <sub>T</sub> (RMS)	2	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I <sub>TSM</sub>	40 (50Hz)	A
			44 (60Hz)	
Operating Frequency Range		f	45~65	Hz
Isolation Voltage (t=1min., Input to Output)		BV <sub>S</sub> /AC	2000	V
Operating Temperature Range		T <sub>opr</sub>	−20~80	°C
Storage Temperature Range		T <sub>stg</sub>	−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 : 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	—	$\Omega$

OUTPUT (LOAD)

Off-State Leakage Current	TSS2G48	$I_{OL}$	$V_{AC}=100V_{rms}, f=50Hz$	—	—	0.1	mA
	TSS2J48		$V_{AC}=200V_{rms}, f=50Hz$	—	—	0.2	
Peak On-State Voltage	$V_{TM}$	$I_T(RMS)=2A$		—	—	1.5	V
$dv/dt$ (Off-State)	$dv/dt$	$V_{DSM}=0.7\times\text{Rated}$		50	—	—	$V/\mu s$
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	
Isolation Resistance	$R_S$	$V=500V, R.H=40\sim60\%$		$10^{10}$	—	—	$\Omega$

EQUIVALEN CIRCUIT

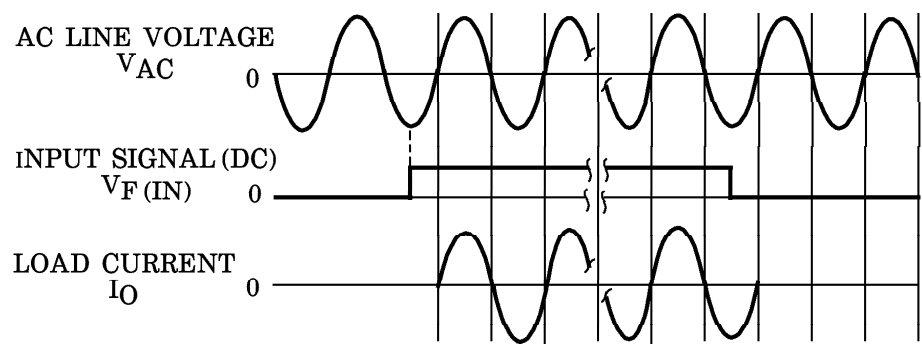
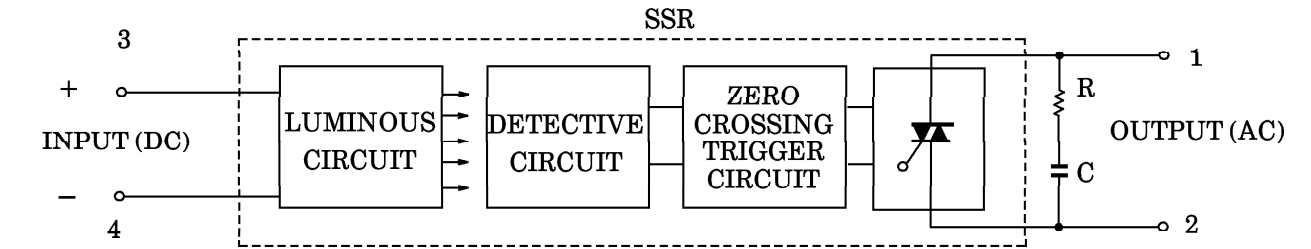


Fig.1 ZERO VOLTAGE SWITCHING WAVEFORM

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