

TOSHIBA SOLID STATE AC RELAY

**TSS16G48S, TSS16J48S**

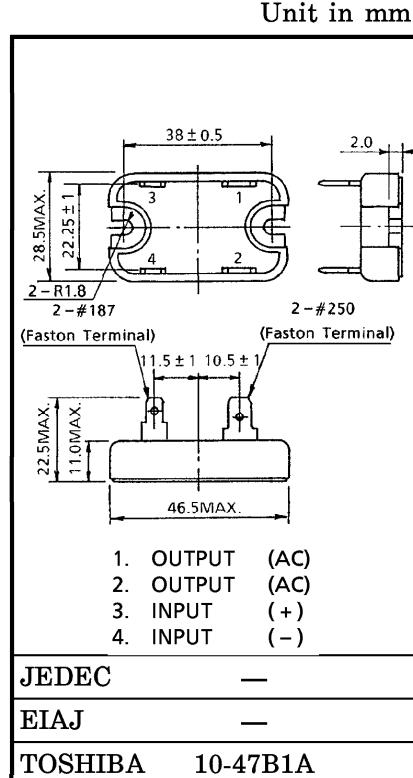
- OPTICALLY ISOLATED, ZERO VOLTAGE TURN-ON, ZERO CURRENT TURN-OFF, NORMALLY OPEN SSR.

COMPUTER PERIPHERALS  
MACHINE TOOL CONTROLS  
PROCESS CONTROL SYSTEMS  
TRAFFIC CONTROL SYSTEMS

- R. M. S On-State Current :  $I_T(\text{RMS}) = 16\text{A}$
- Non-Repetitive Peak Off-State Voltage :  $V_{DSM} = 400, 600\text{V}$
- TTL Compatible
- Including Snubber Network
- Isolation Voltage ( $t=1\text{min.}$ ) : 2500V AC (Input to Output)  
: 1500V AC (Input/Output to Base)

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



## OUTPUT (LOAD)

Non-Repetitive Peak Off-State Voltage	TSS16G48S TSS16J48S	$V_{DSM}$	400 600	V
Nominal AC Line Voltage	TSS16G48S TSS16J48S	$V_{AC}$	120 240	V
R. M. S On-State Current	$I_T(\text{RMS})$	16	A	
Peak One Cycle Surge On-State Current (Non-Repetitive)	$I_{TSM}$	150 (50Hz) 165 (60Hz)	A	
Operating Frequency Range	f	45~65	Hz	
Isolation Voltage ( $t=1\text{min.}$ )	Input to Output Input / Output to Base	BVS / AC	2500 1500	V
Operating Temperature Range	$T_{opr}$	-20~80	°C	
Storage Temperature Range	$T_{stg}$	-30~80	°C	
Screw Torque (M3)		0.6	N · m	

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

2 : Don't dip the SSR body into the organic solvent like Trichloroethylene, when washing the flux on the terminal.

3 : For installation of SSR, use spring-washers, etc., to prevent screws from loosening.

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Voltage	V <sub>FT</sub>	V <sub>AC</sub> = 100Vrms	—	—	4.0	V
Drop Out Voltage	V <sub>FD</sub>	Resistive Load	0.5	—	—	V
Input Resistance	R (IN)		—	160	—	Ω

## INPUT (CONTROL)

Off-State Leakage Current	TSS16G48S TSS16J48S	I <sub>OL</sub>	V <sub>AC</sub> = 100Vrms, f = 50Hz V <sub>AC</sub> = 200Vrms, f = 50Hz	—	—	3.0 6.0	mA
Peak On-State Voltage	V <sub>TM</sub>		I <sub>T</sub> (RMS) = 16A	—	—	1.5	V
dv / dt (Off-State)	dv / dt		V <sub>DSM</sub> = 0.7 × Rated	50	—	—	V / $\mu$ s
Turn-On Time	t <sub>on</sub>		V <sub>AC</sub> = 100Vrms	—	—	1 / 2	Cycle
Turn-Off Time	t <sub>off</sub>		Resistive Load (Fig. 1)	—	—	1 / 2	Cycle
Isolation Resistance	R <sub>S</sub>		V = 500V, RH = 40~60%	10 <sup>10</sup>	—	—	Ω
Thermal Resistance	R <sub>th(j-c)</sub>	AC		—	—	3.5	°C / W

## EQUIVALENT CIRCUIT

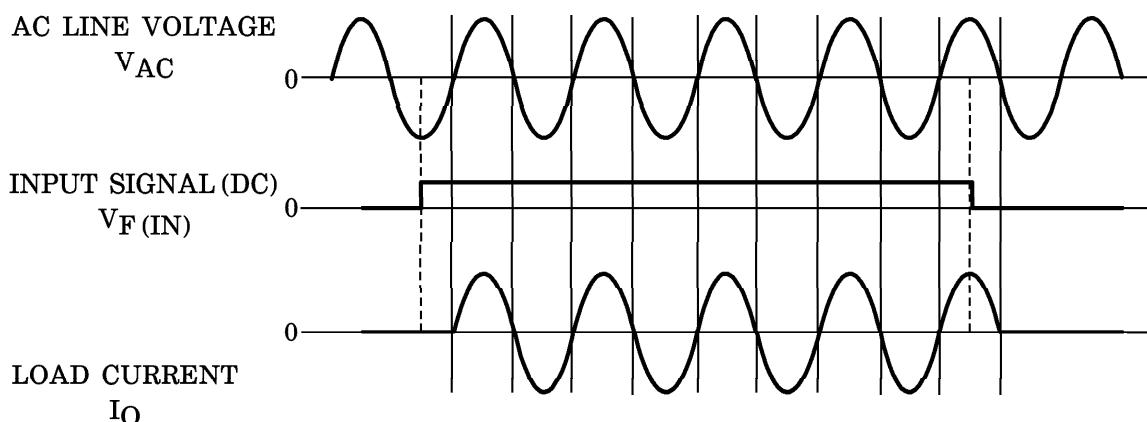
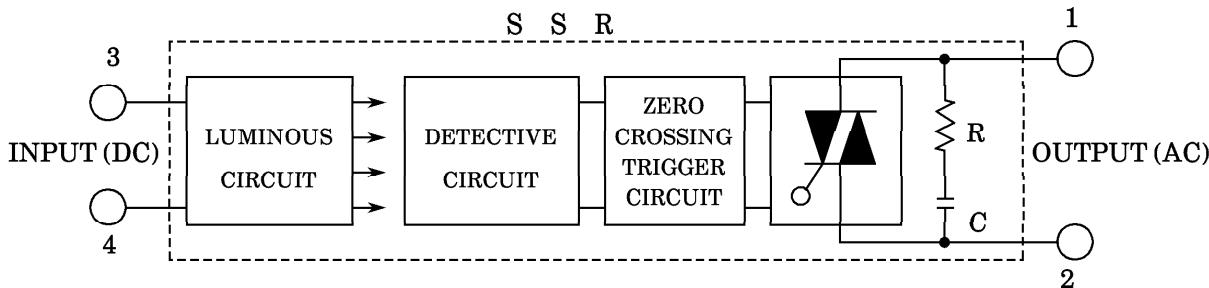
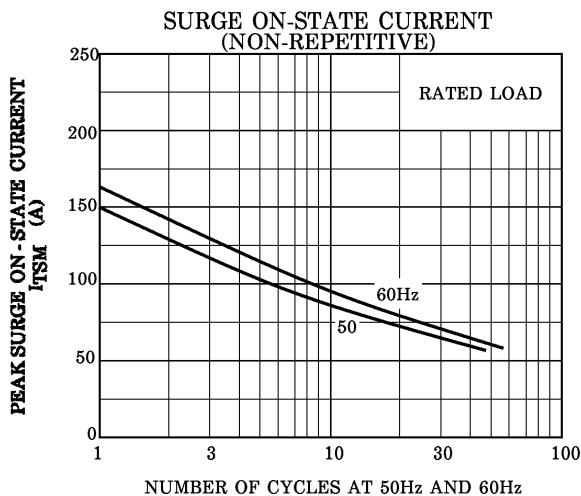
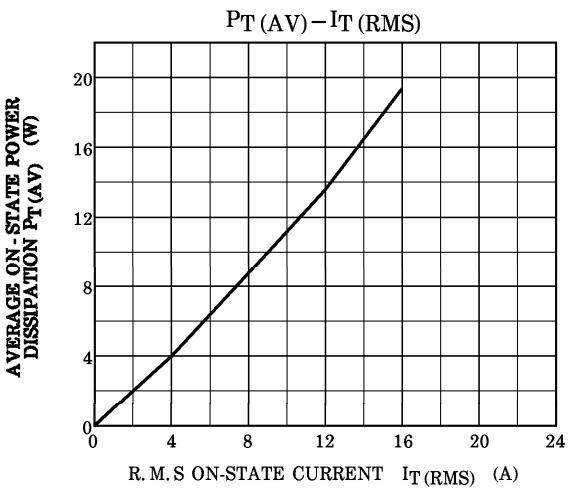
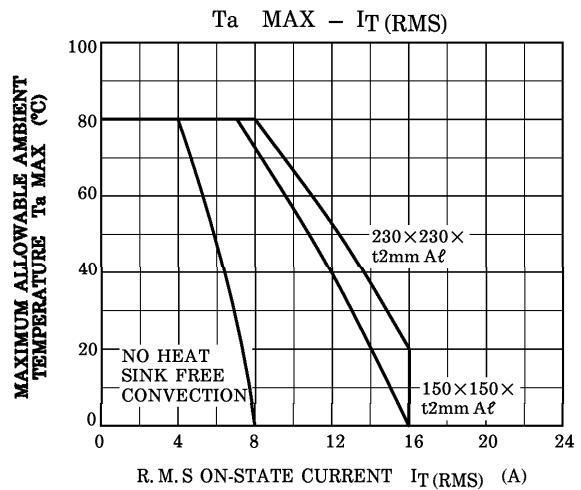


Fig. 1. ZERO VOLTAGE SWITCHING WAVEFORM



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