

TOSHIBA SOLID STATE AC RELAY

# TSS16G48S, TSS16J48S

Unit in mm

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

COMPUTOR PERIPHERALS  
MACHINE TOOL CONTROLS  
PROCESS CONTROL SYSTEMS  
TRAFFIC CONTROL SYSTEMS

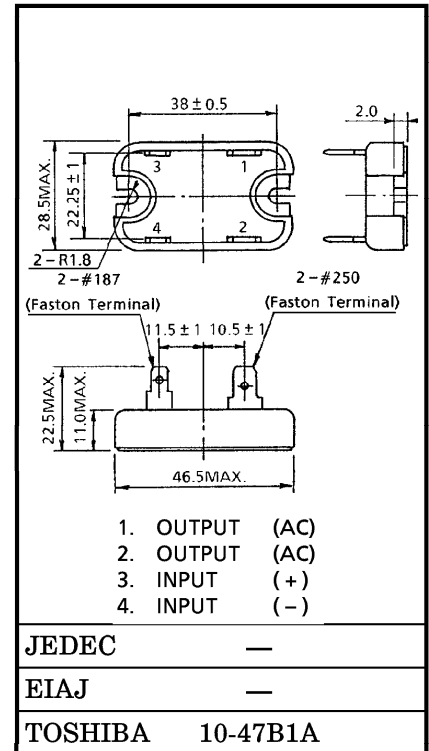
- R. M. S On-State Current :  $I_T$  (RMS) = 16A
- Non-Repetitive Peak Off-State Voltage :  $V_{DSM}$  = 400, 600V
- TTL Compatible
- Including Snubber Network
- Isolation Voltage (t=1min.) : 2500V AC (Input to Output)  
: 1500V AC (Input/Output to Base)

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	TSS16G48S	$V_{DSM}$	400	V
	TSS16J48S		600	
Nominal AC Line Voltage	TSS16G48S	$V_{AC}$	120	V
	TSS16J48S		240	
R. M. S On-State Current		$I_T$ (RMS)	16	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		$I_{TSM}$	150 (50Hz)	A
			165 (60Hz)	
Operating Frequency Range		f	45~65	Hz
Isolation Voltage (t=1min.)	Input to Output	$BV_S$ / AC	2500	V
	Input / Output to Base		1500	
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.

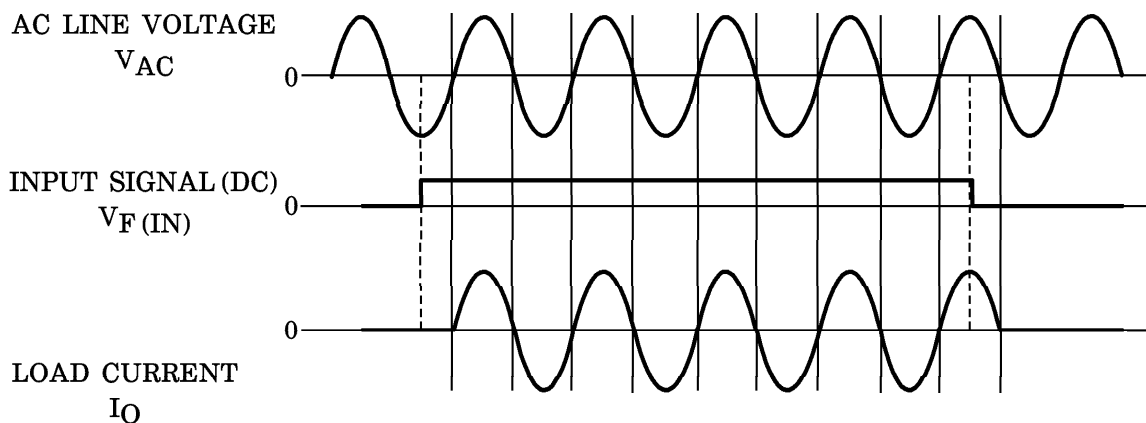
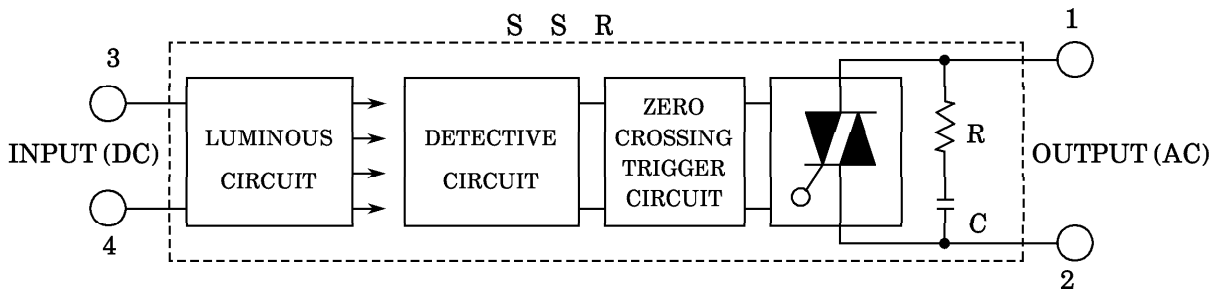
**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**  
**INPUT (CONTROL)**

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 <sub>(IN)</sub>		—	160	—	Ω

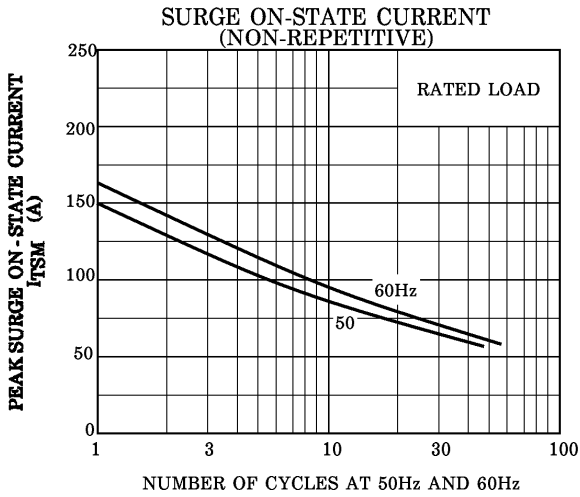
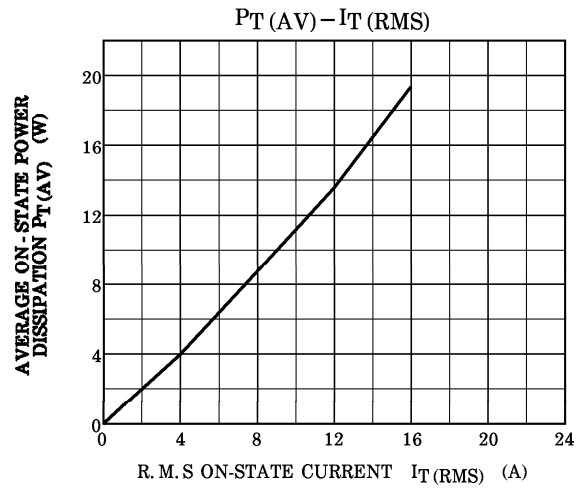
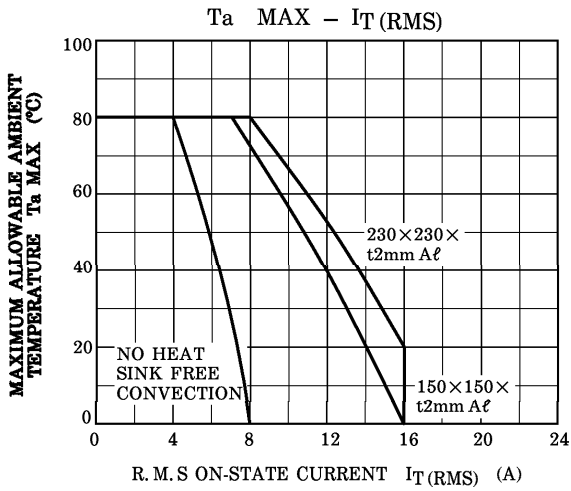
**INPUT (CONTROL)**

Off-State Leakage Current	TSS16G48S	I <sub>OL</sub>	V <sub>AC</sub> = 100Vrms, f = 50Hz	—	—	3.0	mA
	TSS16J48S		V <sub>AC</sub> = 200Vrms, f = 50Hz	—	—	6.0	
Peak On-State Voltage	V <sub>TM</sub>	I <sub>T (RMS)</sub> = 16A	—	—	1.5	V	
dv / dt (Off-State)	dv / dt	V <sub>DSM</sub> = 0.7 × Rated	50	—	—	V / μs	
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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