

## 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

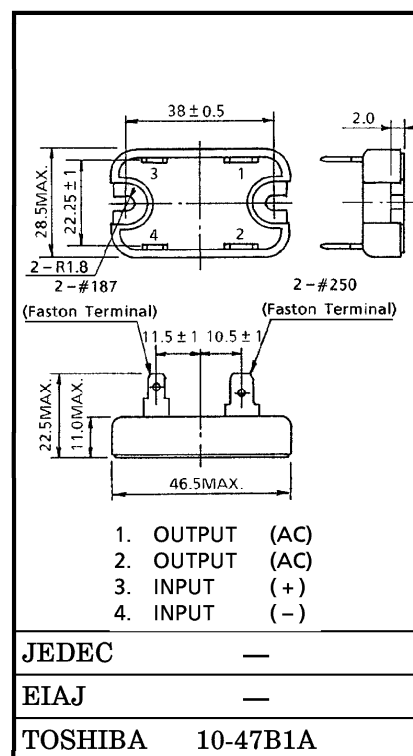
- R. M. S On-State Current :  $I_T(\text{RMS}) = 16\text{A}$
- Non-Repetitive Peak Off-State Voltage :  $V_{\text{DSM}} = 400, 600\text{V}$
- TTL Compatible
- Including Snubber Network
- Isolation Voltage ( $t=1\text{min.}$ ) : 2500V AC (Input to Output)  
: 1500V AC (Input / Output to Base)

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	$V_{\text{DSM}}$	400	V
	TSS16J48S		600	
Nominal AC Line Voltage	TSS16G48S	$V_{\text{AC}}$	120	V
	TSS16J48S		240	
R. M. S On-State Current		$I_T(\text{RMS})$	16	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		$I_{\text{TSM}}$	150 (50Hz)	A
			165 (60Hz)	
Operating Frequency Range		$f$	45~65	Hz
Isolation Voltage ( $t=1\text{min.}$ )	Input to Output	$BV_S / \text{AC}$	2500	V
	Input / Output to Base		1500	
Operating Temperature Range		$T_{\text{opr}}$	-20~80	$^\circ\text{C}$
Storage Temperature Range		$T_{\text{stg}}$	-30~80	$^\circ\text{C}$
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	$V_{FT}$	$V_{AC}=100V_{rms}$ Resistive Load	—	—	4.0	V
Drop Out Voltage	$V_{FD}$		0.5	—	—	V
Input Resistance	$R_{(IN)}$		—	160	—	$\Omega$

INPUT (CONTROL)

Off-State Leakage Current	TSS16G48S	$I_{OL}$	$V_{AC}=100V_{rms}, f=50Hz$	—	—	3.0	mA
	TSS16J48S		$V_{AC}=200V_{rms}, f=50Hz$	—	—	6.0	
Peak On-State Voltage	$V_{TM}$	$I_T(RMS)=16A$		—	—	1.5	V
dv / dt (Off-State)	dv / dt	$V_{DSM}=0.7\times Rated$		50	—	—	V / $\mu s$
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	$R_s$	$V=500V, RH=40\sim 60\%$		$10^{10}$	—	—	$\Omega$
Thermal Resistance	$R_{th(j-c)}$	AC		—	—	3.5	$^{\circ}C / W$

EQUIVALENT CIRCUIT

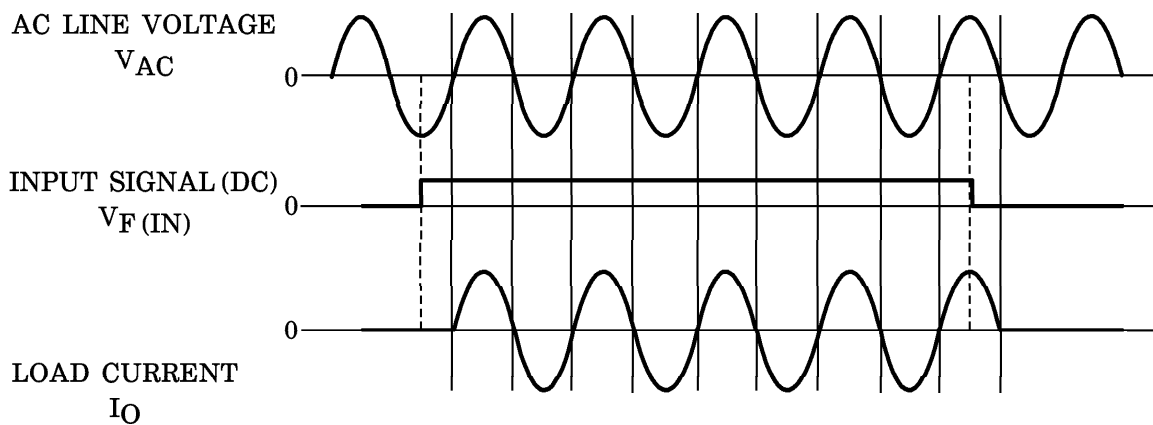
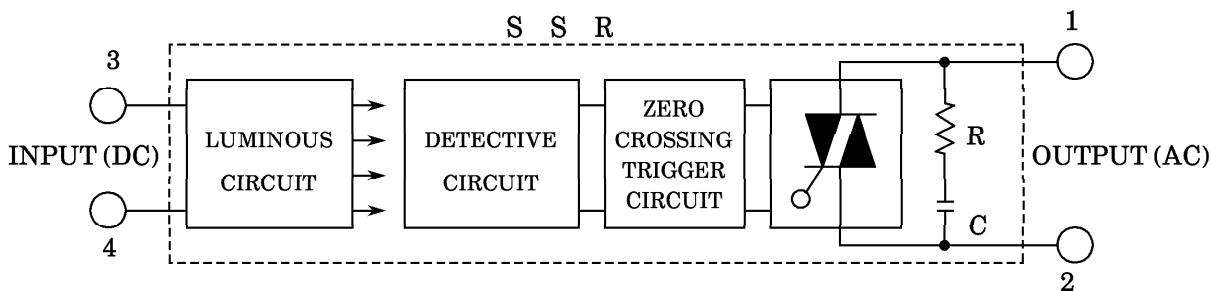
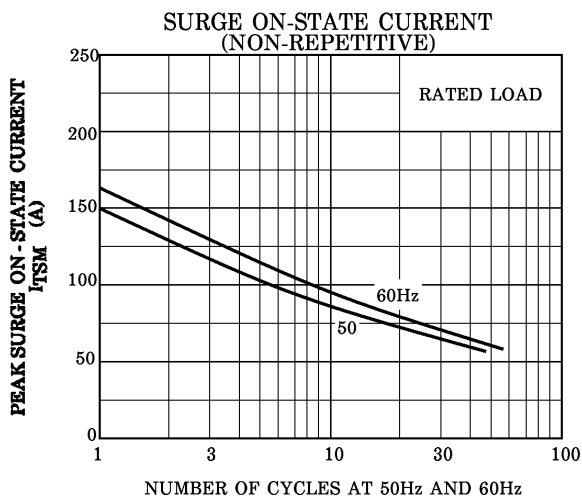
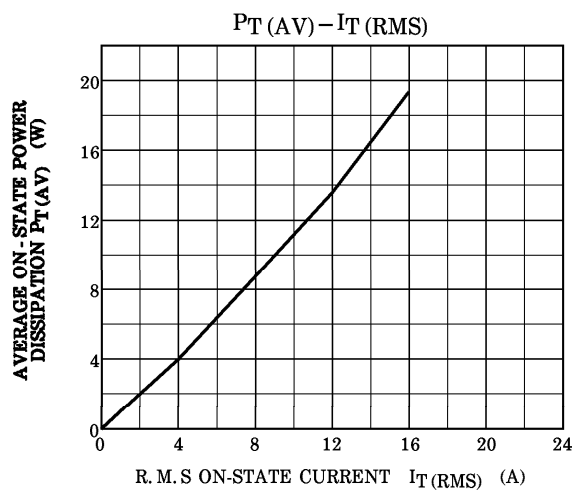
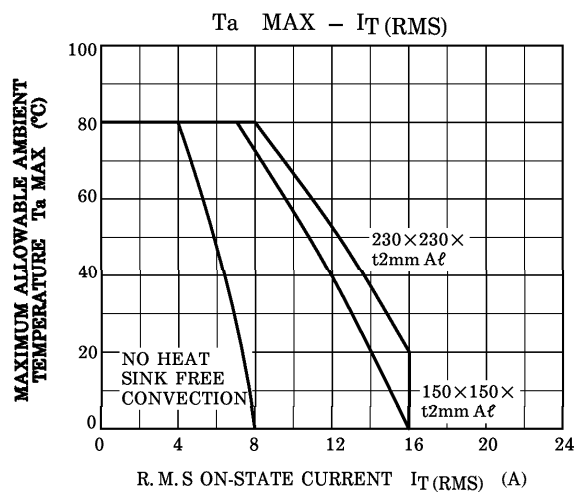


Fig.1. ZERO VOLTAGE SWITCHING WAVEFORM



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