## TOSHIBA SOLID STATE AC RELAY
TSS16G48S, TSS16J48S

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

Unit in mm

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)

1. OUTPUT (AC)
2. OUTPUT (AC)
3. INPUT (+)
4. INPUT (−)

JEDEC	—
EIAJ	—
TOSHIBA	10-47B1A

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
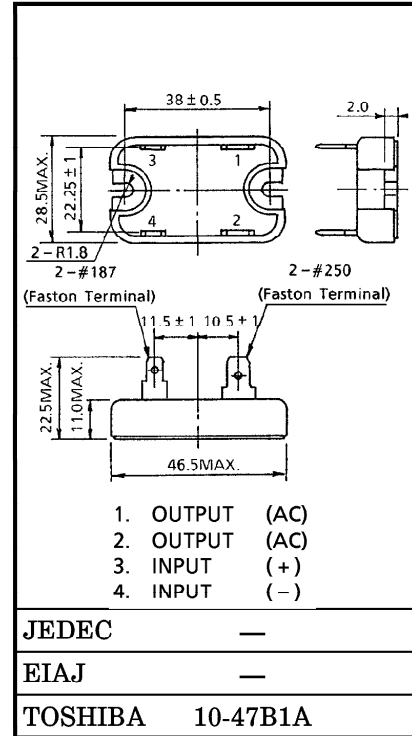
OUTPUT (LOAD)

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.

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Voltage	V_{FT}	$V_{AC}=100Vrms$ Resistive Load	—	—	4.0	V
Drop Out Voltage	V_{FD}		0.5	—	—	V
Input Resistance	$R_{(IN)}$		—	160	—	Ω

INPUT (CONTROL)

				MIN.	TYP.	MAX.	UNIT
Off-State Leakage Current	TSS16G48S	I_{OL}	$V_{AC}=100Vrms, f=50Hz$	—	—	3.0	mA
	TSS16J48S		$V_{AC}=200Vrms, f=50Hz$	—	—	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}	$V_{AC}=100Vrms$ Resistive Load (Fig. 1)	—	—	1 / 2	Cycle
Turn-Off Time		t_{off}		—	—	1 / 2	Cycle
Isolation Resistance		R_S	$V=500V, RH=40\sim60\%$	10^{10}	—	—	Ω
Thermal Resistance		$R_{th(j-c)}$	AC	—	—	3.5	°C / W

EQUIVALENT CIRCUIT
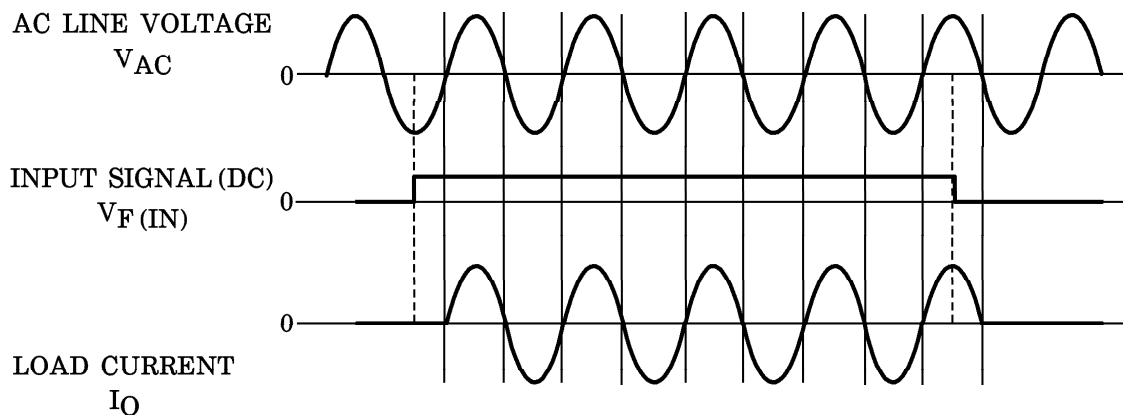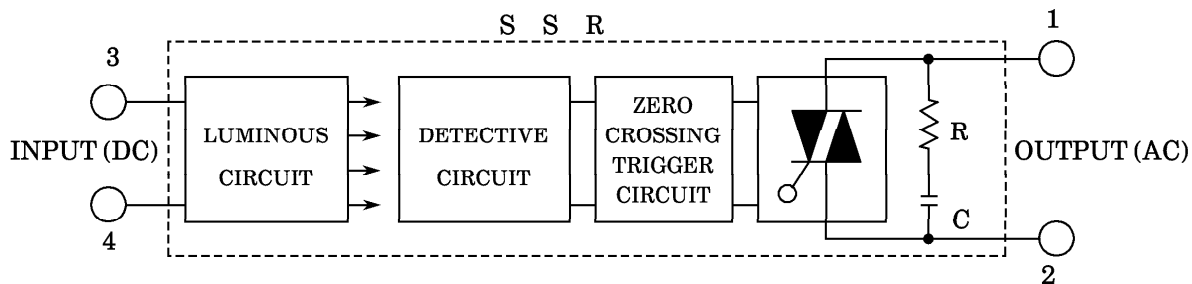
Fig. 1. ZERO VOLTAGE SWITCHING WAVEFORM

Ta MAX − I_T (RMS)

MAXIMUM ALLOWABLE AMBIENT TEMPERATURE Ta MAX (°C)

230×230× t2mm Aℓ

NO HEAT SINK FREE CONVECTION

150×150× t2mm Aℓ

R. M. S ON-STATE CURRENT I_T (RMS) (A)

P_T (AV) − I_T (RMS)

AVERAGE ON-STATE POWER DISSIPATION P_T (AV) (W)

R. M. S ON-STATE CURRENT I_T (RMS) (A)

SURGE ON-STATE CURRENT (NON-REPETITIVE)

PEAK SURGE ON-STATE CURRENT I_{TSM} (A)

RATED LOAD

60Hz

50

NUMBER OF CYCLES AT 50Hz AND 60Hz