

TOSHIBA SOLID STATE AC RELAY

TSS16J48SR

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 : $V_{\text{DSM}} = 600\text{V}$
- TTL Compatible
- Including Snubber Network
- Isolation Voltage ($t = 1\text{min.}$) : 3750V AC (Input to Output)
: 1500V AC (Input/Output to Base)

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

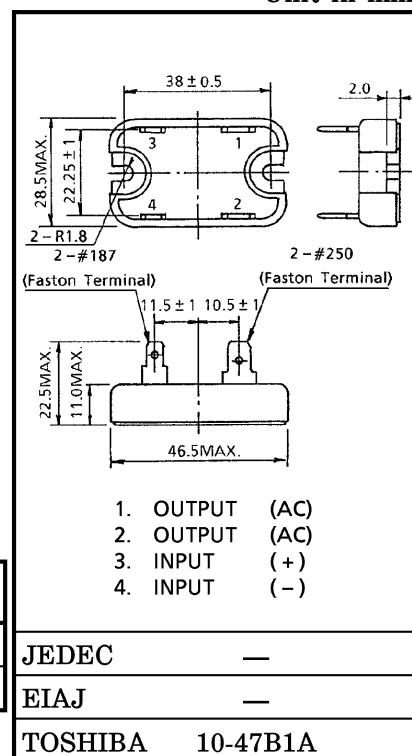
INPUT (CONTROL)

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		V_{DSM}	600	V
Nominal AC Line Voltage		V_{AC}	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)	A
			165 (60Hz)	
Operating Frequency Range		f	45~65	Hz
Isolation Voltage ($t = 1\text{min.}$)	Input to Output	BV_S / AC	3750	V
	Input/Output to Base		1500	
Operating Temperature Range		T_{opr}	-20~80	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-30~80	$^\circ\text{C}$
Screw Torque (M3)			0.6	N·m

Unit in mm



- 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	—	Ω

INPUT (CONTROL)

Off-State Leakage Current	I_{OL}	$V_{AC} = 200V_{rms}$, $f = 50Hz$	—	—	6.0	mA
Peak On-State Voltage	V_{TM}	$I_T (RMS) = 16A$	—	—	1.5	V
dv / dt (Off-State)	dv / dt	$V_{DSM} = 0.7 \times \text{Rated}$	50	—	—	V / μs
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}	—	—	Ω
Thermal Resistance	$R_{th(j-c)}$	AC	—	—	3.5	$^{\circ}C / W$

EQUIVALENT CIRCUIT

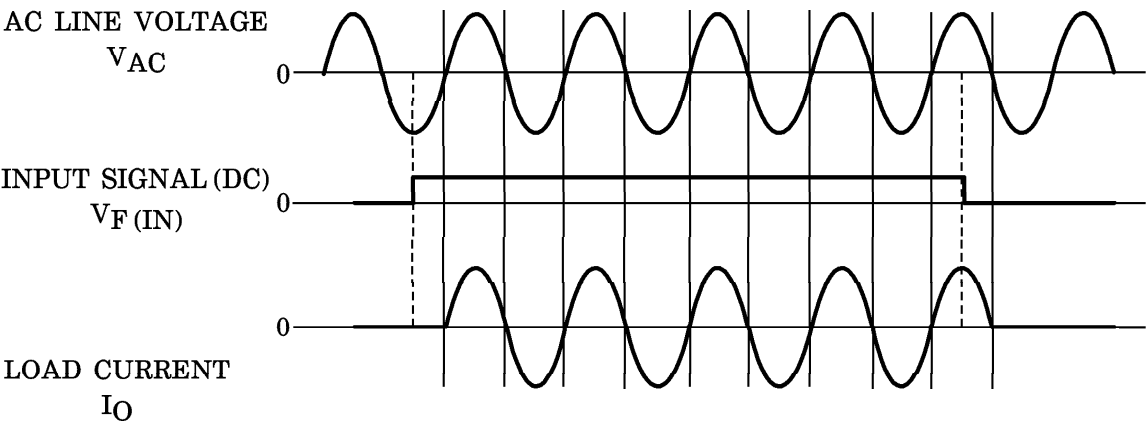
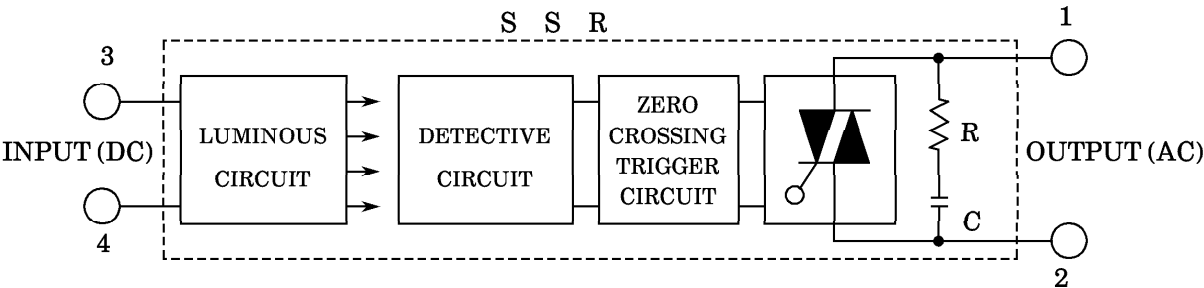
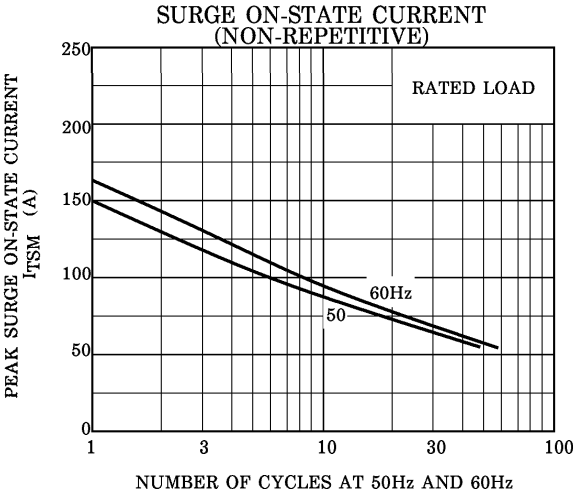
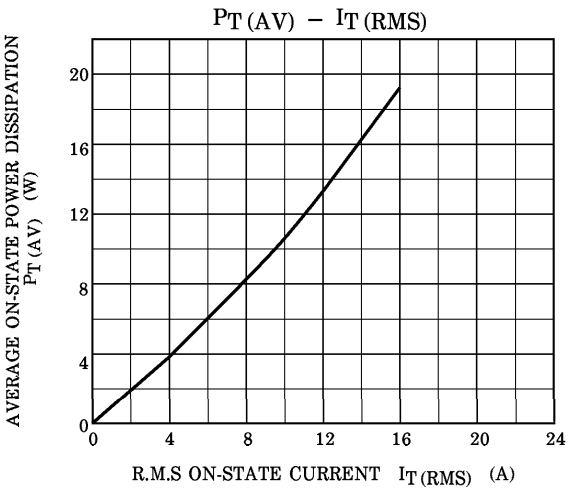
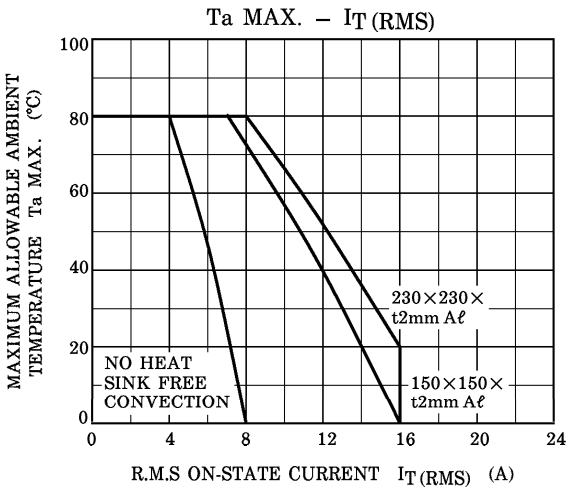


Fig.1. ZERO VOLTAGE SWITCHING WAVEFORM



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