TOSHIBA SOLID STATE AC RELAY

TSZ16J48SR

OPTICALLY ISOLATED, NORMALLY OPEN SSR

COMPUTOR PERIPHERALS

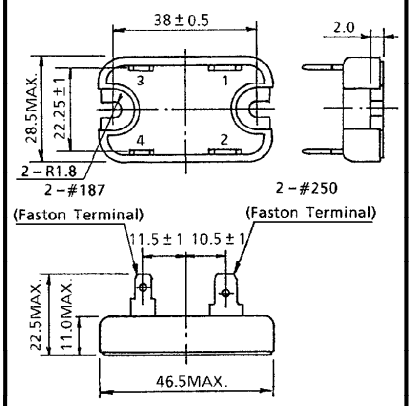
MACHINE TOOL CONTROLS

PROCESS CONTROL SYSTEMS

TRAFFIC CONTROL SYSTEMS

- R.M.S On-State Current : $I_{T(RMS)}=16A$
- Non-Repetitive Peak Off-State Voltage : $V_{DSM}=600V$
- TTL Compatible
- Including Snubber Network
- Isolation Voltage (t=1min.) : 3750V AC (Input to Output)
  : 1500V AC (Input / Output to Base)

Unit in mm



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		V_{DSM}	600	V
Nominal AC Line Voltage		V_{AC}	240	V
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	3750	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)

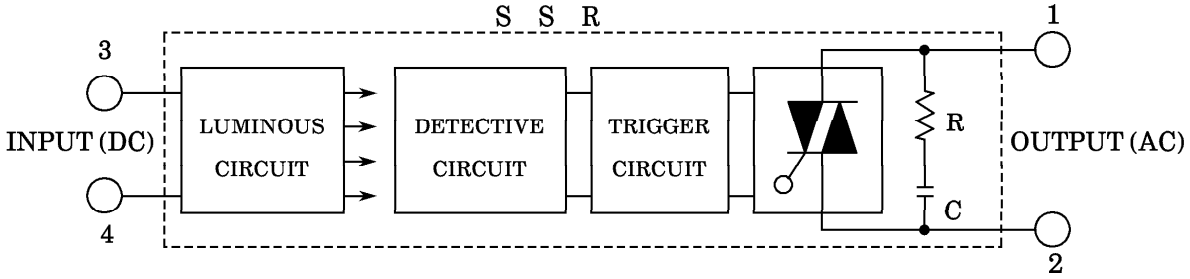
INPUT (CONTROL)

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)

Off-State Leakage Current	I_{OL}	V_{AC} = 200Vrms, 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 × Rated	50	—	—	V / μs
Turn-On Time	t_{on}	V_{AC} = 100Vrms Resistive Load (Fig.1)	—	—	1	ms
Turn-Off Time	t_{off}		—	—	1 / 2	Cycle
Isolation Resistance	R_S	V = 500V, RH = 40~60%	10^{10}	—	—	Ω
Thermal Resistance	$R_{th(j-c)}$	AC	—	—	3.5	°C / W

EQUIVALENT CIRCUIT



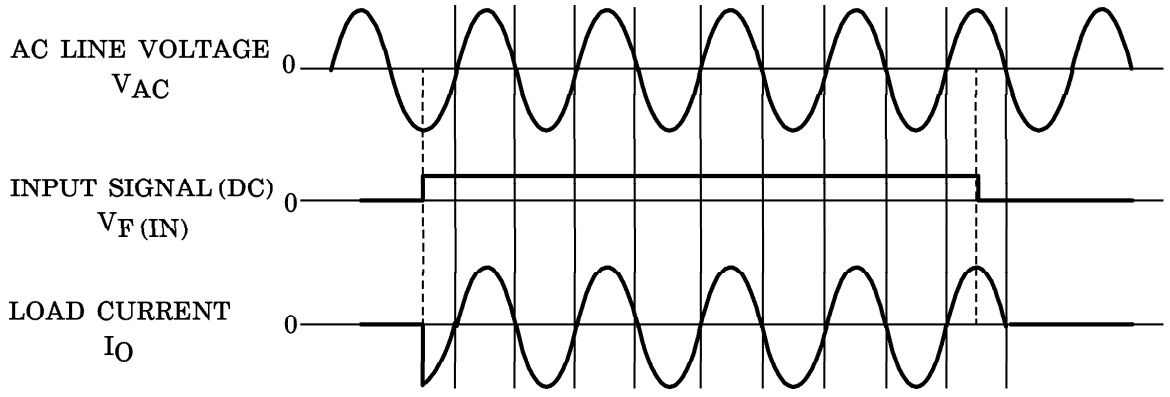


Fig.1 SWITCHING WAVEFORM

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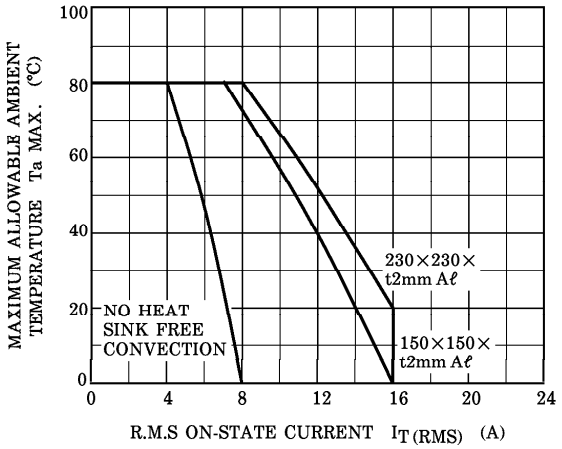
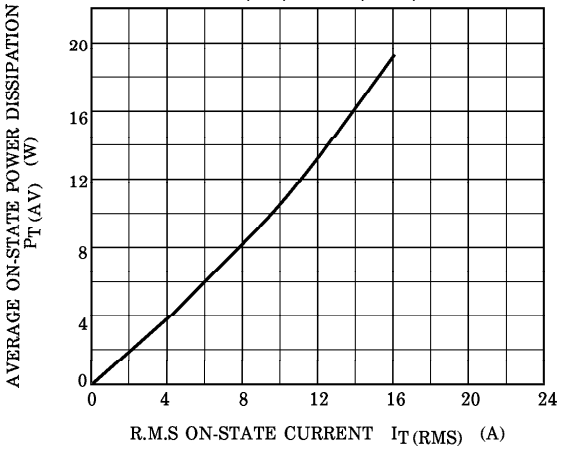
Ta MAX. – $I_{T\,(RMS)}$



$P_{T\,(AV)}$ – $I_{T\,(RMS)}$



SURGE ON-STATE CURRENT (NON-REPETITIVE)