SEMICONDUCTOR
TOSHIBA
TECHNICAL DATA

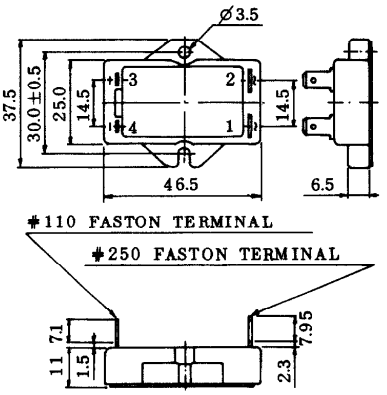
TOSHIBA SOLID STATE AC RELAY
TSZ8G47S, TSZ8J47S

(TSZ8G47S)
OPTICALLY ISOLATED, NORMALLY OPEN SSR.

COMPUTER PERIPHERALS
MACHINE TOOL CONTROLS
PROCESS CONTROL SYSTEMS
TRAFFIC CONTROL SYSTEMS

- R.M.S On-State Current : $I_{T(RMS)}$ = 8A
- Repetitive Peak Off-State Voltage : V_{DRM} = 400, 600V
- TTL Compatible
- Isolation Voltage : 2060V AC (t = 1min)
- Including Snubber Network

Unit in mm



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

JEDEC	—
EIAJ	—
TOSHIBA	10-47A1A

Weight : 31g

MAXIMUM RATINGS
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Input Voltage (DC) (Note 1)	$V_{F(IN)}$	6	V
Control Input Current (DC)	$I_{F(IN)}$	25	mA

OUTPUT (LOAD)

Repetitive Peak Off-State Voltage	TSZ8G47S	V_{DRM}	400	V
	TSZ8J47S		600	
Nominal AC Line Voltage	TSZ8G47S	$V_{W(RMS)}$	120	V
	TSZ8J47S		240	
R.M.S On-State Current (with Heat Sink R_{th} = 1.0°C / W)	Ta = 40°C	$I_{T(RMS)}$	8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	70 (50Hz)	A
			77 (60Hz)	
Operating Frequency Range		f	45~65	Hz
Isolation Voltage (t = 1min, Input to Output and Input / Output to Base)		BVs / AC	2060	V
Operating Temperature Range		T_{opr}	−30~80	°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 6V 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.

(TSZ8G47S)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

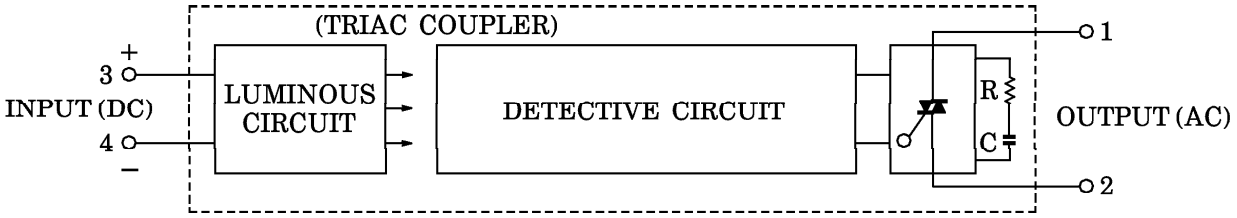
INPUT (CONTROL)

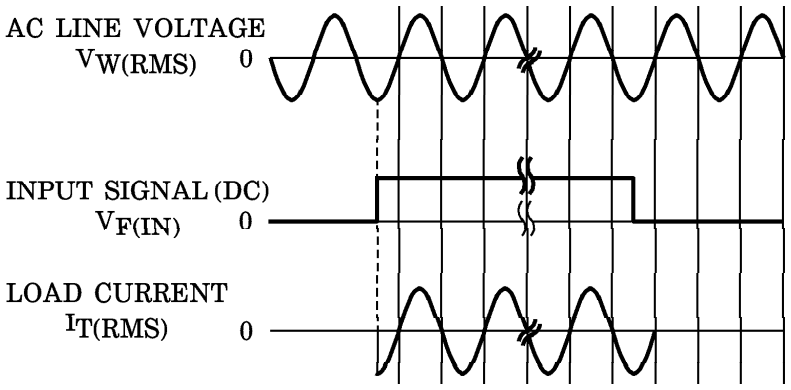
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Voltage	V_{FT}	$V_{W(RMS)}$ = 100V_{rms} Resistive Load (R_L = 100Ω)	—	—	4.0	V
Drop Out Voltage	V_{FD}		1.0	—	—	V
Input Resistance	R(IN)		—	200	—	Ω

OUTPUT (LOAD)

Off-State Leakage Current	TSZ8G47S	I_{OL}	$V_{W(RMS)}$ = 100V_{rms}, f = 50Hz	—	—	3.0	mA
	TSZ8J47S		$V_{W(RMS)}$ = 200V_{rms}, f = 50Hz	—	—	6.0	
Peak On-State Voltage		V_{TM}	I_{TM} = 12A	—	—	1.8	V
dv / dt (Off-State)		dv / dt	V_{DRM} = 0.7×Rated	10	—	—	V / μs
dv / dt (Commutating)		(dv / dt)c	V_{DRM} = 0.7×Rated, I_T = 8A	2	—	—	V / μs
Turn-On Time		t_{on}	$V_{W(RMS)}$ = 100V_{rms} Resistive Load (R_L = 100Ω)	—	—	1	ms
Turn-Off Time		t_{off}		—	—	1 / 2	Cycle
Isolation Resistance		R_S	V = 1kV, R.H = 40~60%	10^{10}	—	—	Ω
Thermal Resistance		$R_{th(j-c)}$	Junction to Case	—	—	2.5	°C / W

EQUIVALENT CIRCUIT

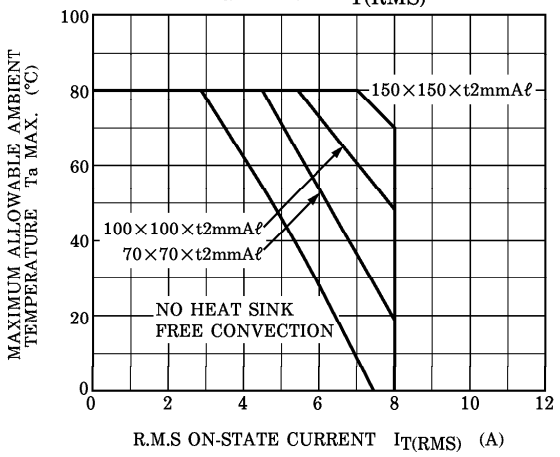




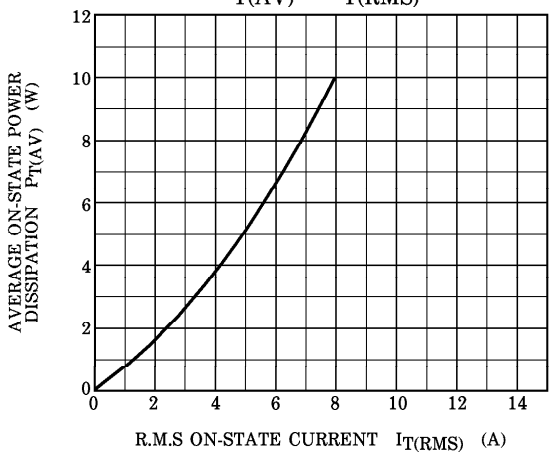
SWITCHING WAVEFORM

(TSZ8G47S)

Ta MAX. – $I_{T(RMS)}$



$P_{T(AV)}$ – $I_{T(RMS)}$



SURGE ON-STATE CURRENT (NON-REPETITIVE)