

TOSHIBA SOLID STATE AC RELAY

# TSS8G47S, TSS8J47S

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

Unit in mm

COMPUTER PERIPHERALS  
MACHINE TOOL CONTROLS  
PROCESS CONTROL SYSTEMS  
TRAFFIC CONTROL SYSTEMS

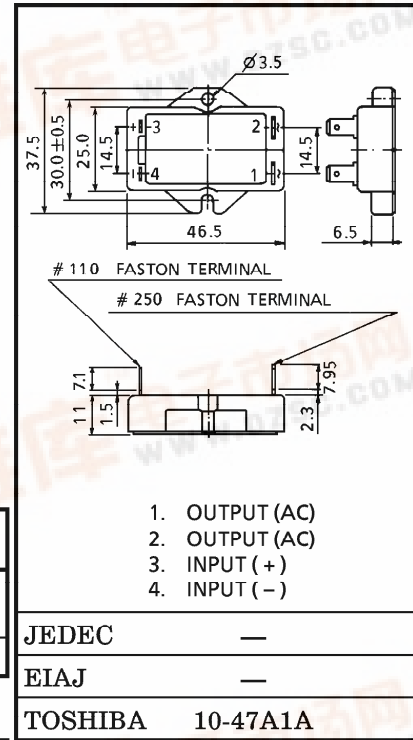
- R.M.S On-State Current :  $I_T$  (RMS) = 8A
- Repetitive Peak Off-State Voltage :  $V_{DRM}$  = 400, 600V
- TTL Compatible
- Isolation Voltage : 2060V AC (t=1min.)
- Including Snubber Network

MAXIMUM RATINGS (Ta = 25°C)  
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	TSS8G47S	$V_{DSTM}$	400	V
	TSS8J47S		600	
Nominal AC Line Voltage	TSS8G47S	$V_{AC}$	120	V
	TSS8J47S		240	
R.M.S On-State Current	$I_T$ (RMS)	8	A	
Peak One Cycle Surge On-State Current (Non-Repetitive)	$I_{TSM}$	70 (50Hz)	A	
Operating Frequency Range	f	45~65	Hz	
Isolation Voltage (t=1min., Input to Output and Input/Output to Base)	$BV_S$ / AC	2060	V	
Operating Temperature Range	$T_{opr}$	-30~80	°C	
Storage Temperature Range	$T_{stg}$	-30~80	°C	
Screw Torque (M3)		6	kg·cm	



JEDEC	—
EIAJ	—
TOSHIBA	10-47A1A

Weight : 31g

Note 1 : Driving input rating : Insert an external resistance into SSR when the power supply over 6V is used.

Note 2 : Don't dip the SSR body into the organic solvent like Trichloroethylene, when washing the flux on the terminal.

Note 3 : For installation of SSR, use spring-wahers, etc., to prevent screws from loosening.

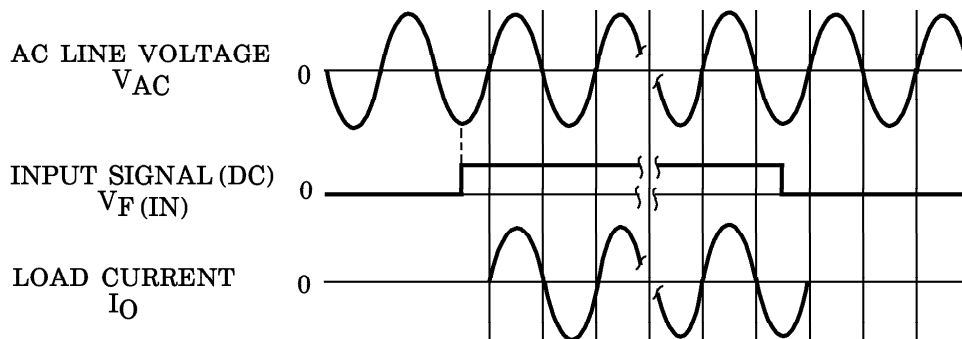
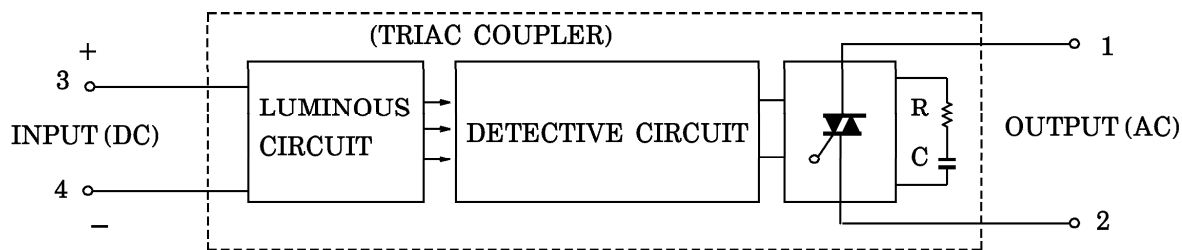
ELECTRICAL CHARACTERISTICS (Ta = 25°C)  
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Voltage	V <sub>FT</sub>	V <sub>AC</sub> = 100V <sub>rms</sub> Resistive Load (R <sub>L</sub> = 100Ω)	—	—	4.0	V
Drop Out Voltage	V <sub>FD</sub>		1.0	—	—	V
Input Resistance	R (IN)		—	200	—	Ω

OUTPUT (LOAD)

Off-State Leakage Current	TSS8G47S	I <sub>OL</sub>	V <sub>AC</sub> = 100V <sub>rms</sub> , f = 50Hz	—	—	3.0	mA
	TSS8J47S		V <sub>AC</sub> = 200V <sub>rms</sub> , f = 50Hz	—	—	6.0	
Peak On-State Voltage	V <sub>TM</sub>	I <sub>TM</sub> = 12A	—	—	1.8	V	
dv / dt (Off-State)	dv / dt	V <sub>DRM</sub> = 0.7 × Rated	50	—	—	V / μs	
dv / dt (Commutating)	(dv / dt) <sub>c</sub>	V <sub>DRM</sub> = 0.7 × Rated, I <sub>T</sub> = 8A	2	—	—	V / μs	
Turn-On Time	t <sub>on</sub>	V <sub>AC</sub> = 100V <sub>rms</sub> Resistive Load (R <sub>L</sub> = 100Ω)	—	—	1 / 2	Cycle	
Turn-Off Time	t <sub>off</sub>		—	—	1 / 2		
Isolation Resistance	R <sub>S</sub>	V = 1kV, R.H = 40~60%	10 <sup>10</sup>	—	—	Ω	
Thermal Resistance	R <sub>th(j-c)</sub>	AC	—	—	2.5	°C / W	

EQUIVALENT CIRCUIT



ZERO VOLTAGE SWITCHING WAVEFORM

● The products described in this document are subject to foreign exchange and foreign trade control laws.  
 ● The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.  
 ● The information contained herein is subject to change without notice.

