

TOSHIBA SOLID STATE AC RELAY

TSZ3G45S, TSZ3J45S, TSZ3G47S, TSZ3J47S

OPTICALLY ISOLATED, NORMALLY OPEN SSR

COMPUTER PERIPHERALS
 MACHINE TOOL CONTROLS
 PROCESS CONTROL SYSTEMS
 TRAFFIC CONTROL SYSTEMS

- R.M.S On-State Current : $I_T(\text{RMS}) = 3\text{A}$
- Repetitive Peak Off-State Voltage : $V_{\text{DRM}} = 400, 600\text{V}$
- TTL Compatible
- Isolation Voltage : $2060\text{V AC (t=1min.)}$
- Including Sunbber Network

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Input Voltage (DC) (Note 1)	$V_F(\text{IN})$	6	V
Control Input Current (DC)	$I_F(\text{IN})$	20	mA

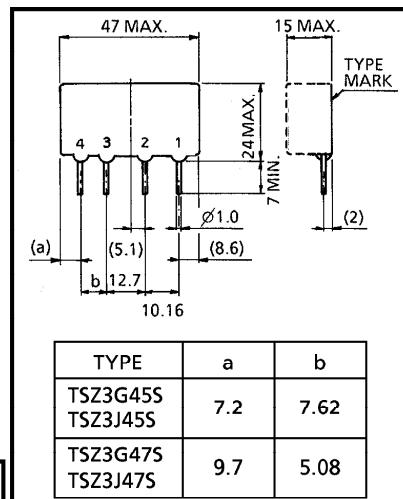
OUTPUT (LOAD)

Repetitive Peak Off-State Voltage	TSZ3G45S	400	V
	TSZ3G47S		
Nominal AC Line Voltage	TSZ3J45S	120	V
	TSZ3J47S		
R.M.S On-State Current (with air velocity 5m/s)	$I_T(\text{RMS})$	3	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	70 (50Hz)	A
Operating Frequency Range	f	45~65	Hz
Isolation Voltage ($t=1\text{min.}$, Input to Output)	BV_S / AC	2060	V
Operating Temperature Range	T_{opr}	-30~80	°C
Storage Temperature Range	T_{stg}	-30~80	°C

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

Note 2 Mounting : Soldering of printed wiring board should be used under 260°C and 10 second.

Unit in mm



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

JEDEC —

EIAJ —

TOSHIBA	TSZ3G45S TSZ3J45S	10-47C1A
	TSZ3G47S TSZ3J47S	10-47C2A

Weight : 11g

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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} =100V _{rms} Resistive Load (R _L =100Ω)	—	—	4.5	V
Drop Out Voltage	V _{FD}		1.0	—	—	V
Input Resistance	R (IN)		—	300	—	Ω

OUTPUT (LOAD)

Off-State Leakage Current	TSZ3G45S TSZ3G47S	I _{OL}	V _{AC} =100V _{rms} , f=50Hz	—	—	2	mA
	TSZ3J45S TSZ3J47S		V _{AC} =200V _{rms} , f=50Hz	—	—	4	
Peak On-State Voltage	V _{TM}	I _{TM} =12A	—	—	1.9	V	
Peak Turn-On Voltage	V _{ON}	V _{AC} =100V _{rms}	(Fig.2)	—	—	10	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 =3A	2	—	—	V / μs	
Turn-On Time	t _{on}	V _{AC} =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 ⁹	—	Ω	

EQUIVALEN CIRCUIT

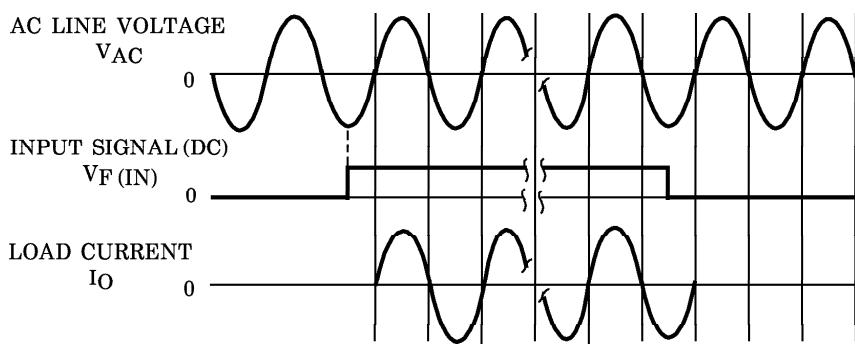
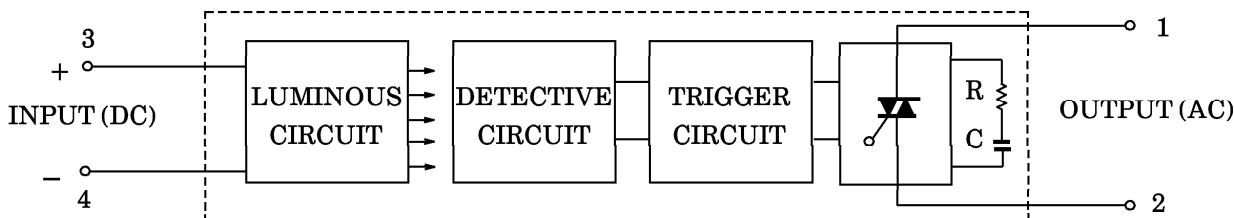


Fig.1 SWITCHING WAVEFORM

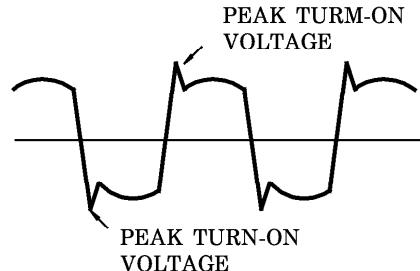


Fig.2 PEAK TURN-ON VOLTAGE WAVEFORM

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