

## TOSHIBA SOLID STATE AC RELAY

**TSZ1J2A45-N**OPTICALLY ISOLATED, NORMALLY OPEN DUAL IN ONE PACKAGE TYPE  
SSR

Unit in mm

COMPUTER PERIPHERALS

MACHINE TOOL CONTROLS

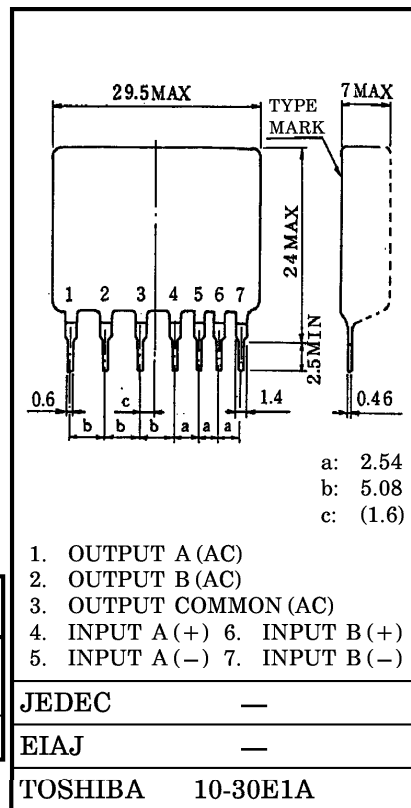
PROCESS CONTROL SYSTEMS

TRAFFIC CONTROL SYSTEMS

- R.M.S On-State Current :  $I_T(\text{RMS})=1\text{A}$
- Non-Repetitive Peak Off-State Voltage :  $V_{\text{DSM}}=600\text{V}$
- TTL Compatible
- Isolation Voltage : 2000V AC (t=1min.)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Input Current (DC) (Note 1)	$I_F(\text{IN})$	30	mA
Input Reverse Voltage (DC)	$I_R(\text{IN})$	5	V



## OUTPUT (LOAD)

Non-Repetitive Peak Off-State Voltage	$V_{\text{DSM}}$	600	V
Nominal AC Line Voltage	$V_{\text{AC}}$	240	V
R.M.S On-State Current	$I_T(\text{RMS})$	1	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	$I_{\text{TSM}}$	40 (50Hz) 44 (60Hz)	A
Operating Frequency Range	f	45~65	Hz
Isolation Voltage (t=1min., Input to Output)	$BV_S / \text{AC}$	2000	V
Operating Temperature Range	$T_{\text{opr}}$	-20~80	°C
Storage Temperature Range	$T_{\text{stg}}$	-30~100	°C

Note 1 : Not Including Input Resistance : Used Insert an external resistance into SSR.  
Reverse voltage should not be applied to input.

2 : Sunbber network (C-R) is necessary to protect from surge voltage and dv/dt fire.  
Sunbber network is to be connected between #1, #2, and #3 terminal.

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

ELECTRICAL CHARACTERISTICS (Ta = 25°C, EACH CIRCUIT)  
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Current	I <sub>FT</sub>	V <sub>AC</sub> =100V <sub>rms</sub> , Resistive Load	—	—	12	mA
Drop Out Voltage	V <sub>FD</sub>		0.5	—	—	V
Input Resistance	R <sub>(IN)</sub>	—	—	0	—	Ω

OUTPUT (LOAD)

Off-State Leakage Current	$I_{OL}$	$V_{AC}=200V_{rms}$ , $f=50Hz$	—	—	1.0	mA
Peak On-State Voltage	$V_{TM}$	$I_T(RMS)=1A$	—	—	1.5	V
$dv/dt$ (Off-State)	$dv/dt$	$V_{DSM}=0.7\times Rated$	50	—	—	$V/\mu s$
Turn-On Time	$t_{on}$	$V_{AC}=100V_{rms}$ , Resistive Load (Fig. 1)	—	—	1	ms
Turn-Off Time	$t_{off}$		—	—	1/2	Cycle
Isolation Resistance	$R_s$	$V=500V$ , $R_H=40\sim60\%$	$10^{10}$	$10^{11}$	—	$\Omega$

### EQUIVALENT CIRCUIT

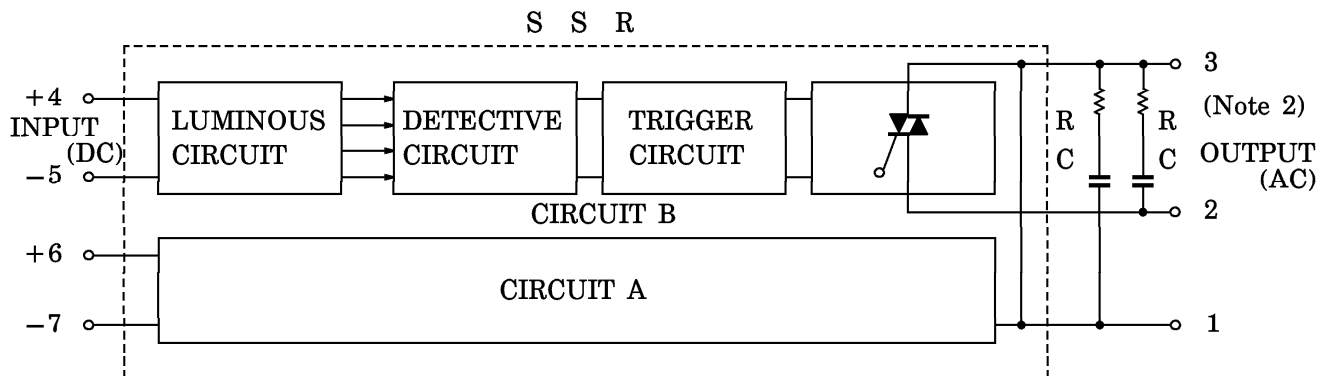
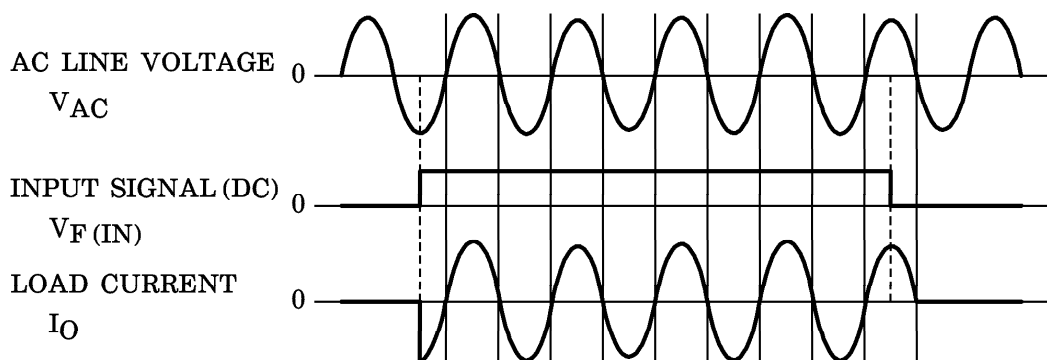
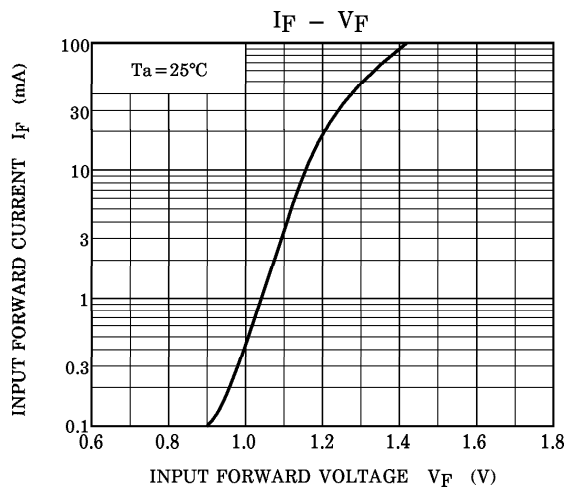
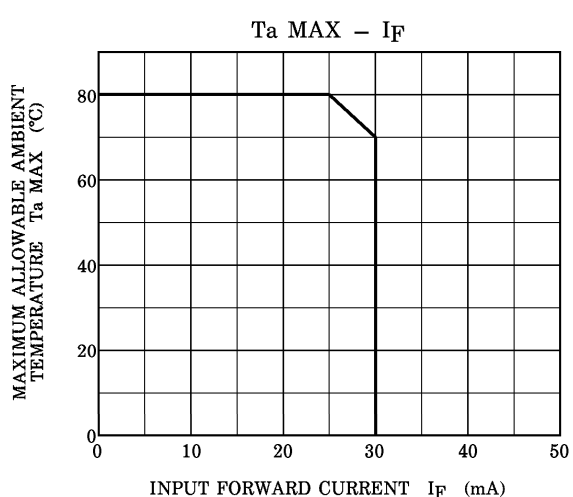
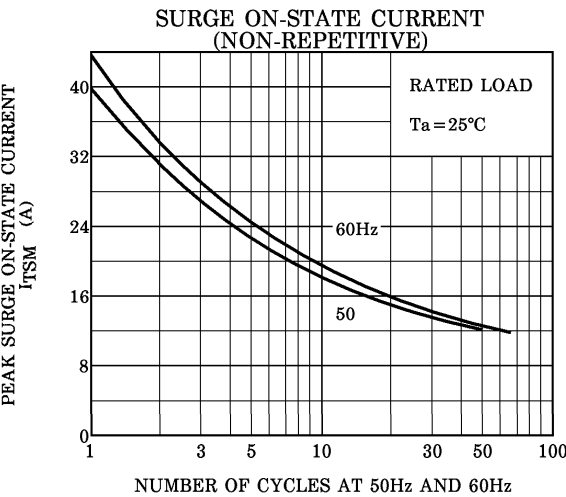
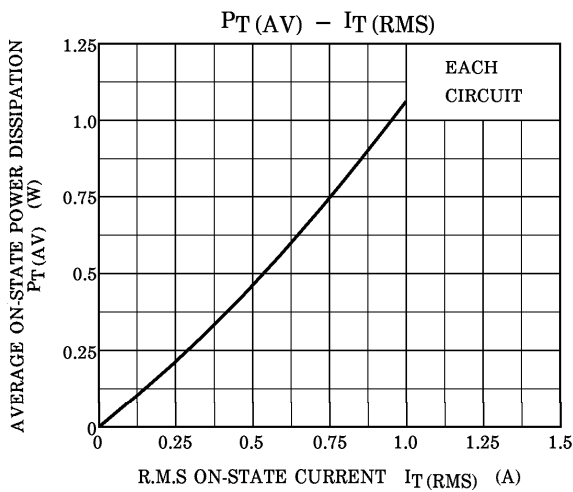
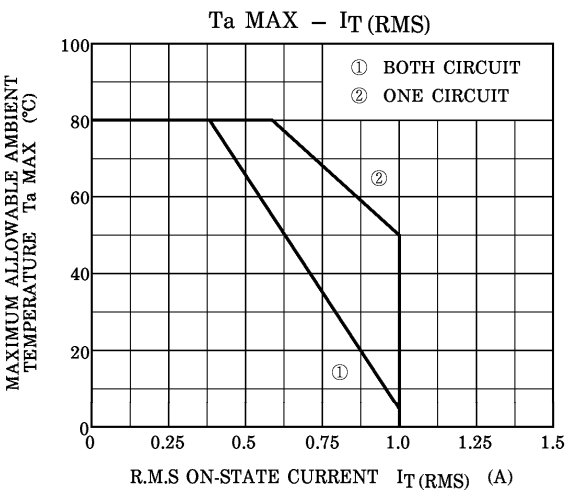


Fig. 1. SWITCHING WAVEFORM





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