

TOSHIBA SOLID STATE AC RELAY

TSZ1J2A45-N

OPTICALLY ISOLATED, NORMALLY OPEN DUAL IN ONE PACKAGE TYPE
SSR

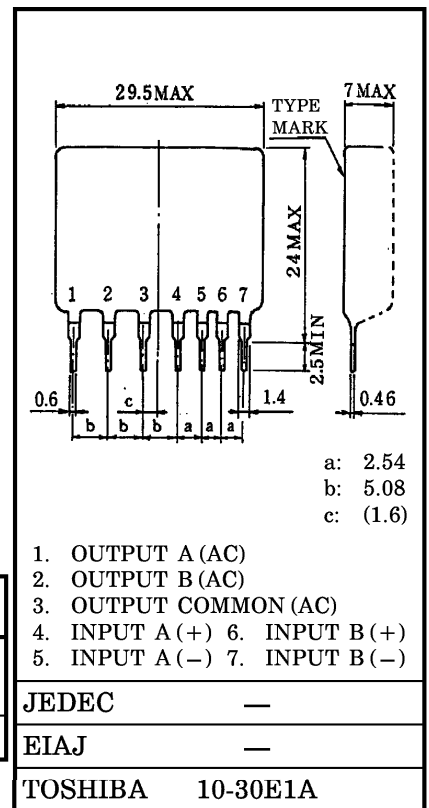
Unit in mm

COMPUTER PERIPHERALS
MACHINE TOOL CONTROLS
PROCESS CONTROL SYSTEMS
TRAFFIC CONTROL SYSTEMS

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

MAXIMUM RATINGS (Ta = 25°C, EACH CIRCUIT)
INPUT (CONTROL)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|--|------------|--------|------|
| Control Input Current (DC) (Note 1) | I_F (IN) | 30 | mA |
| Input Reverse Voltage (DC) | I_R (IN) | 5 | V |



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) | 1 | A |
| Peak One Cycle Surge On-State Current (Non-Repetitive) | I_{TSM} | 40 (50Hz) | A |
| | | 44 (60Hz) | |
| Operating Frequency Range | f | 45~65 | Hz |
| Isolation Voltage (t=1min., Input to Output) | BV_S / AC | 2000 | V |
| Operating Temperature Range | T_{opr} | -20~80 | °C |
| Storage Temperature Range | T_{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_{FT} | $V_{AC} = 100V_{rms}$, Resistive Load | — | — | 12 | mA |
| Drop Out Voltage | V_{FD} | | 0.5 | — | — | V |
| Input Resistance | $R_{(IN)}$ | — | — | 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 | $V_{DSM} = 0.7 \times \text{Rated}$ | 50 | — | — | V / μs |
| 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 | $V = 500V$, $R_H = 40 \sim 60\%$ | 10^{10} | 10^{11} | — | Ω |

EQUIVALENT CIRCUIT

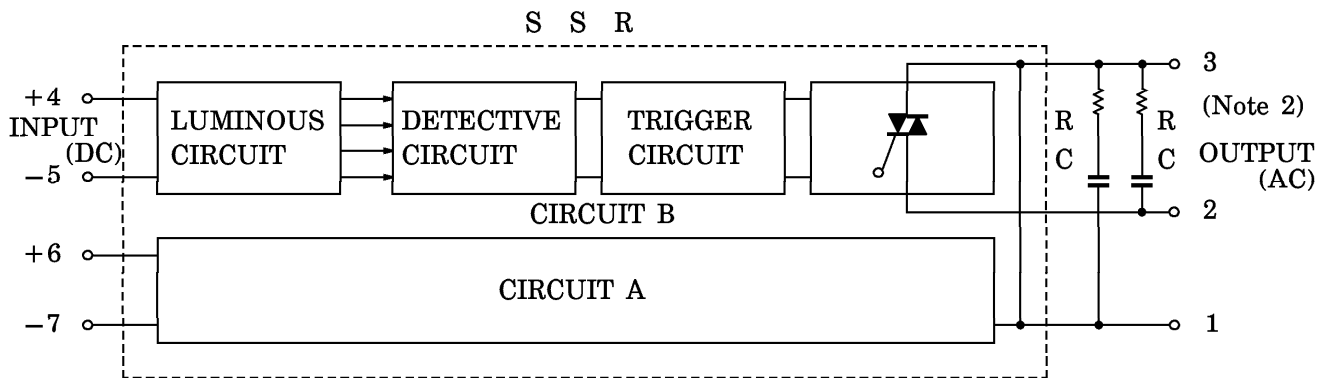
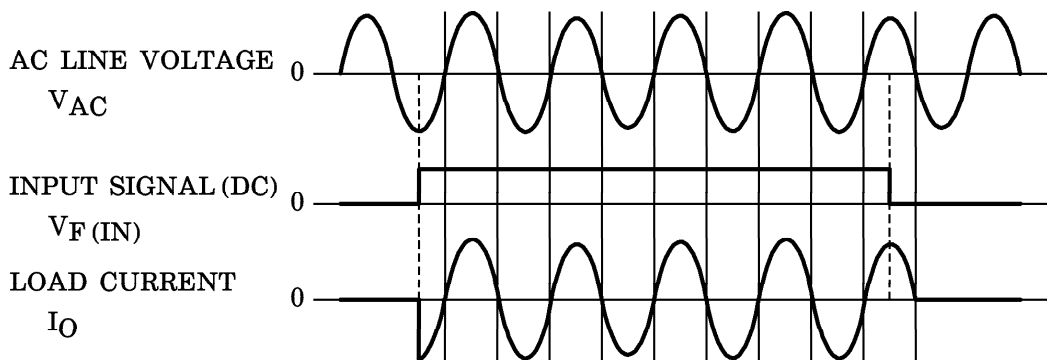
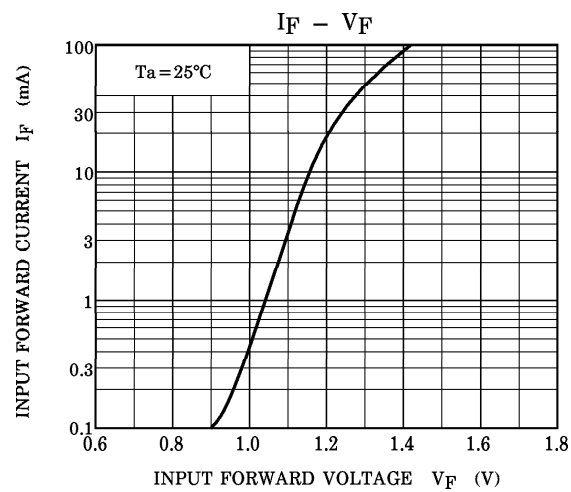
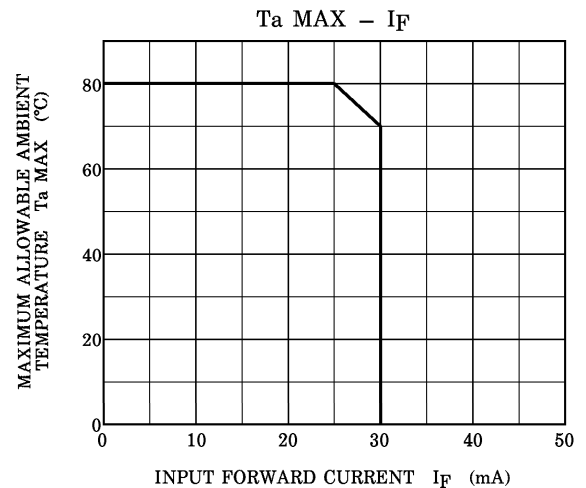
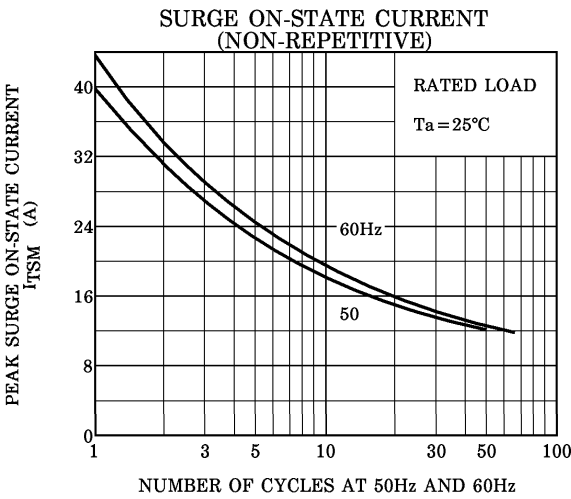
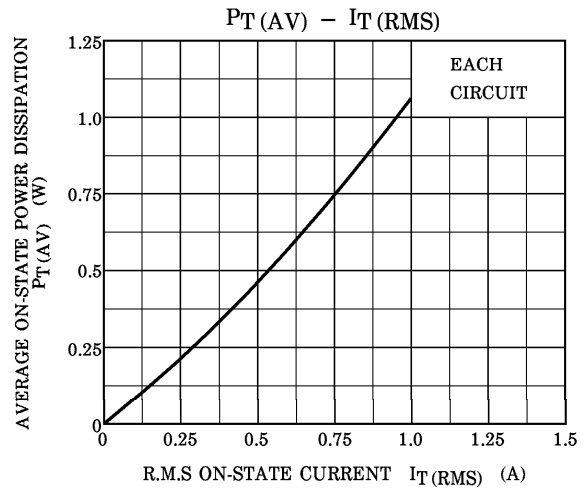
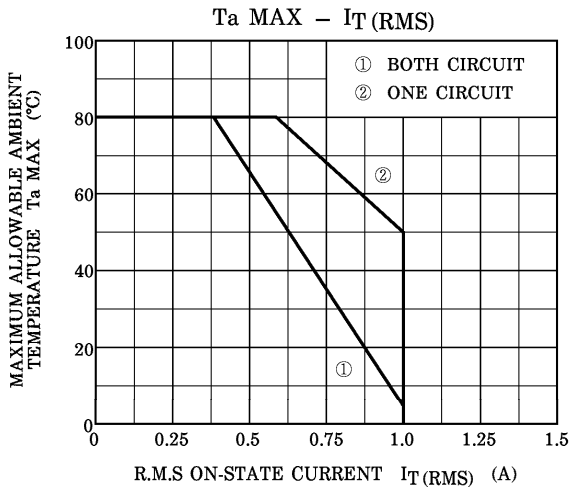


Fig. 1. SWITCHING WAVEFORM





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