TOSHIBA SOLID STATE I/O INTERFACE MODULE

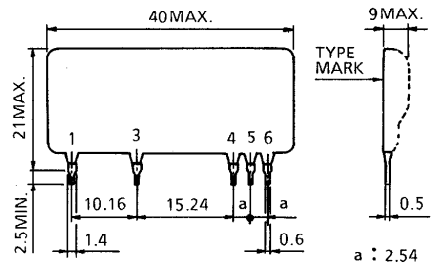
TF1108

AC OUTPUT MODULE

Unit in mm

TOSHIBA TF1108 is AC 100V Line Controlled I/O Interface Module and it includes the optical isolator.
Using this Module, you can design high reliability and compact system.

- R.M.S. On-State Current : $I_{T(RMS)}$=1A (Max.)
- Nominal AC Line Voltage : V_{AC}=70~140V AC
- Recommended Input Supply Voltage : V_{CC}=5V
- 1500V AC Optical Isolation
- Including Snubber Network
- Input is Compatible with TTL Logic
- Small Size and Light Weight



1. OUTPUT (AC)
3. OUTPUT (AC)
4. GND
5. V_{CC}
6. INPUT

JEDEC	—
EIAJ	—
TOSHIBA	10-40A3A

Weight : 8g

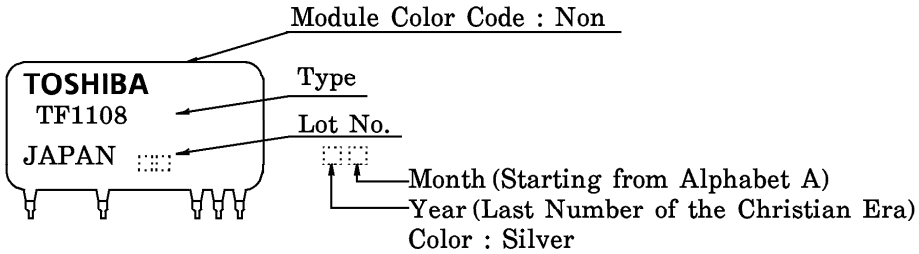
MAXIMUM RATINGS (Ta = 25°C)
INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Input Voltage	$V_{F(IN)}$	6	V
Control Input Supply Voltage	V_{CC}	4.5~6	V

OUTPUT (AC LOAD)

Non-Repetitive Peak off-State Voltage	V_{DSM}	400	V
R.M.S. On-State Current	$I_{T(RMS)}$	1	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	12 (50Hz)	A
		13 (60Hz)	
Operating Frequency Range	f	45~65	Hz
Isolation Voltage (Input-Output) (AC)	BVS / AC	1500 (1min)	V
Operating Temperature Range	T_{opr}	−20~80	°C
Storage Temperature Range	T_{stg}	−20~80	°C
Lead Soldering Temperature (10s)	T_{sol}	260	°C

MARK



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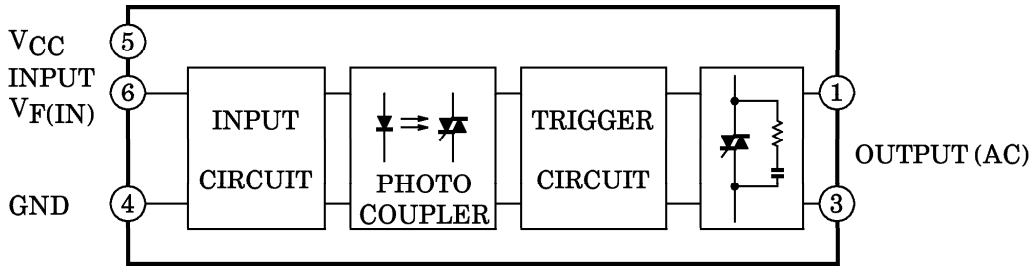
BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 5V)

INPUT (CONTROL)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Pick Up Current	I_{FT}	V_{AC} = 100V, Resistive Load (R_L = 100Ω)	−0.6	−0.4	—	mA
Drop Out Current	I_{FD}		—	0.37	0.1	
Input Resistance	R_{IN}	—	—	4.1	—	kΩ

OUTPUT (AC LOAD)

Off-State Leakage Current	I_{OL}	V_{AC} = 100V, f = 50Hz	—	—	1	mA
Peak On-State Voltage	V_{TM}	$T_{T(RMS)}$ = 1A	—	—	1.5	V
dv / dt (Off-State)	dv / dt	V_{DSM} = 0.7 × Rated	30	—	—	V / μs
dv / dt (Commutating)	(dv / dt) c	V_{DSM} = 0.7 × Rated, $T_{T(RMS)}$ = 1A	2	—	—	V / μs
Turn-On Time	t_{on}	V_{AC} = 100V	—	—	1	ms
Turn-Off Time	t_{off}	Resistive Load (R_L = 100Ω)	—	—	1 / 2	Cycle
Isolation Resistance	R_S	V = 1kV, R.H = 40~60%	—	10^{10}	—	Ω

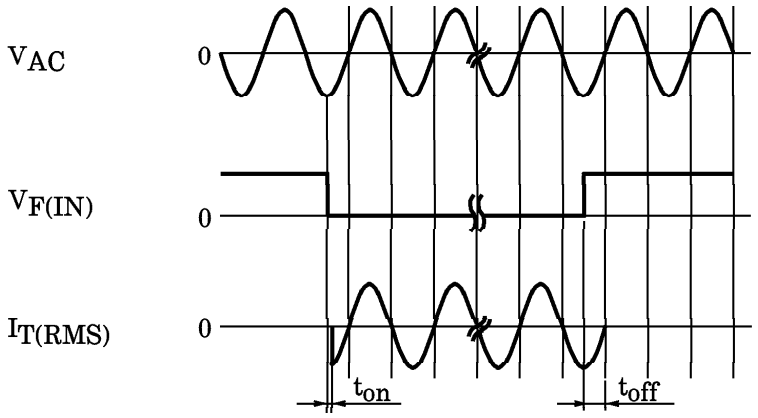


Fig.1 SWITCHING TIME TEST CONDITION

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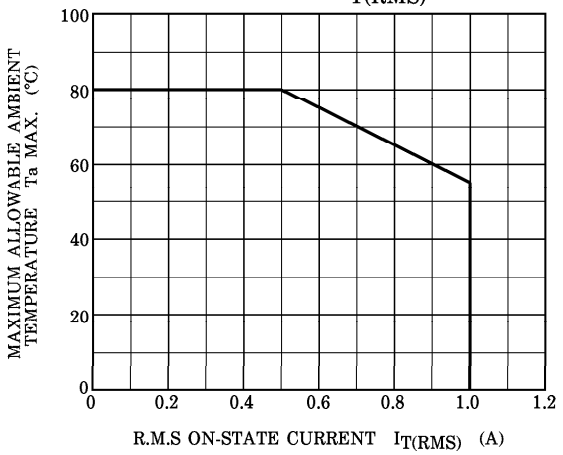
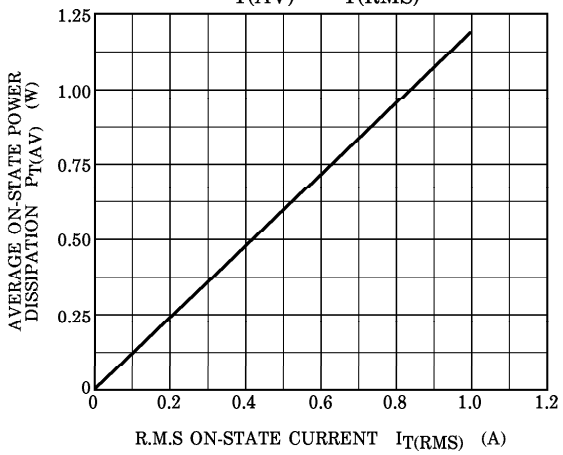
Ta MAX. – $I_{T(RMS)}$



$P_{T(AV)}$ – $I_{T(RMS)}$



SURGE ON-STATE CURRENT (NON REPETITIVE)