

TOSHIBA**TF1108**

TOSHIBA SOLID STATE I/O INTERFACE MODULE

TF1108

AC OUTPUT MODULE

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 : $V_{AC} = 70 \sim 140V$ 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

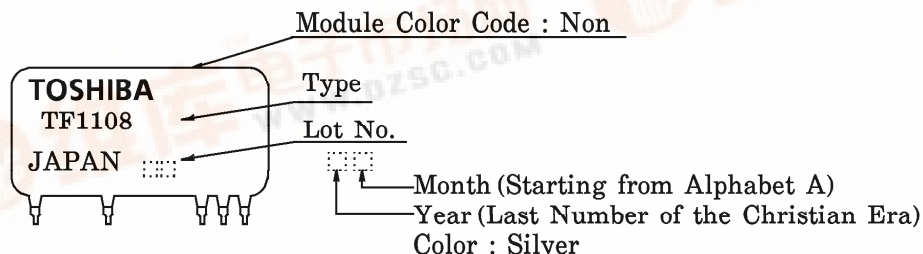
MAXIMUM RATINGS ($T_a = 25^\circ C$)
INPUT (CONTROL)

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

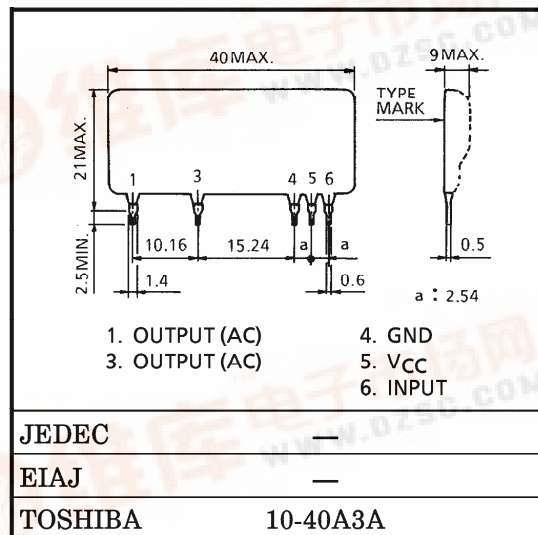
OUTPUT (AC LOAD)

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) 13 (60Hz)	A
Operating Frequency Range	f	45~65	Hz
Isolation Voltage (Input-Output) (AC)	BV_S / 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



Unit in mm

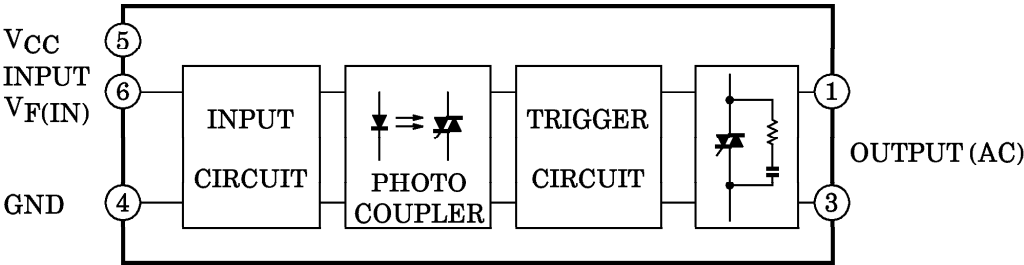


Weight : 8g

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● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS (Ta = 25°C, VCC = 5V)
INPUT (CONTROL)

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

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	$V_{DSM}=0.7\times\text{Rated}$	30	—	—	V / μs
dv / dt (Commutating)	(dv / dt) c	$V_{DSM}=0.7\times\text{Rated}$ $T_T(RMS)=1A$	2	—	—	V / μs
Turn-On Time	t_{on}	$V_{AC}=100V$	—	—	1	ms
Turn-Off Time	t_{off}	Resistive Load ($R_L=100\Omega$)	—	—	1 / 2	Cycle
Isolation Resistance	R_S	$V=1kV, R.H=40\sim60\%$	—	10^{10}	—	Ω

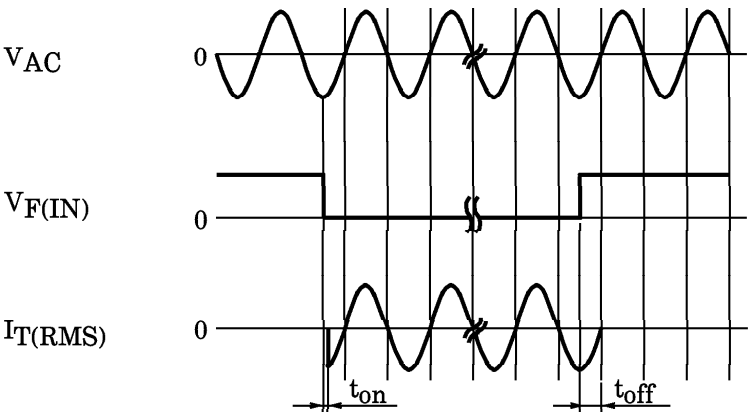


Fig.1 SWITCHING TIME TEST CONDITION

