TOSHIBA TF1108

#### 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: VAC=70~140V AC

Recommended Input Supply Voltage: VCC=5V

- 1500V AC Optical Isolation
- Including Snubber Network
- Input is Compatible with TTL Logic
- Small Size and Light Weight

# 9MAX 40 MAX TYPE MARK 21MAX 10.16 0.5 1.4 0.6 a: 2.54 1. OUTPUT (AC) 4. GND 5. V<sub>C</sub>C 3. OUTPUT (AC) 6. INPUT **JEDEC EIAJ TOSHIBA** 10-40A3A

Weight: 8g

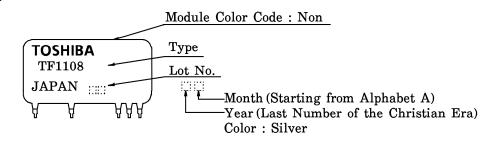
### MAXIMUM RATINGS (Ta = 25°C) INPUT (CONTROL)

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	$v_{ m DSM}$	400	V	
R.M.S. On-State Current	I <sub>T(RMS)</sub>	1	A	
Peak One Cycle Surge On-State Current	Imas s	12 (50Hz)	Α	
(Non-Repetitive)	$I_{TSM}$	13 (60Hz)	A	
Operating Frequency Range	f	45~65	$_{ m Hz}$	
Isolation Voltage (Input-Output) (AC)	BV <sub>S</sub> /AC	1500 (1min)	V	
Operating Temperature Range	$T_{ m opr}$	-20~80	°C	
Storage Temperature Range	$\mathrm{T_{stg}}$	-20~80	$^{\circ}\mathrm{C}$	
Lead Soldering Temperature (10s)	T <sub>sol</sub>	260	$^{\circ}\mathrm{C}$	

#### MARK

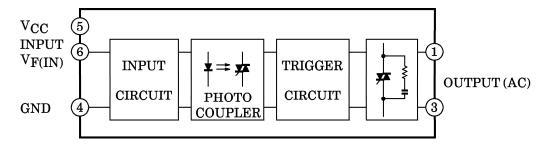


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**TOSHIBA** TF1108

#### **BLOCK DIAGRAM**



# ELECTRICAL CHARACTERISTICS (Ta = $25^{\circ}$ C, $V_{CC} = 5V$ ) INPUT (CONTROL)

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

# **OUTPUT (AC LOAD)**

Off-State Leakage Current	$I_{ m OL}$	$V_{AC} = 100V, f = 50Hz$		1	1	mA
Peak On-State Voltage	$ m V_{TM}$	$T_{T(RMS)} = 1A$	_	1	1.5	V
dv / dt (Off-State)	dv / dt	$V_{ m DSM} = 0.7  imes { m Rated}$	30	_	_	V/μs
dv / dt (Commutating)	(dv / dt) c	$V_{ ext{DSM}} = 0.7 \times \text{Rated}$ $T_{ ext{T(RMS)}} = 1 \text{A}$	2	1	1	V/μs
Turn-On Time	$t_{on}$	$V_{AC} = 100V$	1	1	1	ms
Turn-Off Time	${ m t_{off}}$	Resistive Load (R <sub>L</sub> =100 $\Omega$ )	l	l	1/2	Cycle
Isolation Resistance	$R_{\mathbf{S}}$	$V=1kV, R.H=40\sim60\%$	_	$10^{10}$	_	Ω

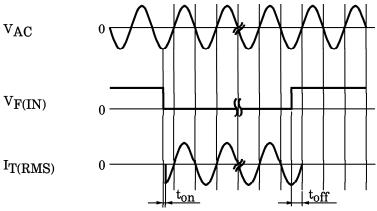


Fig.1 SWITCHING TIME TEST CONDITION

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