

July 11, 2023

LAN-CAT6A-IS

## TEST REPORT

Prepare : N.V. DUYEN

Review : J.Miyata

 **SANKOSHA**

Head office

18th Floor, Osaki Wiz Tower, 2-11-1 Osaki Shinagawa-ku, Tokyo, Japan 141-0032

Phone: +81-3-3491-2525 Fax: +81-3-5496-4289

SANKOSHA corporation.

1. Product's description

Model number: LAN-CAT6A-IS

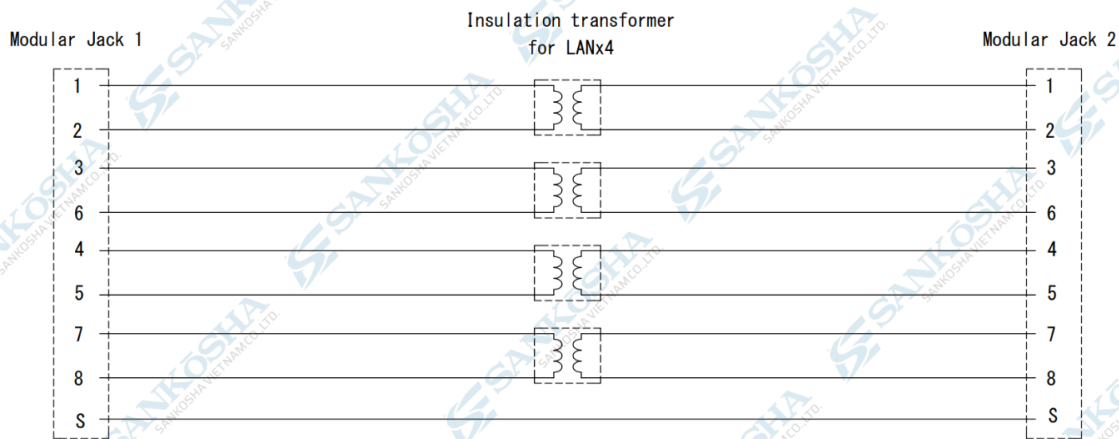
Description: This products protect a personal computer or other equipment that is connected to a LAN against abnormal voltages resulting from a lightning surge.

This products support 10GBase-T, 5GBase-T, 2.5GBase-T, 1000Base-T, 100Base-TX, 10Base-T, 10Base-T, and this products are adopted the insulation type for no grounding.

This products can be connected to RJ45, and the can be easily install.

Use the same cable on the LINE side and the EQUIP side to connect to this products.

Electrical Schematic diagram:



LAN-CAT6A-IS components list	
Schematic diagram number	Insulation transformer
Model number	6691F

## Electrical characteristics:

No	Item	Condition	Performance
1	Transmission band	—	DC~500MHz
2	Attenuation	DC~100 MHz(100 Ω)	$\leq 1.0\text{dB}$
		~250 MHz(100 Ω)	$\leq 1.5\text{dB}$
		~500 MHz(100 Ω)	$\leq 3.0\text{dB}$
3	Near end crosstalk (NEXT)	DC~500 MHz(100 Ω)	26.7dB typ.
4	Insulation resistance	DC 500V	$\geq 1,000\text{ M}\Omega$ (Between primary-secondary)
5	AC withstand voltage	1mA 1minute	$\geq 2.0\text{kV}$ (Between primary-secondary)
6	Rated impulse withstand voltage	1.2/50 $\mu\text{s}$ 1time	$\geq 7.39\text{kV}$ (Between primary-secondary) (Between primary-din rail) (Between secondary-din rail) (Between shield-din rail)
7	Capacitance	1MHz 1Vrms	$\leq 30.0\text{pF}$
8	Signal SIT voltage-time product	—	—

## Mechanical characteristics:

No	Item	Performance
1	IP code	IP20

## 2. Electrical characteristics test results

## 2-1. Attenuation

Sample.	Transmission Band	Spec.	Attenuation(dB)			
			Pair 1-2	Pair 3-6	Pair 4-5	Pair 7-8
1	DC~100 MHz(100 $\Omega$ )	$\leq 1.0$ dB	0.7	0.7	0.7	0.7
	~250 MHz(100 $\Omega$ )	$\leq 1.5$ dB	1.1	1.1	1.1	1.1
	~500 MHz(100 $\Omega$ )	$\leq 3.0$ dB	2.4	2.6	2.2	2.2
2	DC~100 MHz(100 $\Omega$ )	$\leq 1.0$ dB	0.7	0.7	0.7	0.7
	~250 MHz(100 $\Omega$ )	$\leq 1.5$ dB	1.0	1.0	1.0	1.0
	~500 MHz(100 $\Omega$ )	$\leq 3.0$ dB	1.8	2.5	2.0	2.1

## 2-2. Near end crosstalk (NEXT)

Sample.	Transmission Band	Spec.	Pair	NEXT(dB)
1	DC~500 MHz(100 $\Omega$ )	26.7dB typ.	1,2-3,6	40.1
			1,2-4,5	45.9
			1,2-7,8	53.1
			3,6-4,5	27.7
			3,6-7,8	40.5
			4,5-7,8	38.5
2	DC~500 MHz(100 $\Omega$ )	26.7dB typ.	1,2-3,6	40.6
			1,2-4,5	44.3
			1,2-7,8	55.1
			3,6-4,5	26.9
			3,6-7,8	37.7
			4,5-7,8	38.3

## 2-3. Insulation resistance

Sample.	Spec.	Insulation resistance (M $\Omega$ )
1	DC 500V, $\geq 1,000$ M $\Omega$ (Between primary-secondary)	973,000
2		1,060,000

## 2-4. AC withstand voltage

## Applied voltage

Sample.	Spec.	Applied voltage (kV)
1	1mA 1minute $\geq 2.0\text{kV}$	2.01
2	(Between primary-secondary)	2.02

## 2-4-1. After voltage application

## Insulation resistance

Sample.	Spec.	Insulation resistance (M $\Omega$ )
1	DC 500V, $\geq 1,000\text{ M}\Omega$	574,000
2	(Between primary-secondary)	719,000

## 2-5. Rated impulse withstand voltage

## Applied voltage

Sample.	Spec.	Applied voltage (kV)			
		Primary-Secondary	Primary-din rail	Secondary-din rail	Shield-din rail
1	1.2/50 $\mu\text{s}$ 1time	7.53	7.58	7.61	7.59
2	$\geq 7.39\text{kV}$	7.58	7.58	7.61	7.60

## 2-5-1. After voltage application

## Attenuation

Sample.	Transmission Band	Spec.	Attenuation(dB)			
			Pair 1-2	Pair 3-6	Pair 4-5	Pair 7-8
1	DC~100 MHz(100 $\Omega$ )	$\leq 1.0\text{dB}$	0.6	0.6	0.6	0.6
	~250 MHz(100 $\Omega$ )	$\leq 1.5\text{dB}$	0.9	0.9	0.8	0.8
	~500 MHz(100 $\Omega$ )	$\leq 3.0\text{dB}$	1.8	2.2	2.2	1.9
2	DC~100 MHz(100 $\Omega$ )	$\leq 1.0\text{dB}$	0.6	0.6	0.6	0.6
	~250 MHz(100 $\Omega$ )	$\leq 1.5\text{dB}$	0.9	0.9	0.9	0.8
	~500 MHz(100 $\Omega$ )	$\leq 3.0\text{dB}$	1.9	2.3	2.7	2.3

## Near end crosstalk(NEXT)

Sample.	Transmission Band	Spec.	Pair	NEXT(dB)
1	DC~500 MHz(100 $\Omega$ )	26.7dB typ.	1,2-3,6	39.5
			1,2-4,5	42.8
			1,2-7,8	55.9
			3,6-4,5	28.0
			3,6-7,8	36.3
			4,5-7,8	36.0
2			1,2-3,6	38.7
			1,2-4,5	42.8
			1,2-7,8	58.6
			3,6-4,5	28.7
			3,6-7,8	35.7
			4,5-7,8	36.5

## Insulation resistance

Sample.	Spec.	Insulation resistance (M $\Omega$ )
1	DC 500V, $\geq 1,000$ M $\Omega$ (Between primary-secondary)	350,000
2		509,000

## 2-6. Capacitance

Sample.	Spec.	Pair	Capacitance(pF)
1	1MHz 1Vrms $\leq 30.0\text{pF}$	1-2	23.8
		3-6	27.8
		4-5	25.4
		7-8	27.1
2		1-2	23.9
		3-6	27.0
		4-5	28.2
		7-8	28.0

## 2-7. Signal SIT voltage-time product

Sample.	Item	Measurement points			
		Pair 1-2	Pair 3-6	Pair 4-5	Pair 7-8
1	Voltage $V_s$ (V)	3.6	3.6	3.7	3.6
	Time $t_s$ ( $\mu\text{s}$ )	7.1	6.9	6.6	7.0
	Voltage-time $V_s \cdot t_s$ (V. $\mu\text{s}$ )	25.6	24.8	24.4	25.2
2	Voltage $V_s$ (V)	3.6	3.6	3.7	3.6
	Time $t_s$ ( $\mu\text{s}$ )	6.7	7.0	6.9	6.8
	Voltage-time $V_s \cdot t_s$ (V. $\mu\text{s}$ )	24.1	25.2	25.5	24.5

3. Product pictures

3-1. Appearance



3-2. Name plate

