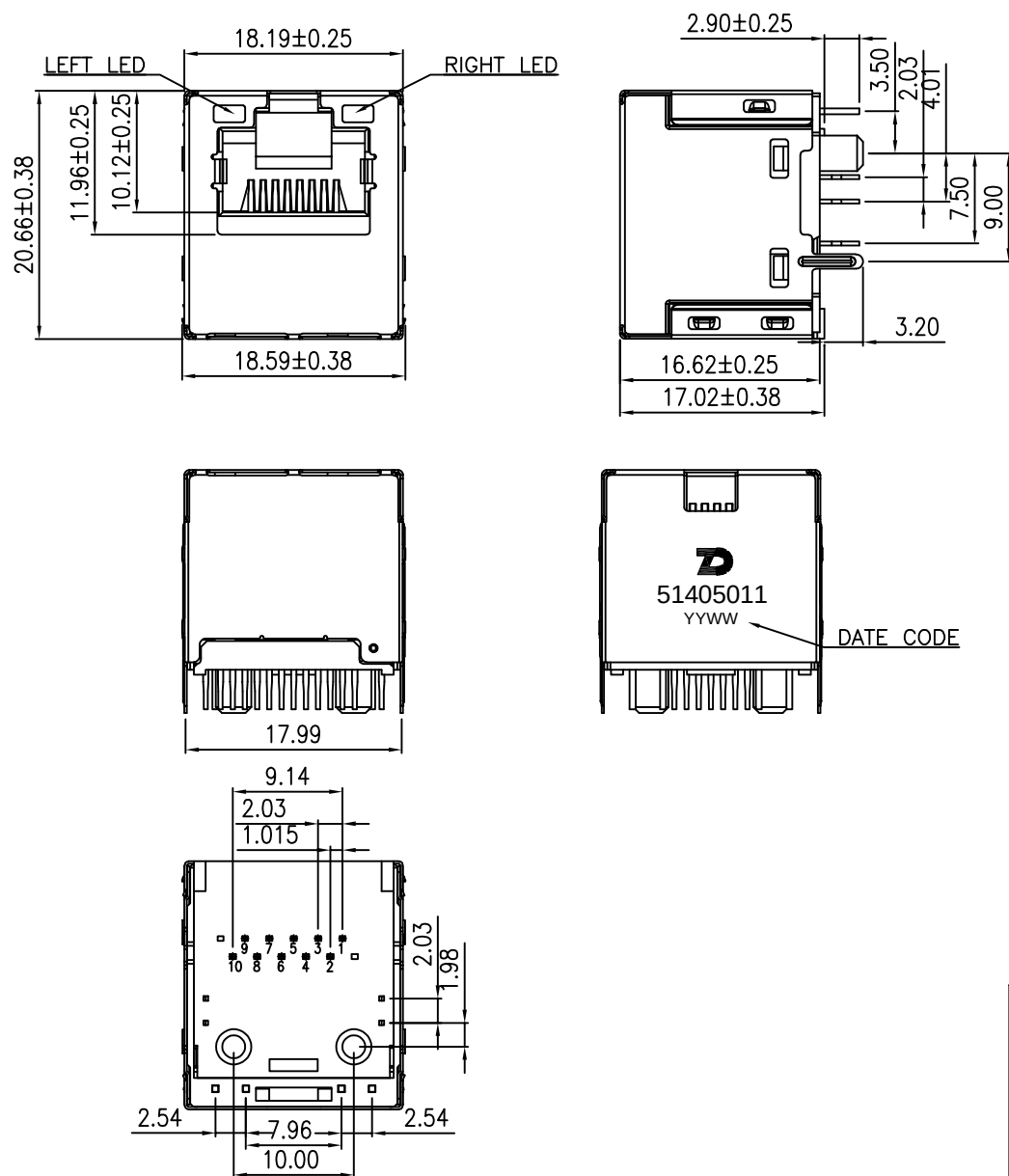


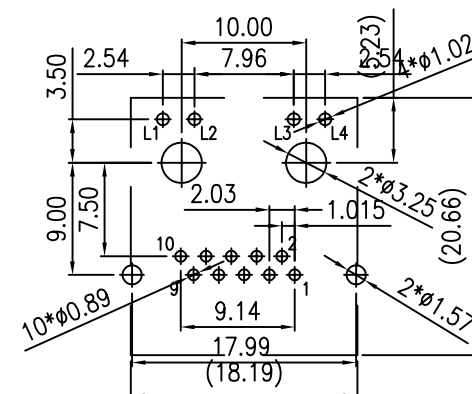
RoHS Compliant

Mechanical:



Connect Material:

1. Housing: PA6T, UL94V-0, Color: YELLOW 114C ;
2. Case: PA6T , UL94V-0, Color: Black;
3. Spacer: PA6T , UL94V-0, Color: Black;
4. Shield: SUS201 T=0.2mm, 30u" Min Nickel Overall Plated;
5. Input Terminal: C2680 T=0.35mm
6. Input And RJ45 Contact Terminal Plating: 50u"Min. Ni Under Plated Overall,100u" Tin On Solder Area;
7. RJ45 Contacts Terminal: Phosphor Bronze C5191 T=0.35mm Selective 1u" Min Gold Plated On Contact Area;



RECOMMENDED P.C.B LAYOUT(PCB THICKNESS: 1.6mm)
COMPONENT SIDE VIEW(TOLERANCE: ±0.05mm)

QC : Inspection Item	DIMENSION IN mm [Inch]		ZhenDeng Electronics Co.,Ltd		
	TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE		
	.X± 0.38	X.*± 2.0"	RJ45 180° 1X1 2.5G W/SURGE		
	.XX± 0.20	.X.*± 1.0"	DRAWING NUMBER		
	.XXX± 0.10		51405011		
APPROVE	CHECK		DRAW	PROJ.	SHEET 1 OF 3
			CLT 2024,05,10	SCALE 1:1	REV A

Schematic:

The schematic shows two main sections: the top section details the internal wiring between the PCB side (left) and the Cable Side (right). It includes four transformer-like symbols labeled "Surge Component" with turns ratios of 1CT:1CT. The bottom left shows two LED indicators, one green and one yellow, each connected to L1-L2 and L3-L4 respectively.

ELECTRICAL CHARACTERISTICS AT +25°C UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0°C TO +70°C	
TURNS RATIO	1.00 ± 2%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1-50MHz -0.5 dB MAX	50-125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG ₁₀ (f/40) dB MIN
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG ₁₀ (f/40) dB MIN
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1-125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30-200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10-125MHz -45+f/35 dB MIN	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.
Operating and Storage Temperature:
Operating Temperature : 0°C to +70°C.
Storage Temperature : -40°C to +85°C.
NOTE: f IS FREQUENCY IN MHZ.
Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

DIMENSION IN mm [Inch]	TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE	
.X± 0.38	X.*± 2.0*			
.XX± 0.20	.X.*± 1.0*			
.XXX± 0.10				
APPROVE	CHECK			

ZhenDeng Electronics Co.,Ltd

TITLE
RJ45 180° 1X1 2.5G W/SURGE

DRAWING NUMBER
51405011

DRAW CLT
2024,05,10

PROJ. SCALE 1:1 SHEET 2 OF 3 SIZE A3 REV A

1

2

3

4

5

6

7

8

RoHS Compliant

Schematic:

PCB SIDE

TRD0+ ①

TRD0- ②

TRD1+ ③

TRD1- ④

TRD2+ ⑦

TRD2- ⑧

TRD3+ ⑨

TRD3- ⑩

⑤

⑥

Surge Component

1CT:1CT

1CT:1CT

1CT:1CT

1CT:1CT

① TP0+

② TP0-

③ TP1+

⑥ TP1-

④ TP2+

⑤ TP2-

⑦ TP3+

⑧ TP3-

CABLE SIDE

GREEN

YELLOW

L1

L2

L3

L4

LEFT LED

RIGHT LED

REV

MODIFICATION

DATE

DRAW

APPROVE

ELECTRICAL CHARACTERISTICS AT +25℃ UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0℃ TO +70℃	
TURNS RATIO	1.00 ± 2%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1-50MHz -0.5 dB MAX	50-125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1-125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30-200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10-125MHz -45+f/35 dB MIN	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.

Operating and Storage Temperature:
Operating Temperature : 0℃ to +70℃.
Storage Temperature : -40℃ to +85℃.
NOTE: f IS FREQUENCY IN MHZ.

Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

QC : Inspection Item

DIMENSION IN mm [Inch]

TOLERANCE UNLESS OTHERWISE SPECIFIED

.X± 0.38

X.*± 2.0"

.XX± 0.20

.X.*± 1.0"

.XXX± 0.10

APPROVE

CHECK

DRAW

CLT

2024,05,10

PROJ.

SCALE

1:1

SHEET

2

OF

3

SIZE

A3

REV

A

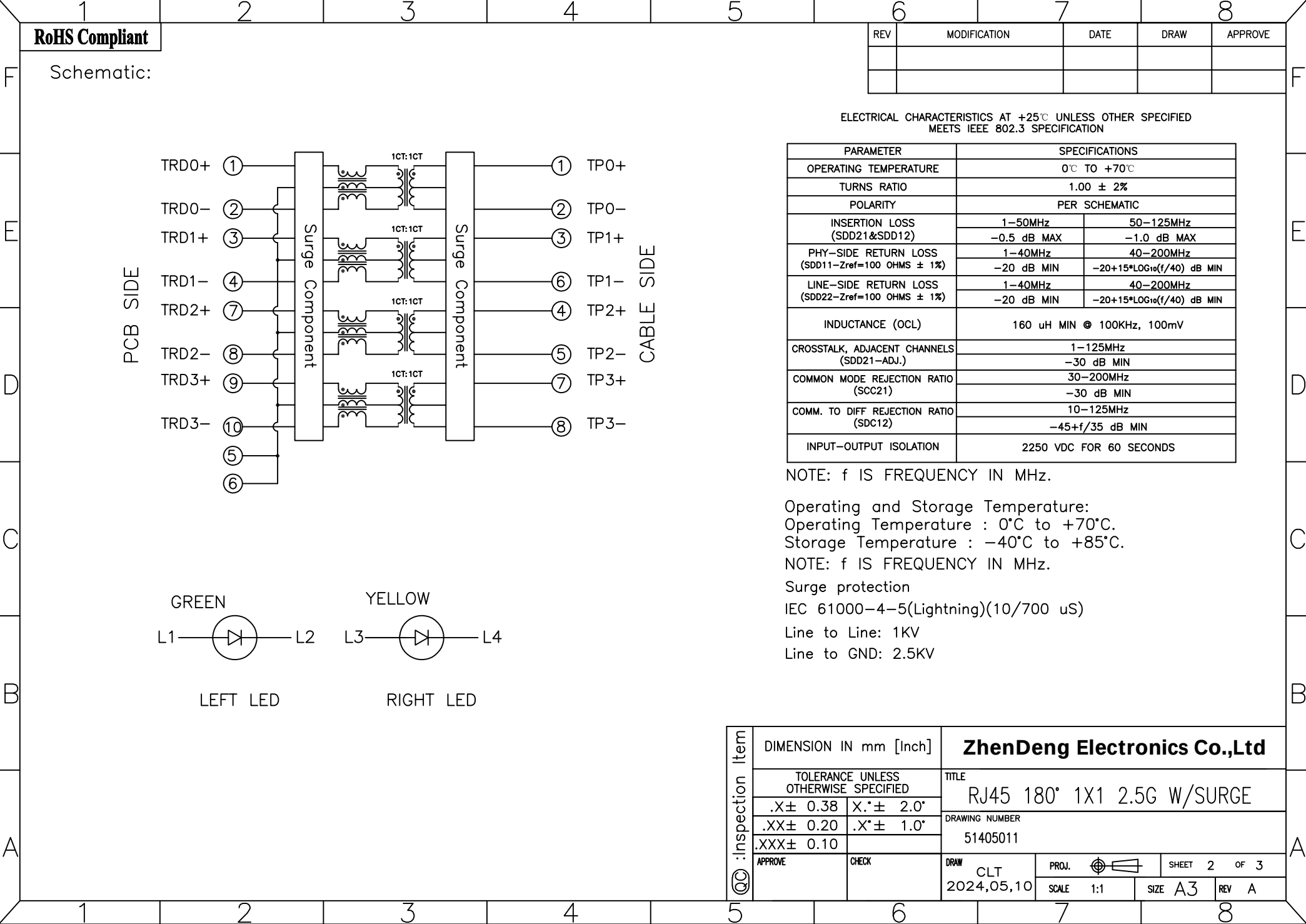
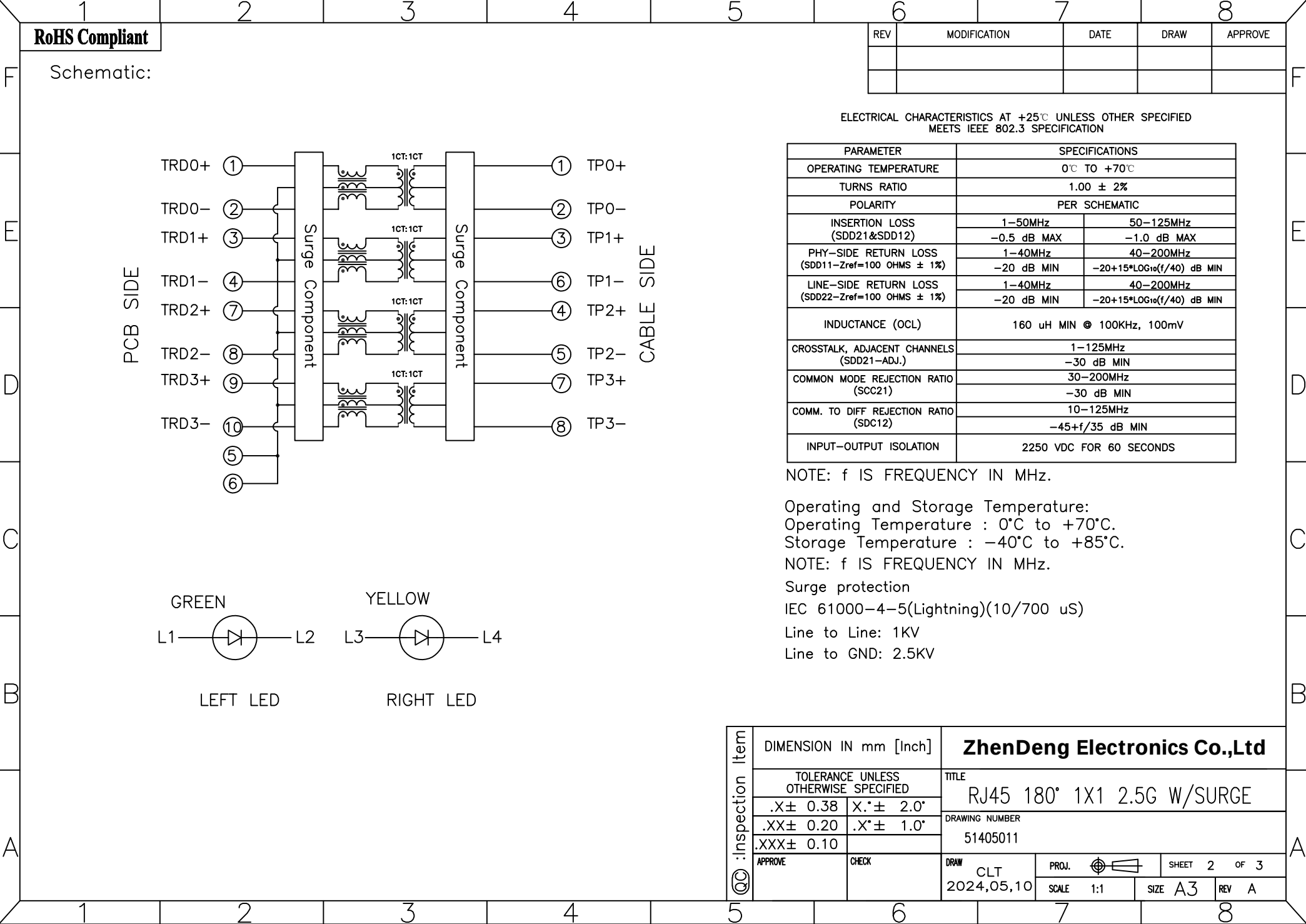
ZhenDeng Electronics Co.,Ltd

TITLE

RJ45 180° 1X1 2.5G W/SURGE

DRAWING NUMBER

51405011

[illegible]

1

2

3

4

5

6

7

8

RoHS Compliant

Schematic:

PCB SIDE

TRD0+ ①

TRD0- ②

TRD1+ ③

TRD1- ④

TRD2+ ⑦

TRD2- ⑧

TRD3+ ⑨

TRD3- ⑩

⑤

⑥

Surge Component

1CT:1CT

1CT:1CT

1CT:1CT

1CT:1CT

① TP0+

② TP0-

③ TP1+

⑥ TP1-

④ TP2+

⑤ TP2-

⑦ TP3+

⑧ TP3-

CABLE SIDE

GREEN

YELLOW

L1

L2

L3

L4

LEFT LED

RIGHT LED

REV

MODIFICATION

DATE

DRAW

APPROVE

ELECTRICAL CHARACTERISTICS AT +25℃ UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0℃ TO +70℃	
TURNS RATIO	1.00 ± 2%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1-50MHz -0.5 dB MAX	50-125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1-125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30-200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10-125MHz -45+f/35 dB MIN	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.

Operating and Storage Temperature:
Operating Temperature : 0℃ to +70℃.
Storage Temperature : -40℃ to +85℃.
NOTE: f IS FREQUENCY IN MHZ.

Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

QC : Inspection Item

DIMENSION IN mm [Inch]

TOLERANCE UNLESS OTHERWISE SPECIFIED

.X± 0.38

X.*± 2.0"

.XX± 0.20

.X.*± 1.0"

.XXX± 0.10

APPROVE

CHECK

DRAW

CLT

2024,05,10

PROJ.

SCALE

1:1

SHEET

2

OF

3

SIZE

A3

REV

A

ZhenDeng Electronics Co.,Ltd

TITLE

RJ45 180° 1X1 2.5G W/SURGE

DRAWING NUMBER

51405011

Schematic:

The schematic illustrates the internal wiring of an RJ45 connector module. On the left, labeled "PCB SIDE", are terminals TRD0+ through TRD3- connected to pins ① through ⑩. These connect via two identical "Surge Component" blocks (each containing three 1CT:1CT transformers) to the right-hand "CABLE SIDE". The cable side has eight pins: TP0+, TP0-, TP1+, TP1-, TP2+, TP2-, TP3+, and TP3-. Below the main circuit, there are two LED indicators: "LEFT LED" (GREEN, L1-L2) and "RIGHT LED" (YELLOW, L3-L4), each represented by a diode symbol.

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0°C TO $+70^{\circ}\text{C}$	
TURNS RATIO	$1.00 \pm 2\%$	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1–50MHz -0.5 dB MAX	50–125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1–40MHz -20 dB MIN	40–200MHz $-20+15*\text{LOG}_{10}(f/40)\text{ dB MIN}$
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1–40MHz -20 dB MIN	40–200MHz $-20+15*\text{LOG}_{10}(f/40)\text{ dB MIN}$
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1–125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30–200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10–125MHz $-45+f/35\text{ dB MIN}$	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

ELECTRICAL CHARACTERISTICS AT +25°C UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

NOTE: f IS FREQUENCY IN MHZ.
Operating and Storage Temperature:
Operating Temperature : 0°C to $+70^{\circ}\text{C}$.
Storage Temperature : -40°C to $+85^{\circ}\text{C}$.
NOTE: f IS FREQUENCY IN MHZ.
Surge protection
IEC 61000-4-5(Lightning)(10/700 us)
Line to Line: 1KV
Line to GND: 2.5KV

DIMENSION IN mm [Inch]	TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE	
X± 0.38 X.*± 2.0*	RJ45 180° 1X1 2.5G W/SURGE			
.XX± 0.20 .X.*± 1.0*				
.XXX± 0.10				
APPROVE	CHECK	DRAWING NUMBER		
		51405011		
		DRAW CLT	PROJ.	
		2024,05,10	SCALE 1:1	
			SHEET 2 OF 3	
			SIZE A3 REV A	

QC Inspection Item

1	2	3	4	5	6	7	8			
RoHS Compliant						REV	MODIFICATION	DATE	DRAW	APPROVE

Schematic:

PCB SIDE

CABLE SIDE

ELECTRICAL CHARACTERISTICS AT +25°C UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER		SPECIFICATIONS	
OPERATING TEMPERATURE		0°C TO +70°C	
TURNS RATIO		1.00 ± 2%	
POLARITY		PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1–50MHz	50–125MHz	
	-0.5 dB MAX	-1.0 dB MAX	
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1–40MHz	40–200MHz	
	-20 dB MIN	-20+15*LOG ₁₀ (f/40) dB MIN	
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1–40MHz	40–200MHz	
	-20 dB MIN	-20+15*LOG ₁₀ (f/40) dB MIN	
INDUCTANCE (OCL)		160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)		1–125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30–200MHz		
	-30 dB MIN		
COMM. TO DIFF REJECTION RATIO (SDC12)	10–125MHz		
	-45+f/35 dB MIN		
INPUT-OUTPUT ISOLATION		2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.

Operating and Storage Temperature:
Operating Temperature : 0°C to +70°C.
Storage Temperature : -40°C to +85°C.
NOTE: f IS FREQUENCY IN MHZ.

Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

QC Inspection Item

DIMENSION IN mm [Inch]				ZhenDeng Electronics Co.,Ltd					
TOLERANCE UNLESS OTHERWISE SPECIFIED									
.X± 0.38	X.*± 2.0°								
.XX± 0.20	.X.*± 1.0°								
.XXX± 0.10				TITLE RJ45 180° 1X1 2.5G W/SURGE					
DRAWING NUMBER 51405011									
APPROVE		CHECK		DRAW CLT 2024,05,10		PROJ. SCALE 1:1		SHEET 2 OF 3	
						SIZE A3		REV A	

Schematic:

PCB SIDE

CABLE SIDE

TRD0+ ① TP0+

TRD0- ② TP0-

TRD1+ ③ TP1+

TRD1- ④ TP1-

TRD2+ ⑦ TP2+

TRD2- ⑧ TP2-

TRD3+ ⑨ TP3+

TRD3- ⑩ TP3-

Surge Component

1CT:1CT

GREEN L1 RIGHT LED

L2 YELLOW L3 LEFT LED

L4

ELECTRICAL CHARACTERISTICS AT +25°C UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0°C TO +70°C	
TURNS RATIO	1.00 ± 2%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1-50MHz -0.5 dB MAX	50-125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG ₁₀ (f/40) dB MIN
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG ₁₀ (f/40) dB MIN
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1-125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30-200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10-125MHz -45+f/35 dB MIN	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.

Operating and Storage Temperature:
Operating Temperature : 0°C to +70°C.
Storage Temperature : -40°C to +85°C.
NOTE: f IS FREQUENCY IN MHZ.

Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

DIMENSION IN mm [Inch]	TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE	
.X± 0.38	X.*± 2.0"	RJ45 180° 1X1 2.5G W/SURGE		
.XX± 0.20	.X.*± 1.0"	DRAWING NUMBER		
.XXX± 0.10		51405011		
APPROVE	CHECK	DRAW CLT 2024,05,10	PROJ. SHEET 2 OF 3	
		SCALE 1:1	SIZE A3 REV A	

12345678

RoHS Compliant

Schematic:

PCB SIDE

TRD0+ ①

TRD0- ②

TRD1+ ③

TRD1- ④

TRD2+ ⑦

TRD2- ⑧

TRD3+ ⑨

TRD3- ⑩

⑤

⑥

Surge Component

1CT:1CT

1CT:1CT

1CT:1CT

1CT:1CT

① TP0+

② TP0-

③ TP1+

⑥ TP1-

④ TP2+

⑤ TP2-

⑦ TP3+

⑧ TP3-

CABLE SIDE

GREEN

YELLOW

L1

L2

L3

L4

LEFT LED

RIGHT LED

REV

MODIFICATION

DATE

DRAW

APPROVE

ELECTRICAL CHARACTERISTICS AT +25℃ UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION

PARAMETER	SPECIFICATIONS	
OPERATING TEMPERATURE	0℃ TO +70℃	
TURNS RATIO	1.00 ± 2%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS (SDD21&SDD12)	1-50MHz -0.5 dB MAX	50-125MHz -1.0 dB MAX
PHY-SIDE RETURN LOSS (SDD11-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
LINE-SIDE RETURN LOSS (SDD22-Zref=100 OHMS ± 1%)	1-40MHz -20 dB MIN	40-200MHz -20+15*LOG10(f/40) dB MIN
INDUCTANCE (OCL)	160 uH MIN @ 100KHz, 100mV	
CROSSTALK, ADJACENT CHANNELS (SDD21-ADJ.)	1-125MHz -30 dB MIN	
COMMON MODE REJECTION RATIO (SCC21)	30-200MHz -30 dB MIN	
COMM. TO DIFF REJECTION RATIO (SDC12)	10-125MHz -45+f/35 dB MIN	
INPUT-OUTPUT ISOLATION	2250 VDC FOR 60 SECONDS	

NOTE: f IS FREQUENCY IN MHZ.

Operating and Storage Temperature:
Operating Temperature : 0℃ to +70℃.
Storage Temperature : -40℃ to +85℃.
NOTE: f IS FREQUENCY IN MHZ.

Surge protection
IEC 61000-4-5(Lightning)(10/700 uS)
Line to Line: 1KV
Line to GND: 2.5KV

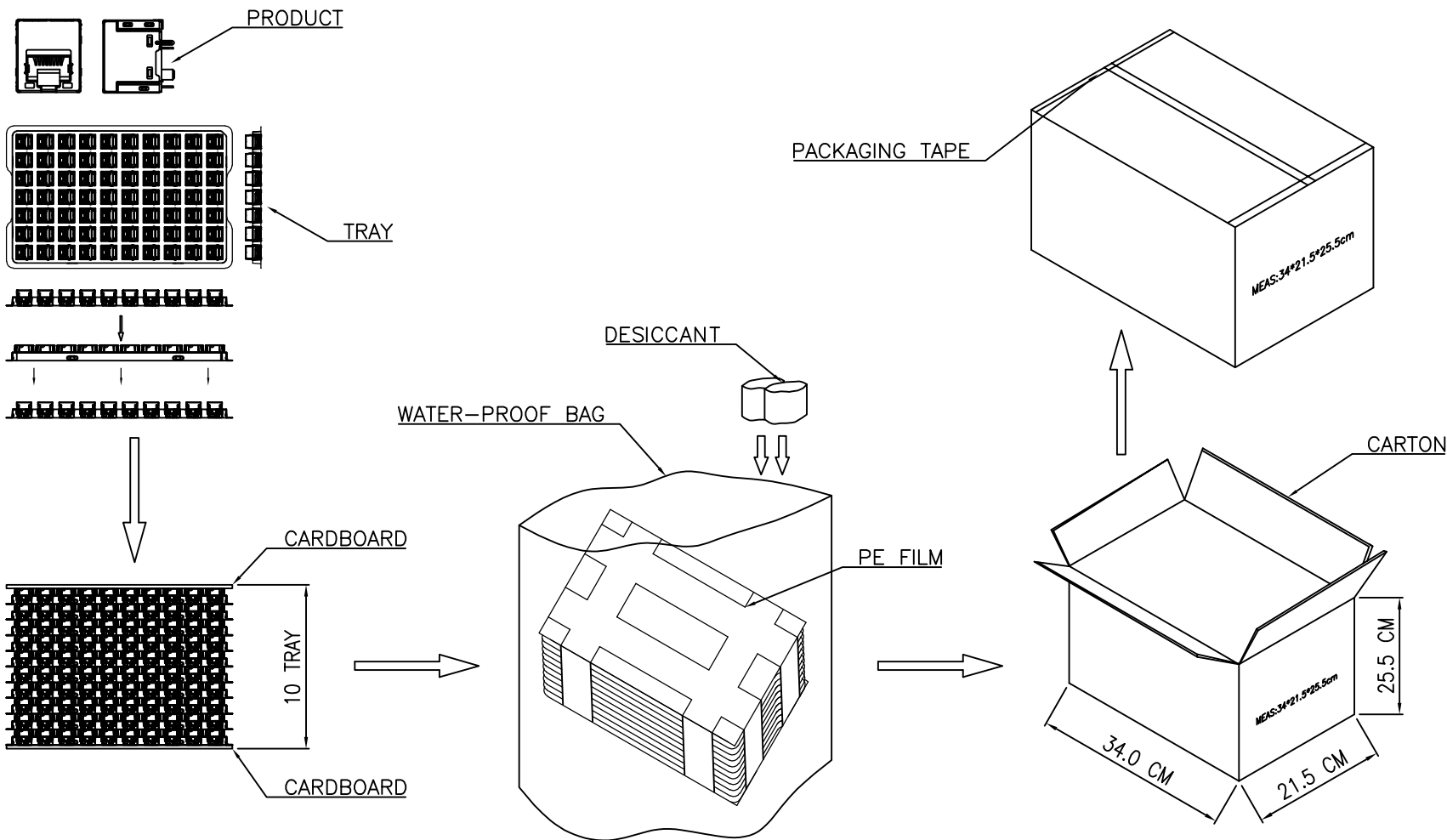
QC : Inspection Item

DIMENSION IN mm [Inch]		ZhenDeng Electronics Co.,Ltd	
TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE RJ45 180° 1X1 2.5G W/SURGE	
.X± 0.38	X.*± 2.0°	DRAWING NUMBER 51405011	
.XX± 0.20	.X.*± 1.0°	DRAW CLT 2024,05,10	
.XXX± 0.10		PROJ. SCALE 1:1	
APPROVE	CHECK	SHEET 2 OF 3 SIZE A3 REV A	

12345678

RoHS Compliant

REV	MODIFICATION	DATE	DRAW	APPROVE



NOTES:

1. PRIMARY PACKING: 70PCS/TRAY
2. SECONDARY PACKING: 10TRAY/CARTON(700PCS/CARTON)
3. CARTON SIZE: 340x215x255mm

QC : Inspection Item	DIMENSION IN mm [Inch]		ZhenDeng Electronics Co.,Ltd		
	TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE RJ45 1X1 180°W/POE PACKING		
	.X± 0.38	X.*± 2.0'	DRAWING NUMBER 180°W/POE PACKING		
	.XX± 0.20	.X.*± 1.0'			
	.XXX± 0.10				
APPROVE	CHECK		DRAW CLT 2024,05,10	PROJ. SCALE 1:1	SHEET 1 OF 3 REV B