

APPROVAL SHEET

(RoHS)

CUSTOMER : _____

CUSTOMER'S PART NO : part number _____

DESCRIPTION : _____

PART NO. : RT12SA5- Series _____

DATE : 2021/04/16 : *SGT* _____

AUTHORIZED BY _____

	FULLY APPROVED	PARTIALLY APPROVED	REJECTED
SIGN			
SUGGESTION			

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MAG.LAYERS

Revision History

[illegible]



Networking Communication Components

RT Series

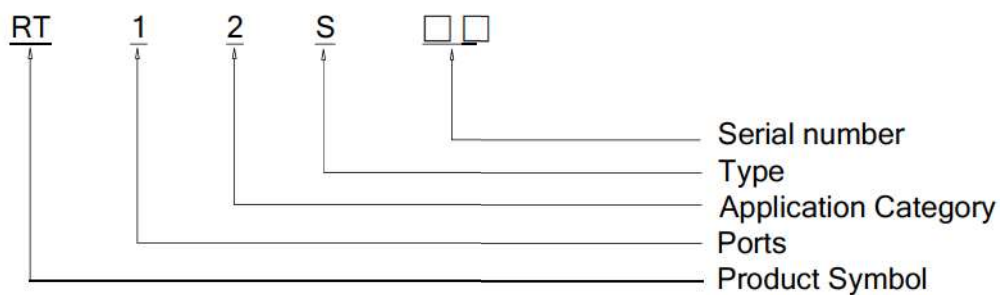


Feature

● Meets IEEE802.3ab specification.
● Comply with ROHS & Halogen Free requirements.
● Compliant and peak reflow temperature rating 245°C .
● Packaging specification is reel. (RT12S□□: Reel)



Product Identification

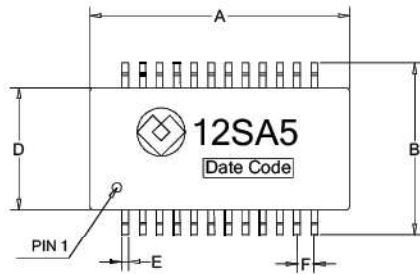


Transformer

Part number : RT12SA5-RU

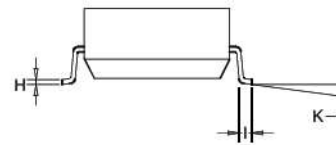
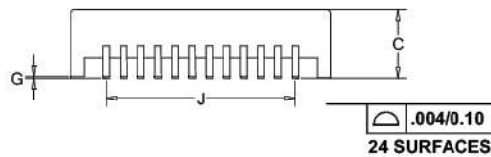
Part name : 1000 Base-T Transformer Single Port

Mechanical Dimension and Marking

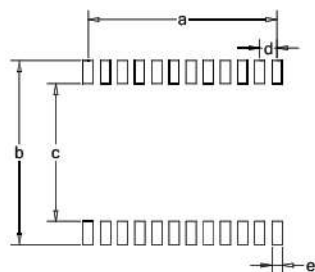


UNIT	mm	inch
A	15.10 ±0.25	0.5945 ±0.010
B	10.00 ±0.25	0.3937 ±0.010
C	4.00 ±0.25	0.1575 ±0.010
D	7.10 ±0.25	0.2795 ±0.010
E	0.38 ±0.13	0.0150 ±0.005
F	1.00 ±0.13	0.0394 ±0.005
G	0.25 ±0.13	0.0098 ±0.005
H	0.30 ±0.10	0.0118 ±0.005
I	1.05 ±0.25	0.0413 ±0.010
J	11.00 ±0.13	0.4331 ±0.010
K	0°~ 8°	

12SA5 XX XX
 Mag.Layers Part Number Week
 Year



Suggested Land Pattern



UNIT	mm	inch
a	11.00	0.4331
b	10.70	0.4213
c	8.00	0.3150
d	1.00	0.0394
e	0.60	0.0236

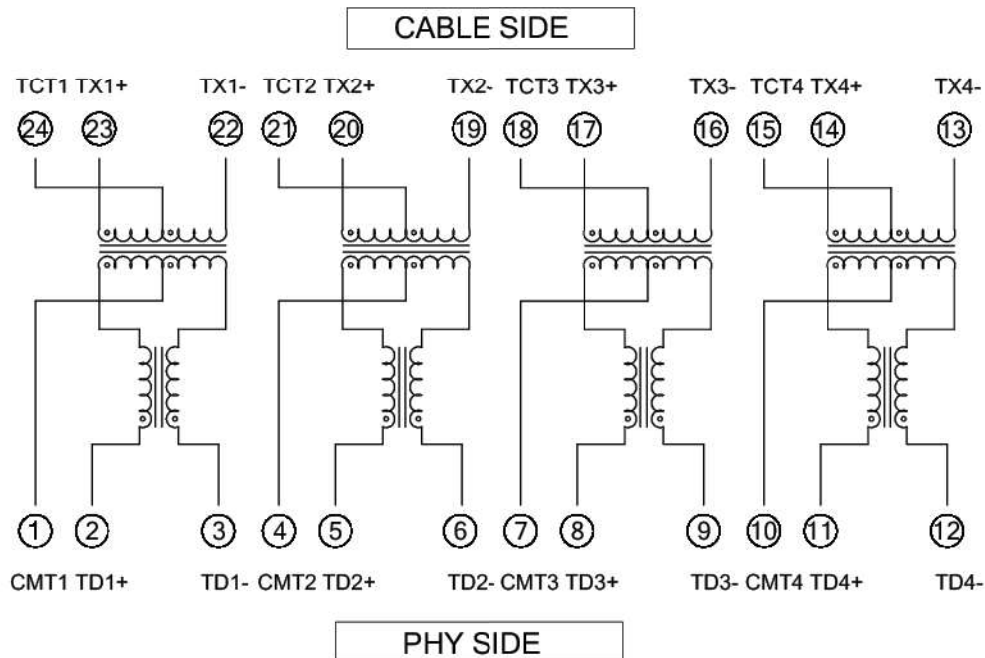
Drawn	Jamie.Chuang	Designed	Jamie.Chuang	Approved	James.Cheng
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Characteristics

Operating Temperature : 0°C to +70°C.
Storage Temperature : -25°C to +105°C

Schematics

RT12SA5



Electrical Specification @ 25°C, Humidity 65% RH

Inductance @ Phy side(OCL)
100KHz, 0.1V, 8mA DC Bias
350uH MIN

Part Number	Turns Ratio	Insertion Loss	Return Loss						DMCR			Crosstalk			Hipot
	100KHz	dB MAX	dB MIN						dB MIN			dB MIN			Vrms, Sec
	± 3%	1MHz-100MHz	1MHz-30MHz	40MHz-50MHz	60MHz-80MHz	100MHz	30MHz	60MHz	100MHz	30MHz	60MHz	100MHz	Pri To Sec		
RT12SA5	1:1	-1.0	-18	-14	-13	-12	-10	-43	-37	-33	-42	-35	-32	1500, 60	

Reliability Test Method

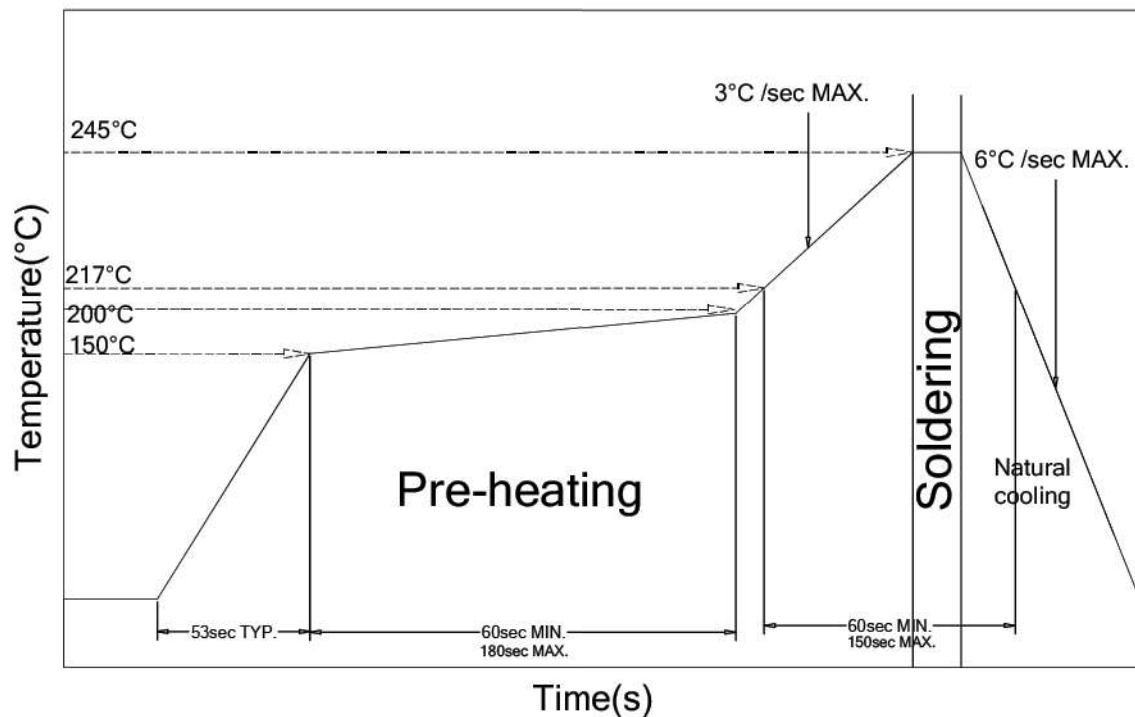
Mechanical

Item	Test Item	Test Conditions	Criteria
1	SOLDER-ABILITY	*.Refer to J-STD-002 1. Solder Temperature : 245±5°C 2. Flux : Rosin 3. Dip Time : 3±1 seconds 4. More than 90% of terminal electrode shall be covered with fresh solder.	1.No electrical problem found. 2.No mechanical damage found.
2	RESISTANCE TO SOLDER HEAT	*.Refer to J-STD-002 1. Solder Temperature : 260±5°C 2. Flux : Rosin 3. Dip Time : 10±1 seconds 4. More than 75% of terminal electrode shall be covered with fresh solder.	1.No electrical problem found. 2.No mechanical damage found.
3	SUBSTRATE BENDING	1. The sample shall be soldered onto to the printed circuit board. Apply pressure gradually in the middle printed circuit board at a rate of about 0.5mm/s until bent depth reaches 2mm and hold for 30 sec. 2. There shall be no mechanical damage or electrical damage.	1.No electrical problem found. 2.No mechanical damage found.
4	VIBRATION	1. 2HRS EACH IN X,Y,AND Z DIRECTIONS TOTAL : 6HRS	1.No electrical problem found. 2.No mechanical damage found.
5	TERMINAL STRENGTH	1. Force of 1.8kg for 60 seconds. 2. No apparent damage.	1.No electrical problem found. 2.No mechanical damage found.

Enviroment Characteristics

Item	Test Item	Test Conditions	Criteria
1	THERMAL SHOCK	*.Refer to MIL-STD-883 1011.09 COND.A 1. 1000 cycle (0 to +70°C)	1.No electrical problem found. 2.No mechanical damage found.
2	HUMIDITY RESISTANCE	*.Refer to MIL-STD-202 Method 103 1. 1000 hours. 85°C. 85% RH	1.No electrical problem found. 2.No mechanical damage found.
3	HIGH TEMPERATURE RESISTANCE	*.Refer to MIL-STD-202 Method 108 1. 1000 hours. 70°C.	1.No electrical problem found. 2.No mechanical damage found.
4	LOW TEMPERATURE RESISTANCE	*.Refer to MIL-STD-810F-502.4 1. 1000 hours. 0°C.	1.No electrical problem found. 2.No mechanical damage found.

Reflow Soldering

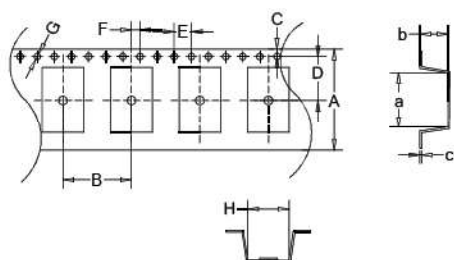


- IR Reflow soldering :
Preheat at 3°C per second to 217°C and using lead free solder ,
IR at 245°C for 30seconds Max.
- Rework flow:
Component must withstand two IR reflow cycles with a cool down
between cycles
- Temperature is measured at the terminal portion of product
(Using thermocoupler for measurement).
- This profile is reference data we recommend. Please check in your
actual process.
- For reliable soldering, the thickness of solder paste screen should
be over the terminal co-planality.
- The cutted end of terminal has no plating
(out of subject of solder ability).
- JEDEC Moisture: Level 1.

Packaging Styles

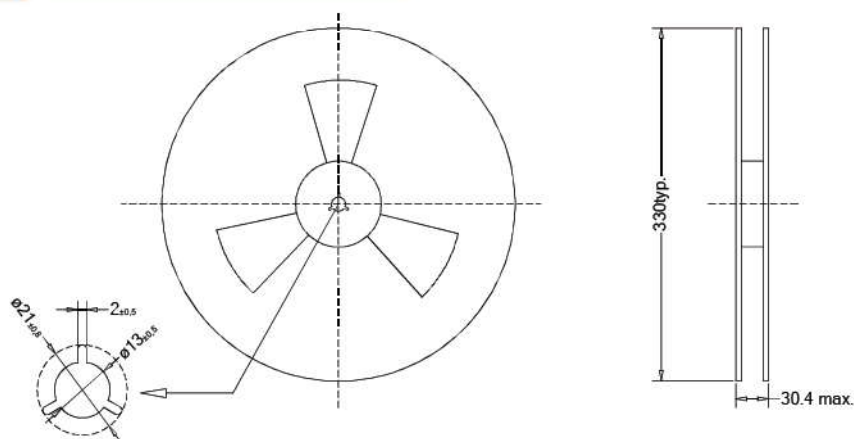
800 pieces/reel

Tape Dimensions



UNIT	mm	UNIT	mm
A	24.00± 0.30	F	2.00± 0.10
B	16.00± 0.10	G	1.50+ 0.10
C	1.75± 0.10	H	10.50± 0.10
D	11.50± 0.10	a	16.00± 0.10
E	4.00± 0.10	b	4.50± 0.10
10°E	40.00± 0.20	c	0.40± 0.05

Reel Dimensions



Dimensions in mm

Recommended Condition For Long Term Store

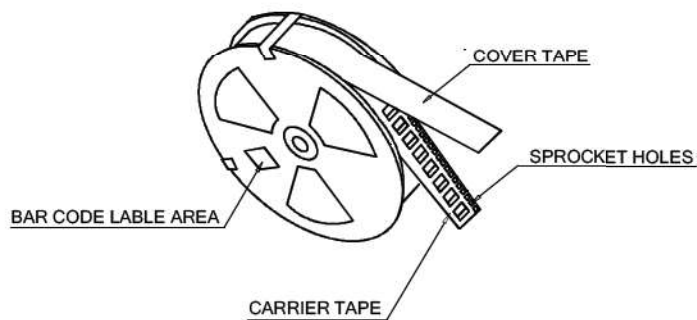
When it stores for a long term, please avoid place of high temperature and high humidity.

Recommend that it uses after the delivery within 1 year.

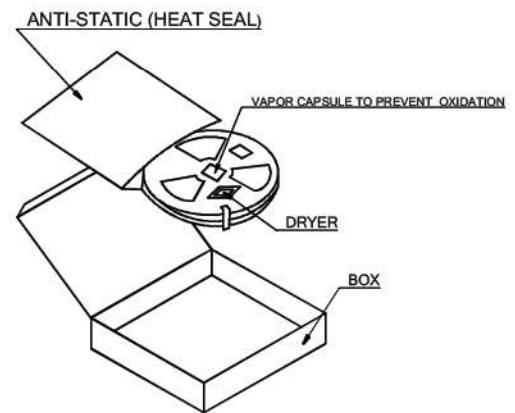
- Temperature range: +5 to +30°C.
- Humidity: 60(%)RH max..

Package Specification

800 pieces / reel



2 reel / BOX



5 BOX / CARTON
8000 pieces / CARTON

