

Description

High-power broadband surface-mounted and embedded coupler series, realizing the power synthesis and distribution of microwave high-power amplifier system, signal acquisition and other functions. Used in active phased array radar, microwave transceiver components, microwave amplifiers, radio stations, satellite communications and other projects, to provide standardized and customized high-quality and reliable products.

The performance and reliability indexes are in line with international products and the pin definition and package size are compatible with international products, realizing 100% in-situ replacement.



Features:

- 800-3000 MHz
- low insertion loss, 0.2 dB Typ.
- excellent return loss, 31 dB Typ.
- high power, up to 150W.
- DC current pass through input to output

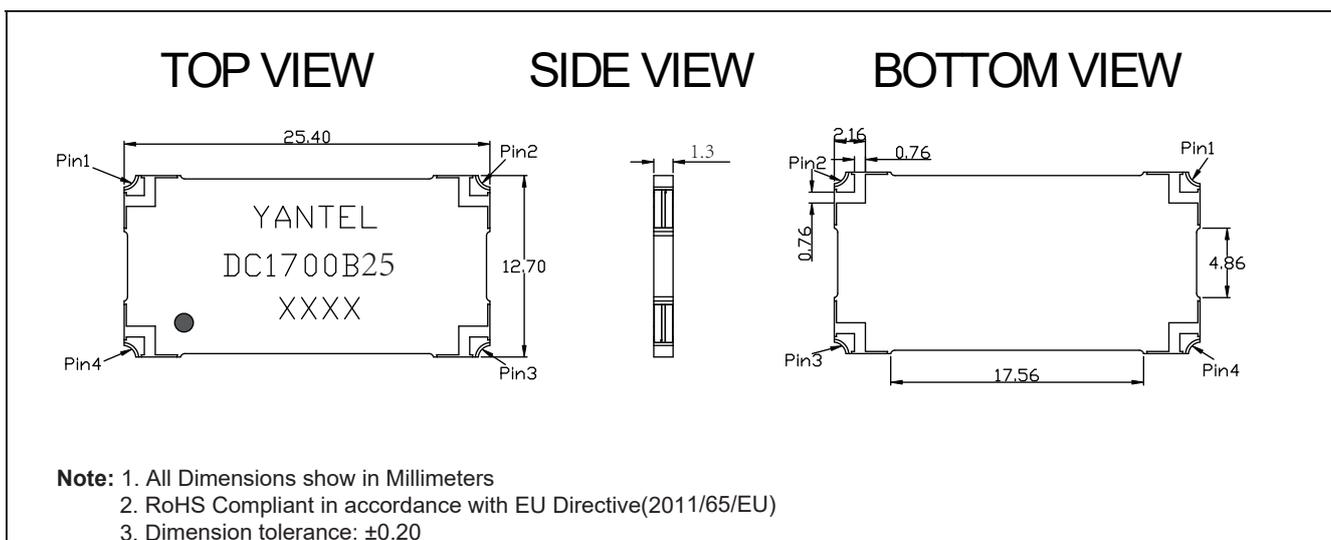
Electrical Specifications

| Frequency MHz | Coupling dB | Directivity dB Min | VSWR Max : 1 |
|---------------------------------|-------------------------------|------------------------------|-----------------|
| 800~3000 | 25±1.0 | 21 | 1.17 |
| Insertion Loss dB Max | Power Avg. CW Watts | Operating Temp. °C | |
| 0.20 | 150 | -55 to +105 | |

Note:

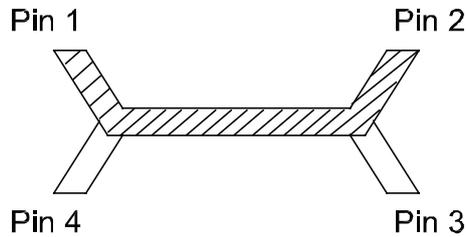
1. All above test data resulting from specify demo board.
2. Insertion loss has removed the thru board loss.

Mechanical Outline



Directional Coupler Pin Configuration

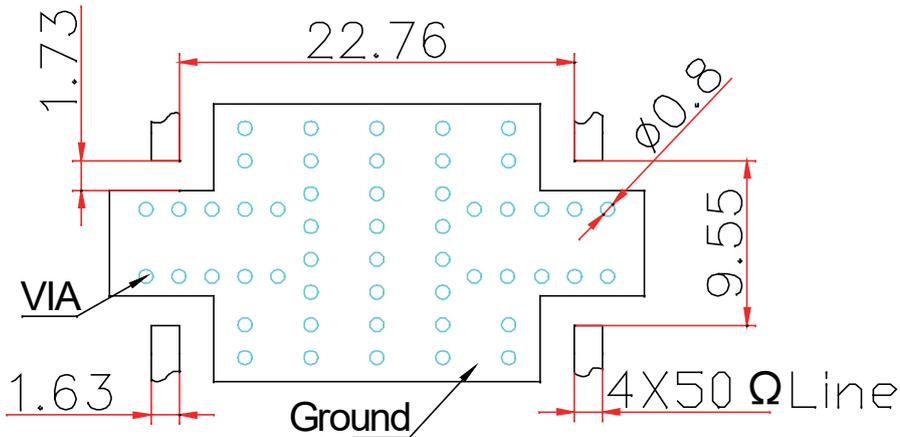
The DC1700B25 has an orientation marker to denote Pin 1. Once port one has been identified the other ports are known automatically. Please see the chart below for clarification:



Port Function Configurations

| Input | Output | Coupled Forward | Coupled Reverse |
|-------|--------|-----------------|-----------------|
| 1 | 2 | 4 | 3 |
| 2 | 1 | 3 | 4 |
| 3 | 4 | 2 | 1 |
| 4 | 3 | 1 | 2 |

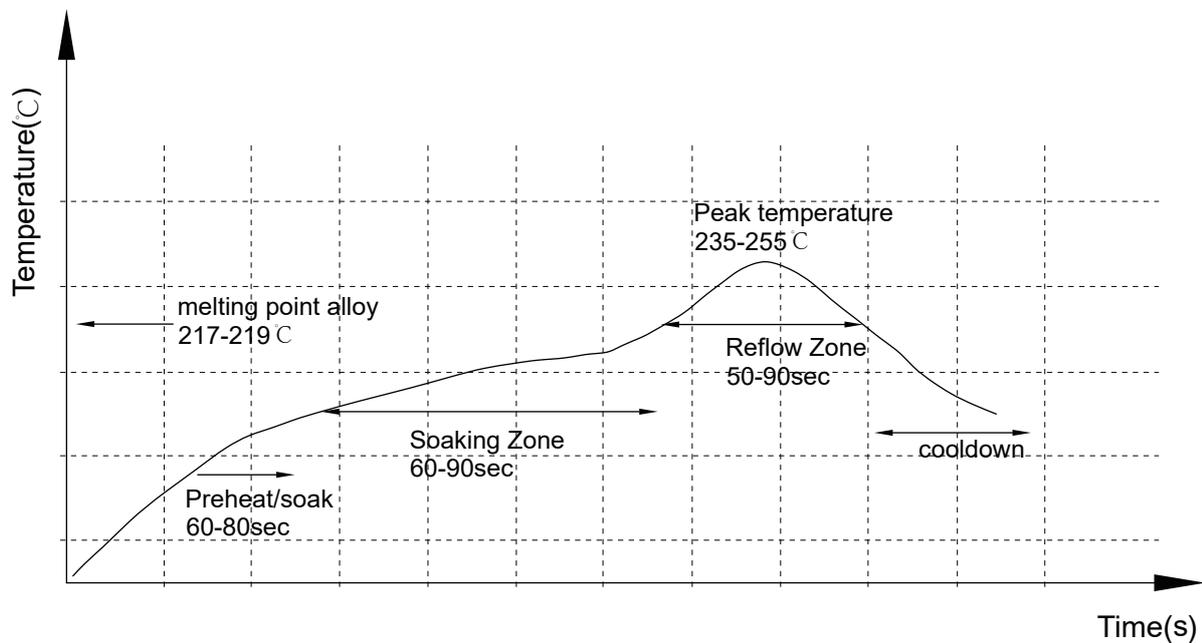
Recommended PCB Layout



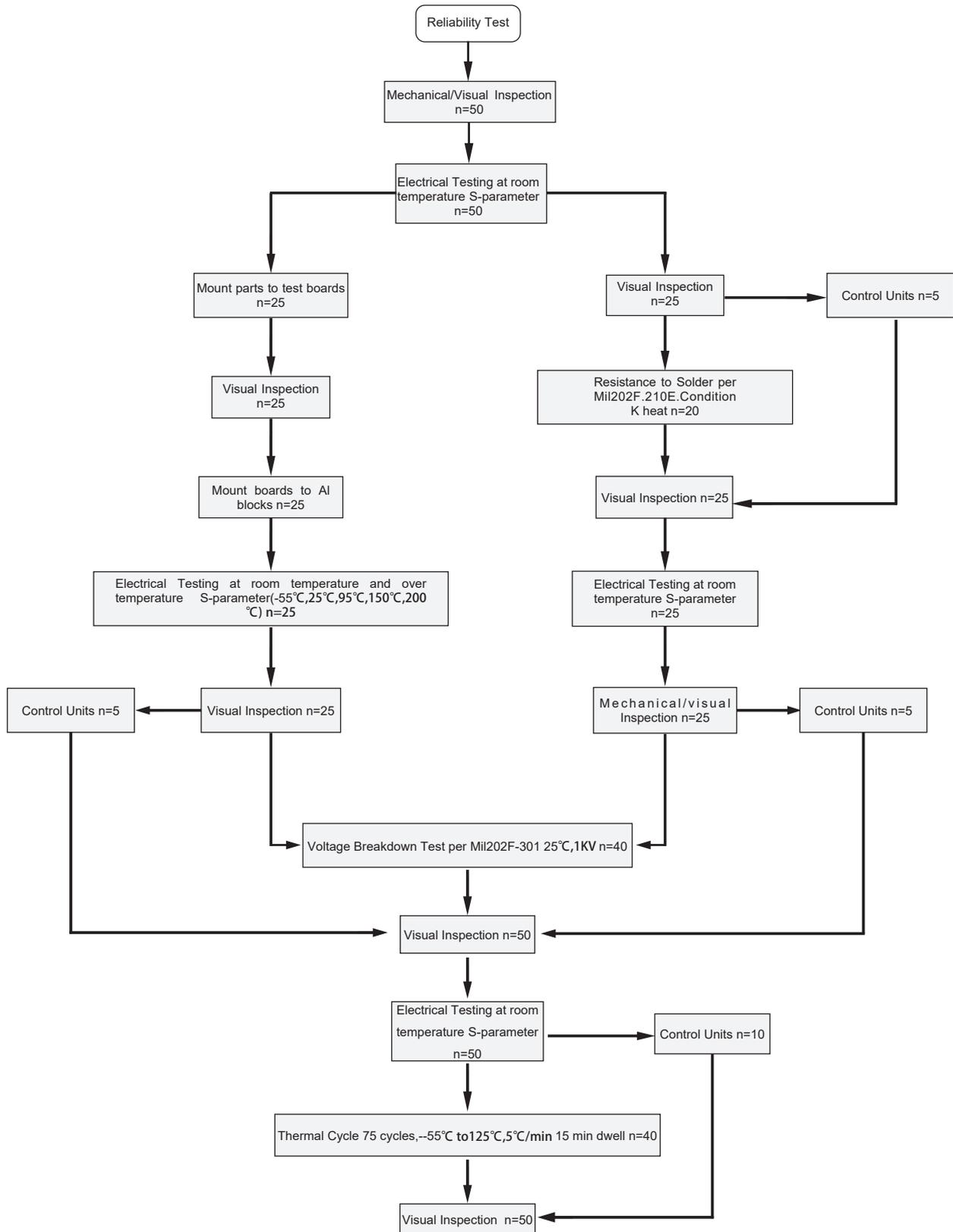
NOTE:

1. 50 Ω line width is shown above designing from RO4350B dielectric thickness 0.762mm; copper 1 OZ
2. Bottom side of the PCB is continuous ground plane.
3. All dimensions shown in mm.

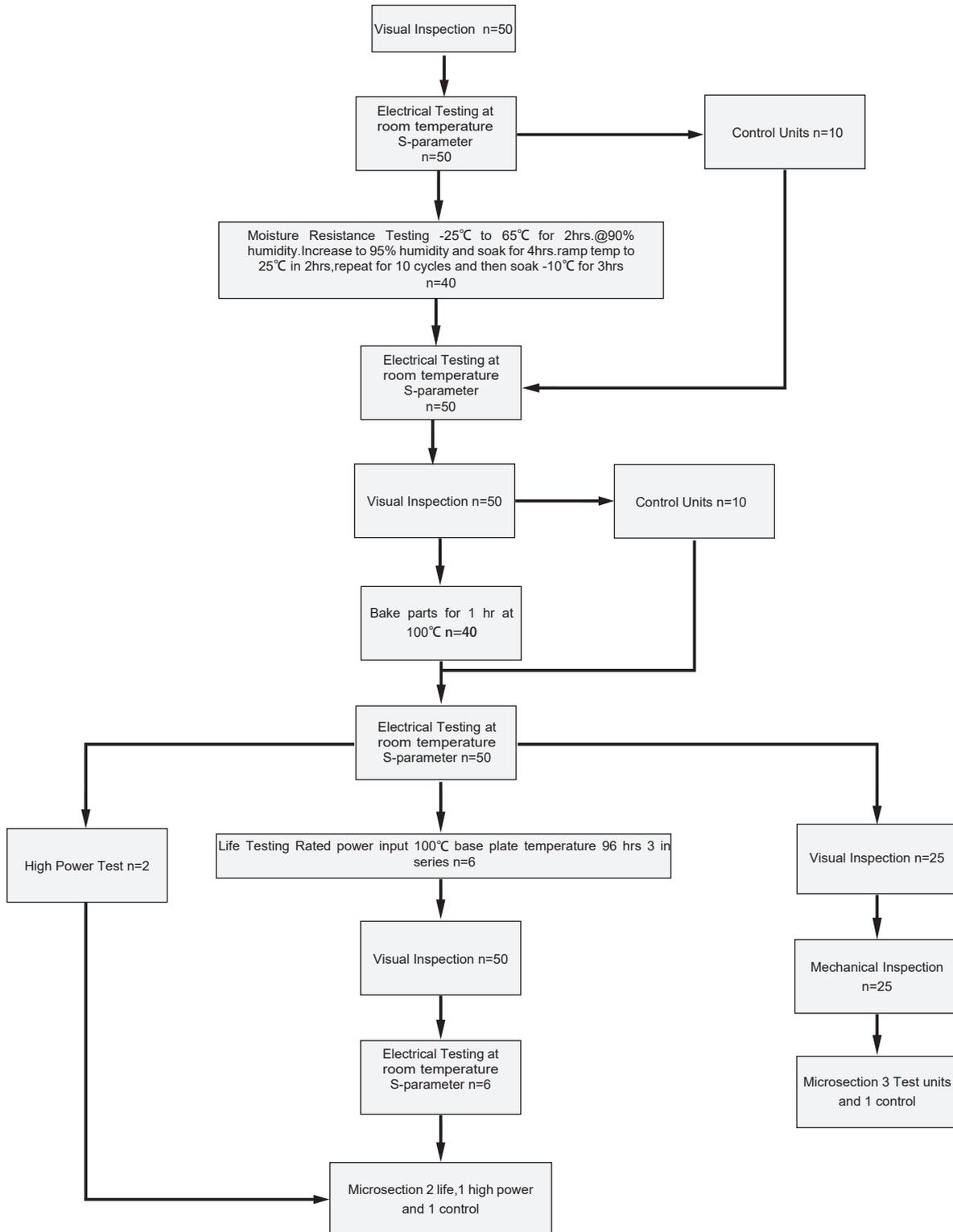
Reflow Profile



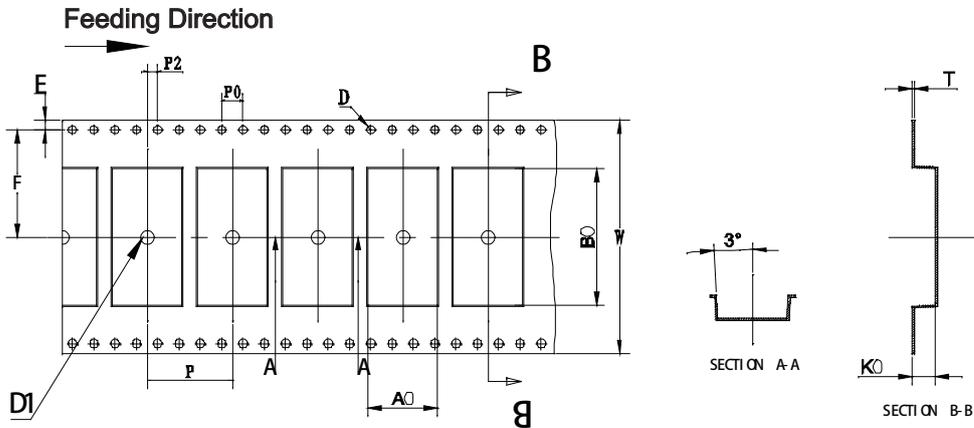
Reliability Test Flow



Reliability Test Flow



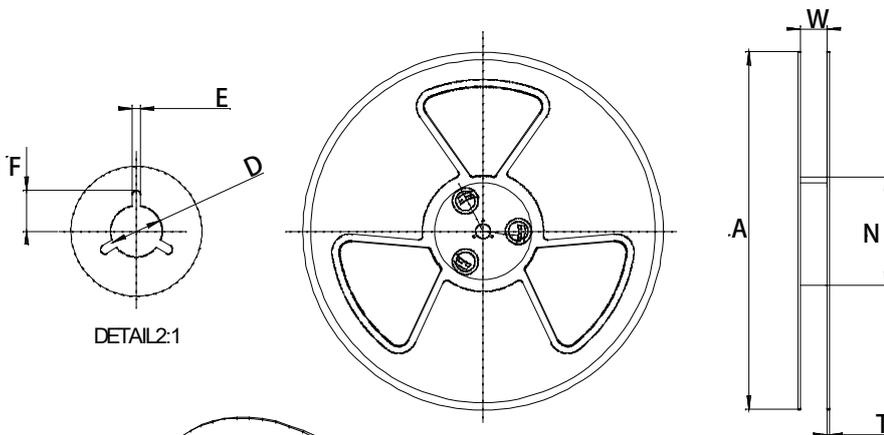
Tape and Reel Drawing



Notice:

- A.10 Sprocket hole pitch cumulative tolerance is 0.2mm.
- B. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
- C. All dimensions meet EIA-418-B requirements.
- D. A0 & B0 measured as indicated.
- E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.
- F. Material: PE 100
- G. Thickness: 0.40±0.05mm
- H. 400 units (maximum) / T&R

| ITEM | W | A0 | B0 | K0 | P | F | E | D | D1 | P0 | P2 | T | 13" |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|
| DIM(mm) | 44.00 | 13.2 | 25.90 | 3.60 | 16.00 | 20.20 | 1.75 | 1.50 | 1.50 | 4.00 | 2.00 | 0.40 | P/R |
| TOLE | +0.30 -0.30 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.00 | +0.10 -0.00 | +0.10 -0.10 | +0.15 -0.15 | +0.05 -0.05 | 400 pcs |



| Symbol | Dimensions(mm) |
|--------|----------------|
| W | 44.5±0.4 |
| A | 330±0.5 |
| N | 100±0.3 |
| T | 1.8±0.2 |
| E | 2.1±0.3 |
| F | 10.75±0.3 |
| D | 13.5+0.5/-0.2 |

