DC1700B25

Preliminary Datasheet

Directional Coupler

Rev A0

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**

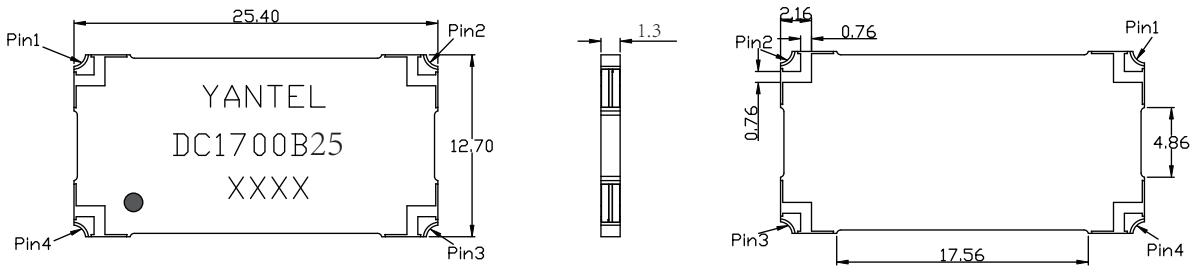
Electrical Specifications

Frequency	Coupling	Directivity	VSWR
MHz	*dB*	*dB Min*	*Max : 1*
800~3000	25±1.0	21	1.17

Insertion Loss	Power	Operating Temp.
dB Max	*Avg. CW Watts*	*°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



Note: 1. All Dimensions show in Millimeters
2. RoHS Compliant in accordance with EU Directive(2011/65/EU)
3. Dimension tolerance: ±0.20

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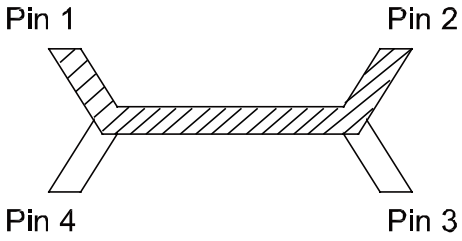
Directional Coupler Pin Configuration

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

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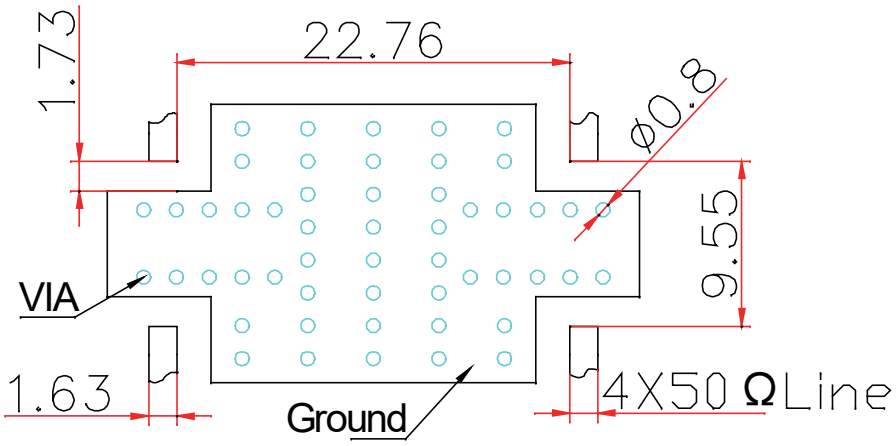
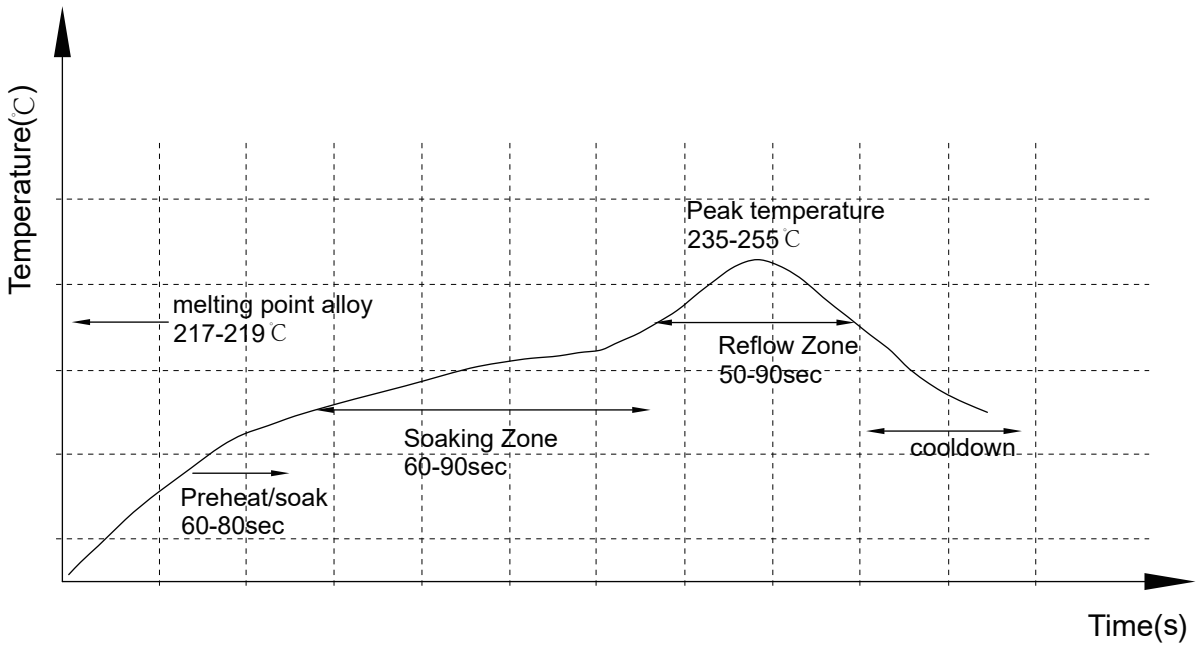
Recommended PCB Layout



NOTE:

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

Reflow Profile



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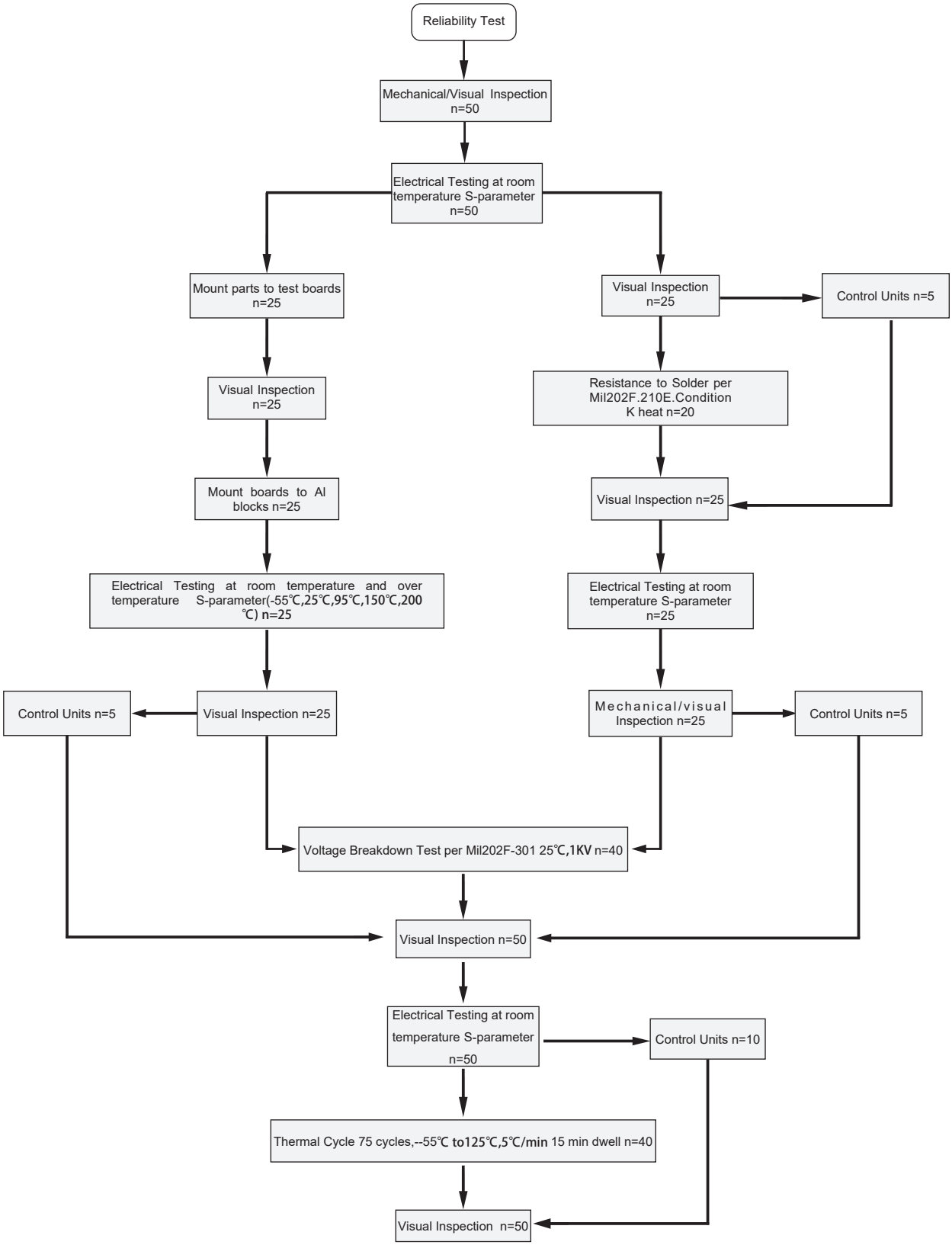
Reliability Test Flow



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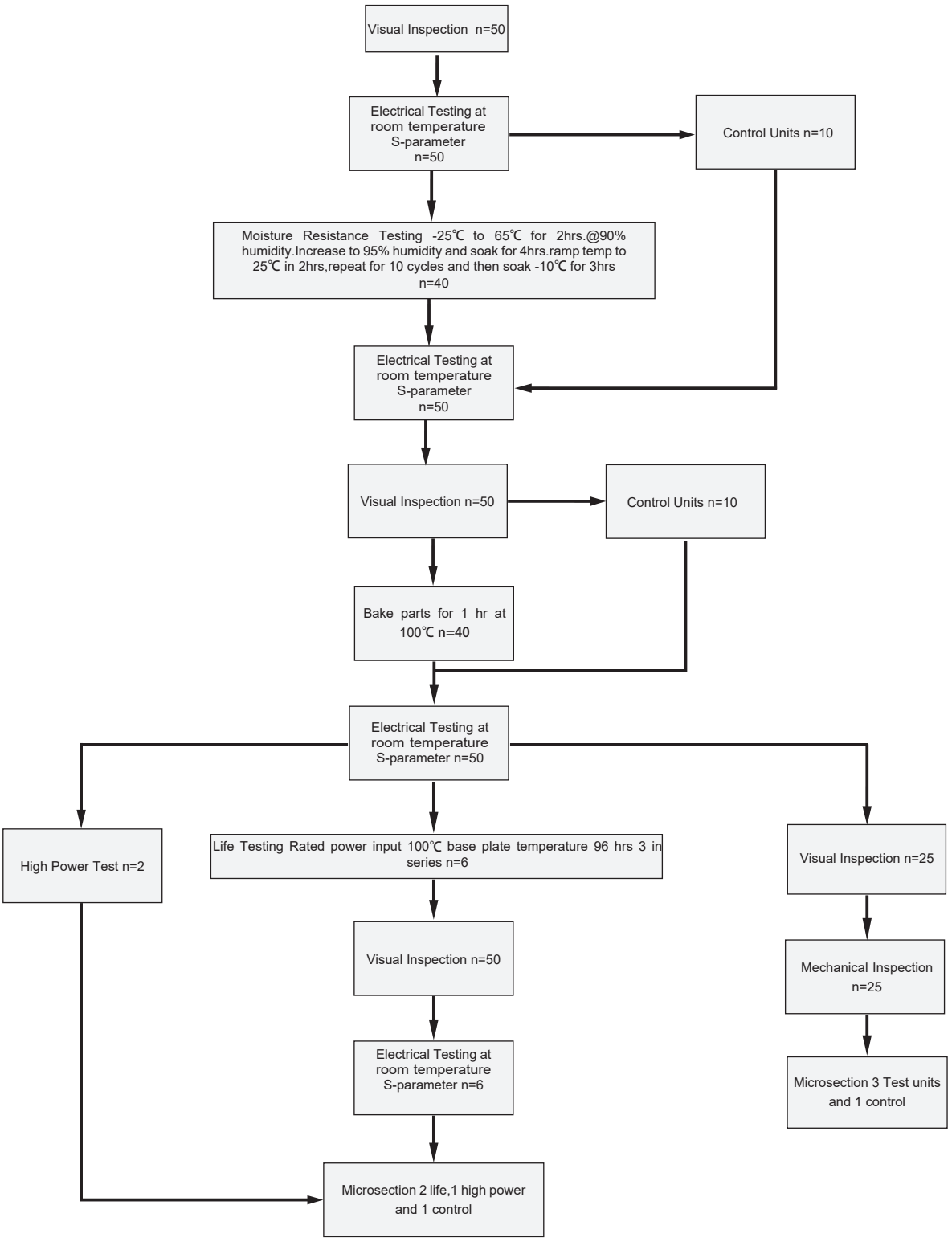

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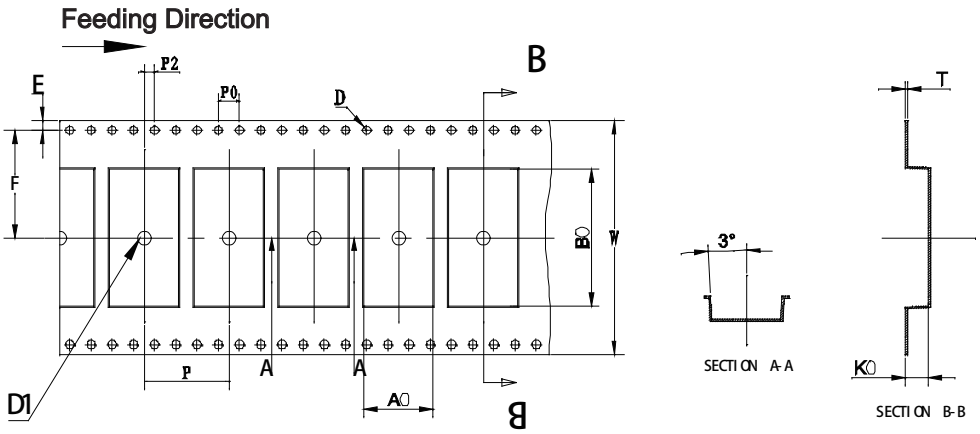
Tape and Reel Drawing



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.

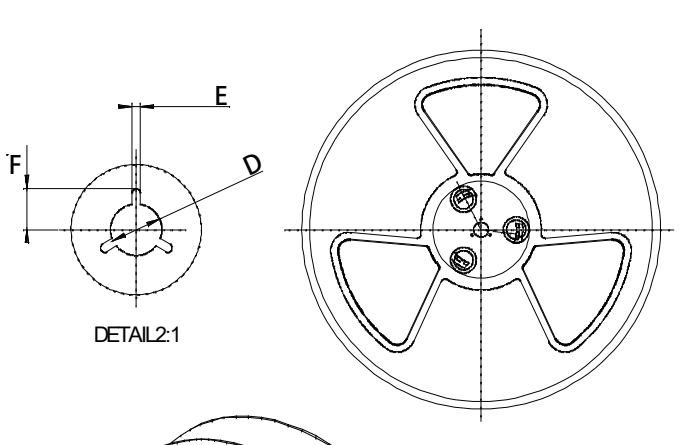
E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.

F. Material: PE 100

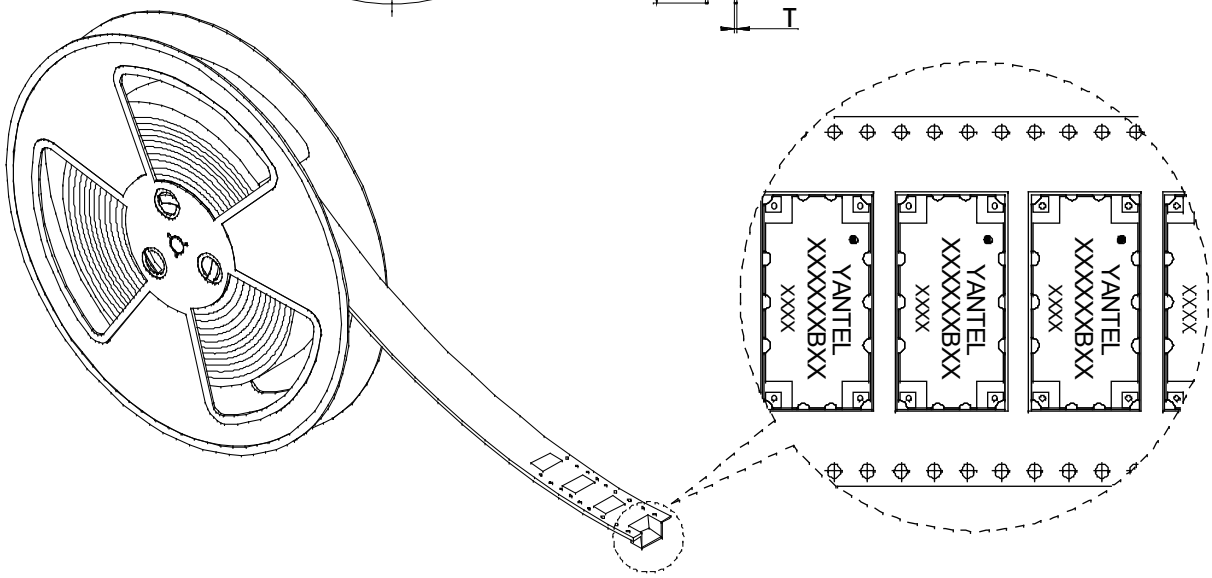
G. Thickness: 0.40±0.05mm

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



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