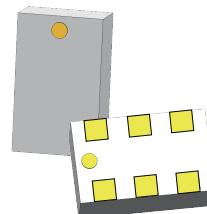


Description

The products are widely used in China and global 4G/5G base station, 5G network coverage, BeiDou navigation antenna, vehicle-mounted high-precision navigation (unmanned) antenna and other applications. The products have miniaturization, low-loss, wide-bandwidth, high power density, high reliability, high cost-effective and other competitive advantages.



Features:

- 2300-5000MHz
- High Return Loss
- 0.5mm Height Profile
- 50Ω Input / 50Ω Outputs
- Low Insertion Loss
- Surface Mountable
- Tape & Reel
- Non-conductive Surface
- RoHS Compliant
- External resistor required
- Halogen Free

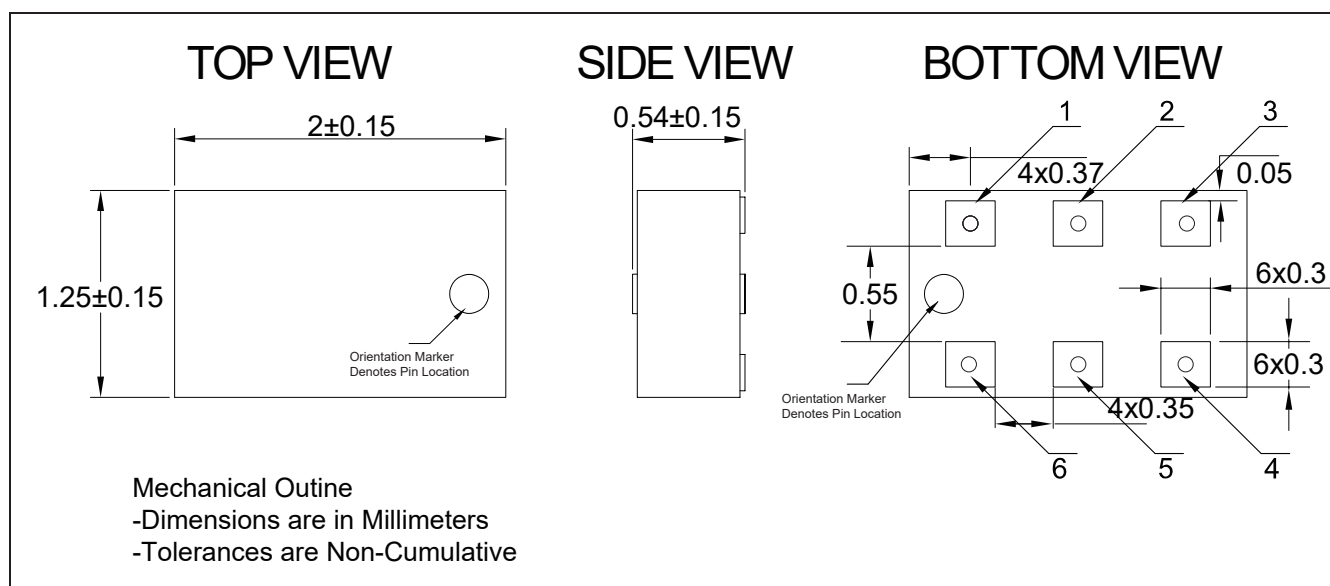
Electrical Specifications

Frequency	Isolation	Insertion Loss	Return Loss
MHz	dB Min	dB Max	dB Min
2300-3800	13.0	0.55	11
3400-3800	17.0	0.60	18
3100-5000	10.0	0.65	13
Amplitude Balance	Phase Balance	Power	Operating Temp.
dB Max	Degrees	Avg. CW Watts at 105°C	°C
± 0.3	± 2.0	3	-55 to +140
± 0.3	± 2.0	3	-55 to +140
± 0.4	± 2.0	3	-55 to +140

Notes:

1. All the above data are based on specified demo board.
2. Insertion loss: Thru board loss has been removed.
3. The part cannot be used near the shielding case.

Mechanical Outline



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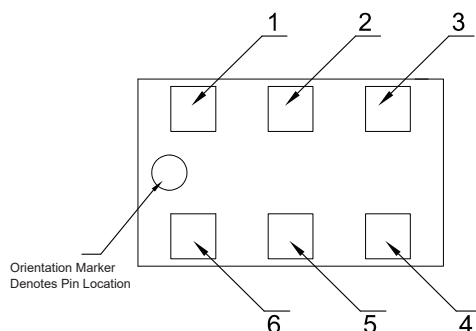
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Hybrid Coupler Pin Configuration

The PD40T03 has an orientation marker to denote Pin1. Once port one has been identified the other ports are known automatically. Please see the chart below for clarification:



Pin	Designation
1	GND
2	input
3	GND
4	Output 1
5	GND
6	Output 2

Typical Performance Data (@25°C)

Frequency (MHz)	S12 (dB)	S13 (dB)	Insertion Loss (dB)	S23 (dB)	Amplitude Balance (dB)	Phase (degree)	Return Loss(dB)		
							S11	S22	S33
2300	-3.42	-3.41	-0.42	-14.50	0.00	0.26	-13.24	-25.72	-25.70
2435	-3.39	-3.38	-0.38	-15.87	-0.01	0.22	-14.00	-24.87	-24.91
2570	-3.36	-3.35	-0.35	-17.51	-0.01	0.17	-14.87	-24.46	-24.75
2705	-3.32	-3.32	-0.32	-19.38	0.00	0.14	-15.86	-24.12	-24.76
2840	-3.30	-3.30	-0.30	-21.61	0.00	0.16	-17.06	-24.07	-24.82
2975	-3.29	-3.28	-0.28	-24.35	-0.01	0.21	-18.42	-24.08	-25.16
3110	-3.28	-3.27	-0.27	-27.26	0.00	0.22	-20.04	-23.73	-25.01
3245	-3.27	-3.27	-0.27	-29.03	0.00	0.17	-21.75	-23.58	-24.97
3380	-3.27	-3.27	-0.27	-28.03	0.00	0.20	-23.44	-23.28	-24.58
3515	-3.28	-3.28	-0.28	-25.31	-0.01	0.27	-24.60	-22.59	-24.04
3650	-3.29	-3.28	-0.29	-22.84	-0.01	0.24	-24.60	-21.99	-23.46
3785	-3.31	-3.29	-0.30	-20.73	-0.02	0.24	-23.36	-21.43	-22.77
3920	-3.33	-3.30	-0.31	-18.98	-0.03	0.19	-21.70	-20.66	-21.83
4055	-3.36	-3.32	-0.34	-17.41	-0.04	0.18	-20.28	-20.04	-21.11
4190	-3.39	-3.35	-0.37	-16.06	-0.04	0.12	-18.90	-19.39	-20.08
4325	-3.42	-3.39	-0.40	-14.78	-0.04	0.08	-17.92	-18.67	-19.31
4460	-3.45	-3.39	-0.42	-13.66	-0.06	-0.03	-17.11	-18.01	-18.54
4595	-3.47	-3.42	-0.45	-12.66	-0.06	-0.14	-16.67	-17.10	-17.56
4730	-3.50	-3.45	-0.47	-11.80	-0.05	-0.24	-16.36	-16.23	-16.55
4865	-3.51	-3.46	-0.49	-11.04	-0.06	-0.38	-16.27	-15.29	-15.52
5000	-3.53	-3.49	-0.51	-10.40	-0.05	-0.41	-16.07	-14.15	-14.34

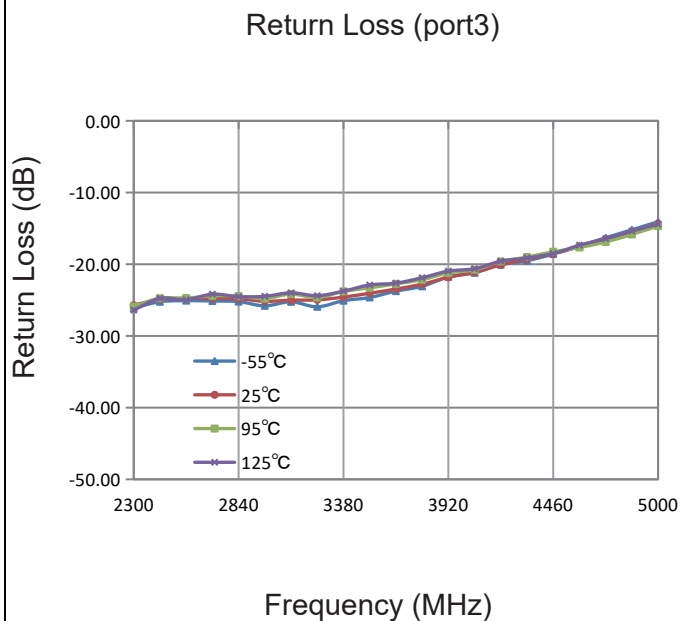
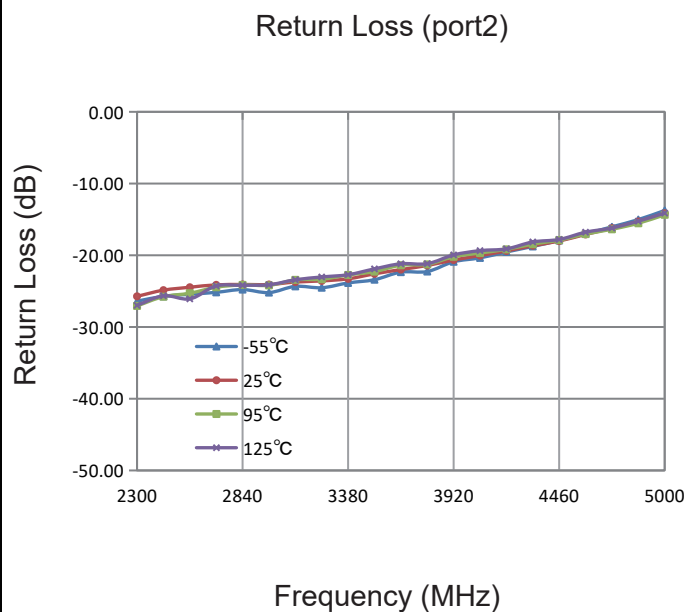
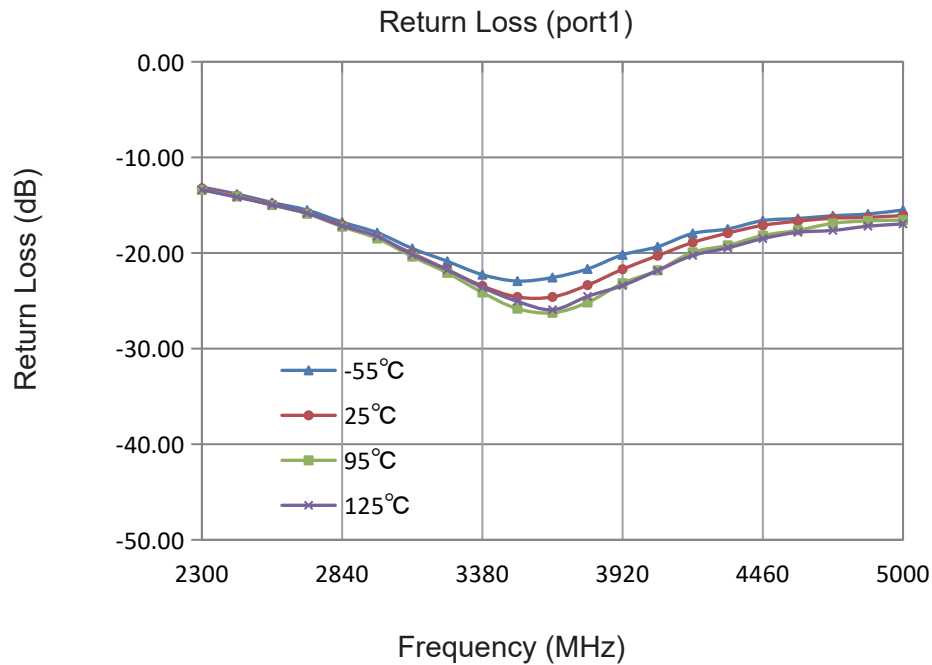
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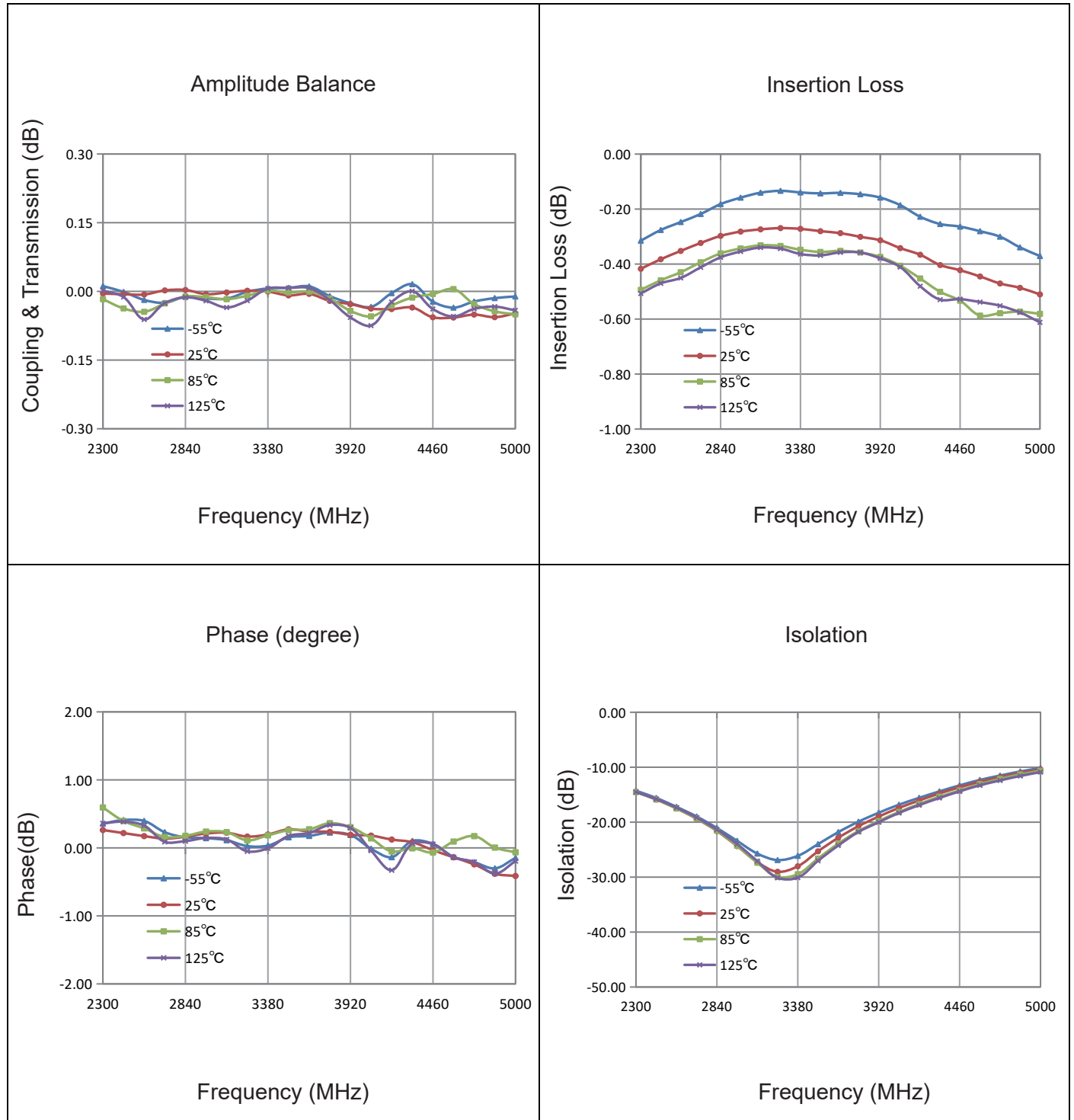
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Typical Performance (-55°C,25°C,95°C,125°C: 2300-5000 MHz)



Typical Performance (-55°C,25°C,95°C,125°C: 2300-5000 MHz)



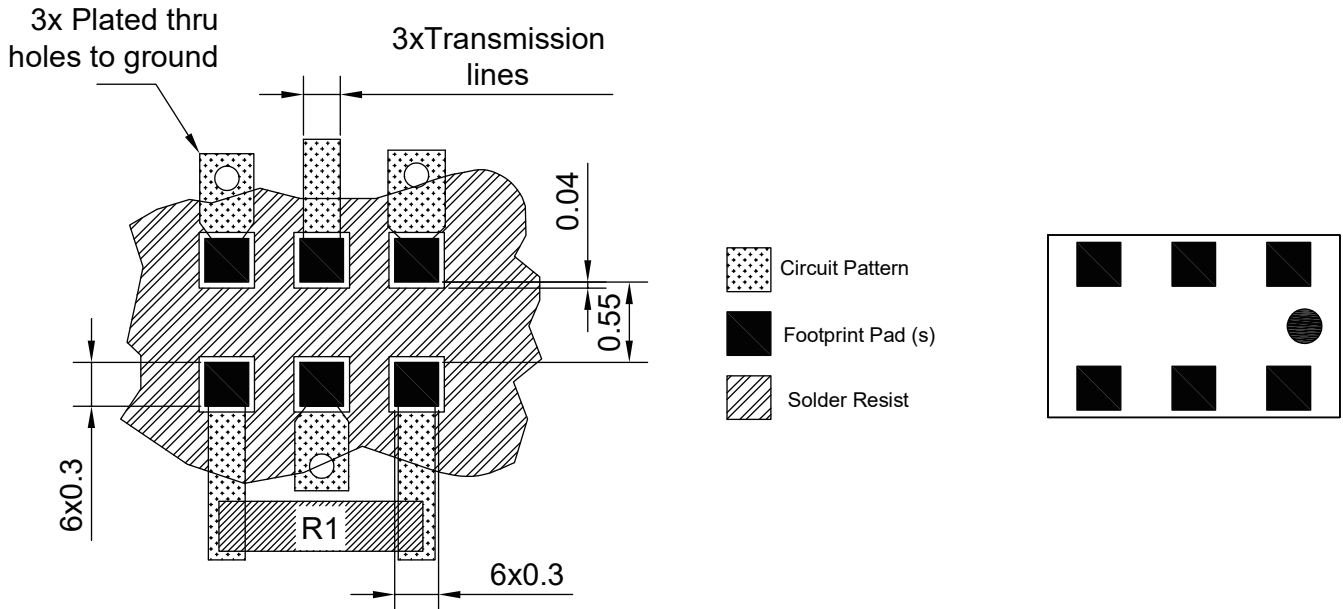
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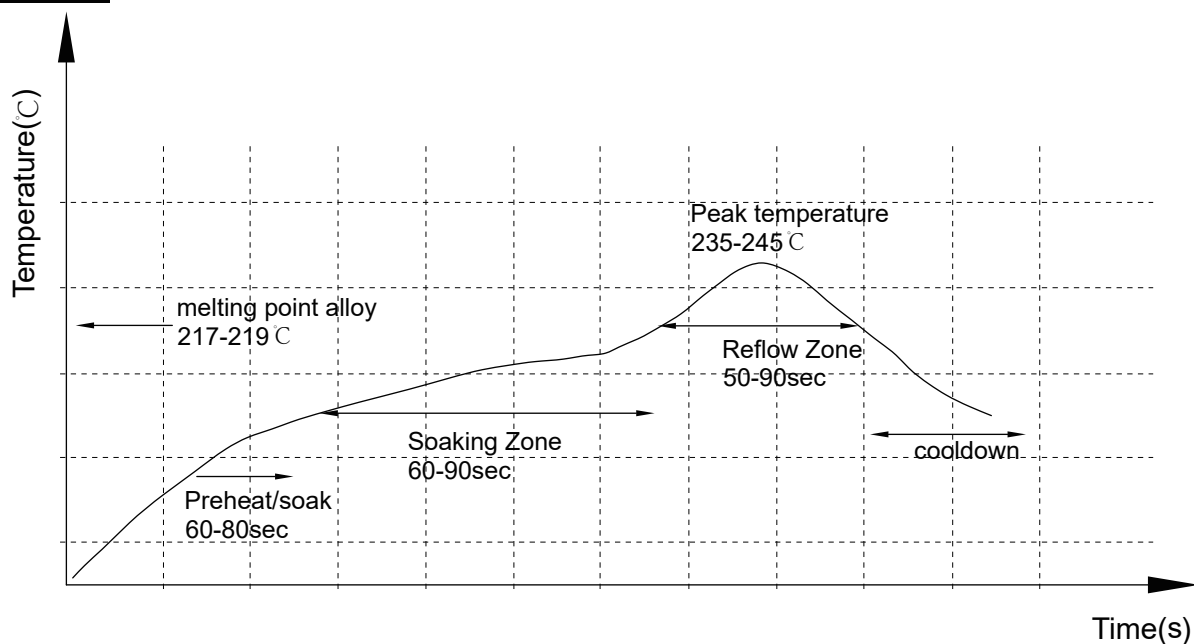
Recommended PCB Layout



NOTE:

1. 50 Ω line width is shown above designing.
2. Bottom side of the PCB is continuous ground plane.
3. All dimensions shown in mm [inch].

Reflow Profile



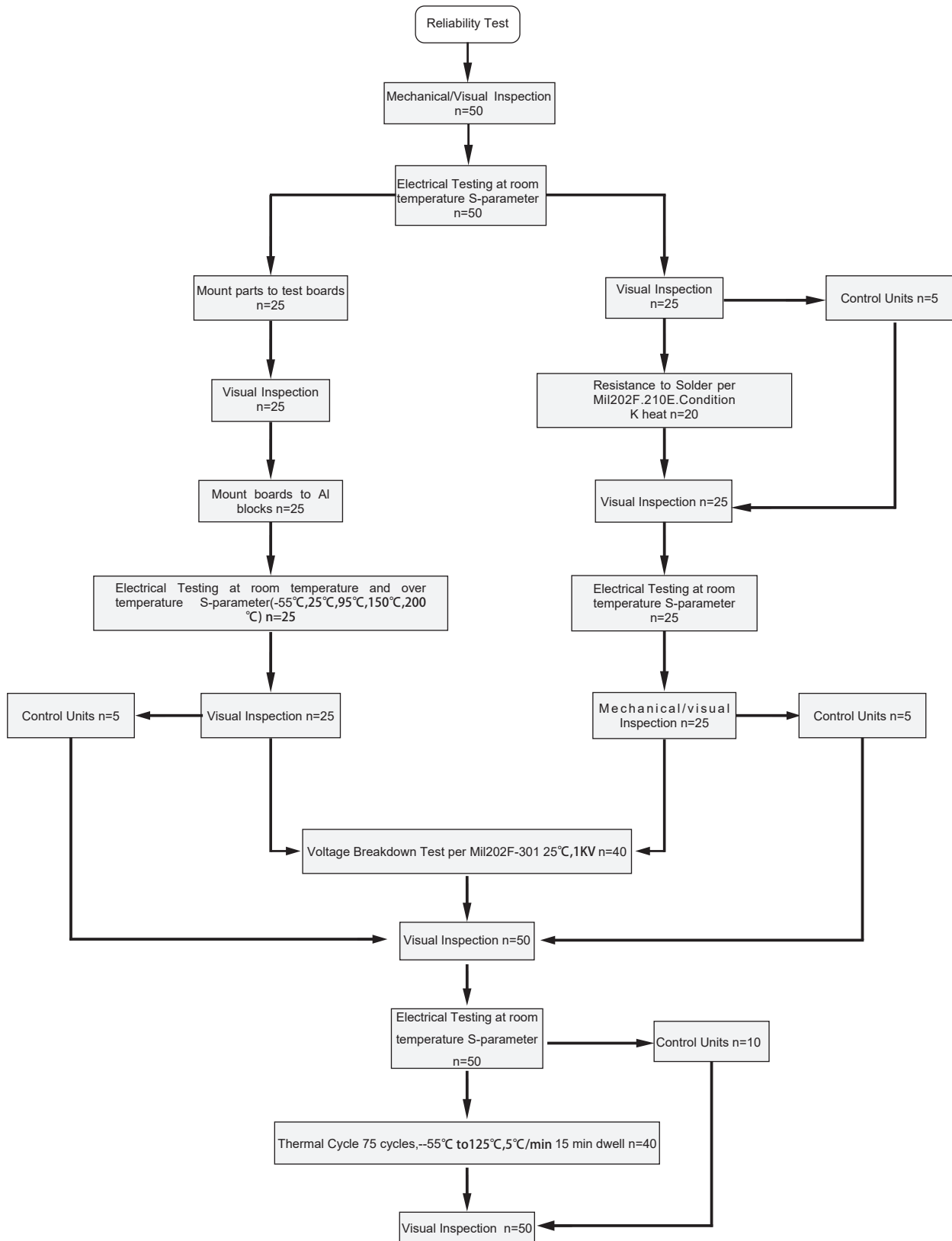
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Reliability Test Flow



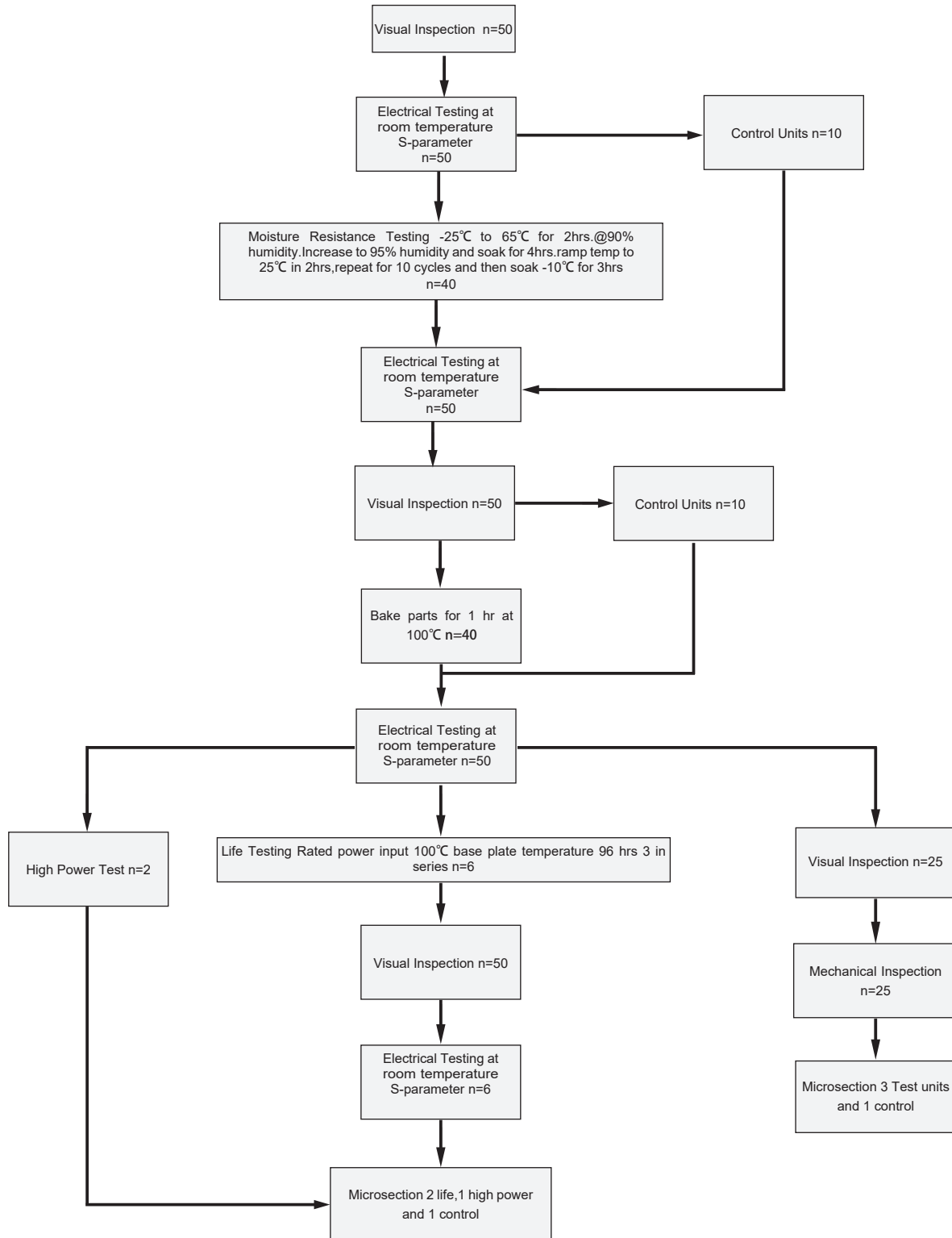
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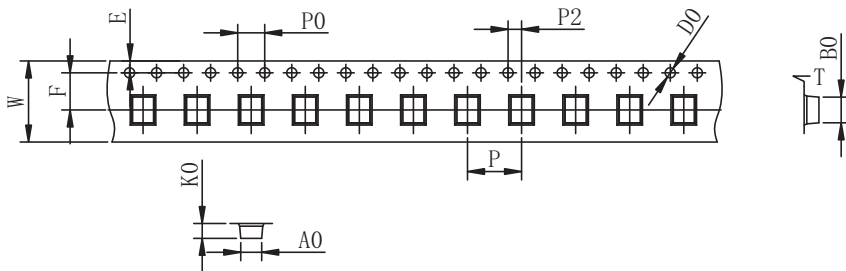
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Reliability Test Flow



Tape and Reel Drawing

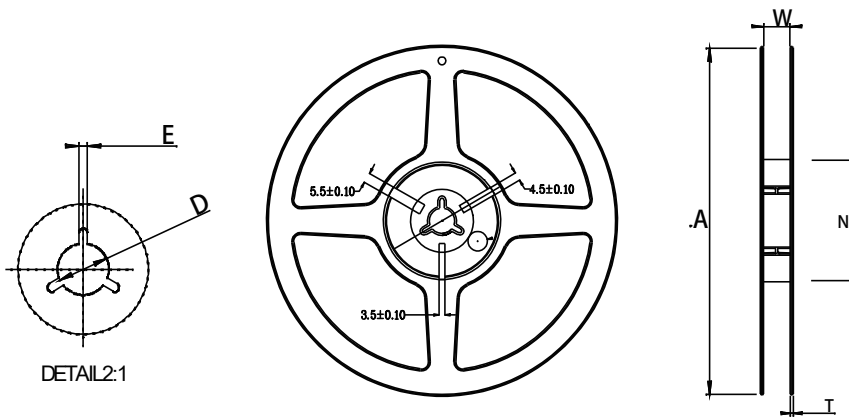
Feeding Direction



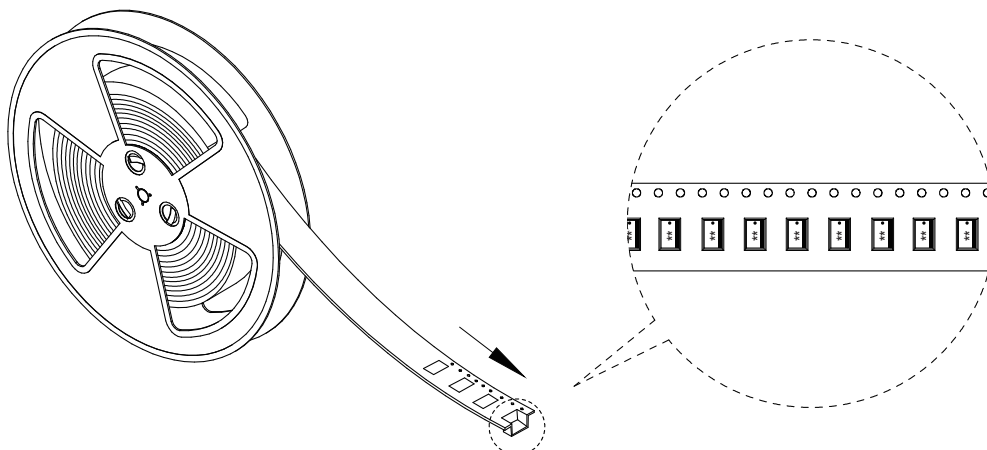
ITEM	W	A0	B0	K0	K1	P	F	E	D0	P0	P2	t	7"
DIM(mm)	8.0	1.45	2.30	1.00		4.0	3.5	1.75	1.5	4.0	2.0	0.2	P/R
TOLE	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.00	+0.10 -0.10	+0.10 -0.10	+0.05 -0.05	4000pcs

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: 0.30±0.05mm
- H. 4000 units (maximum) / T&R



Symbol	Dimensions(mm)
W	9.0±0.4
A	180±0.3
N	60±0.3
T	1.4±0.2
E	3±0.5
D	25±0.8



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