


REPLACEMENT PART REFERENCE GUIDE, YAT-4+

AN-70-038

ORIGINAL PART:	YAT-4+	
REPLACEMENT PART:	YAT-4A+	

Replacement Part has been judged by Mini-Circuits Engineering as a suitable replacement to Original Part.

MECHANICAL DIMENSIONS

Case Style: MC1630

Replacement part uses same case style as original part.

CONCLUSION:

1) **FORM-FIT-FUNCTIONAL ANALYSIS_a**:

The Replacement Part is Form, Fit compatible.

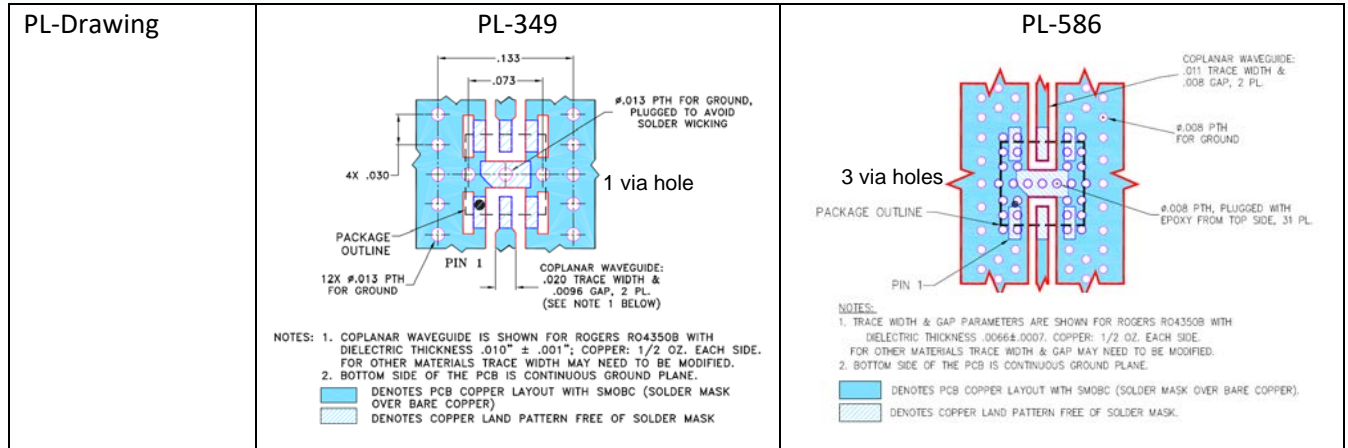
Following is a summary of changes/improvements in the Specification:

Parameter	Frequency (GHz)	Original Part	Replacement Part
Attenuation Min (dB)	DC-5	3.7	3.5
Attenuation Min (dB)	5-15	3.8	3.6
Attenuation Max (dB)		5.0	4.4
Attenuation Min (dB)	15-18	4.0	3.6
Attenuation Max (dB)		5.0	4.6
Input Power	DC-18	2W** at 25°C **Derate linearly to 1W at 85°C	1.7W** at 25°C **Derate linearly to 1W at 85°C

Evaluation Board redesigned to use 2.4 mm End-Launch connectors from Southwest to obtain repeatable electrical performance

Following is a summary of changes in Evaluation Board/Connectors/PL-Drawing:

Parameter	Original Part	Replacement Part
Evaluation Board	TB-621-4+	TB-YAT-4A+
Connectors	SMA End Launch	2.4mm End Launch



For typical performance and Graphs: See paragraphs 2 and 3

2) TYPICAL PERFORMANCE COMPARISON AT ROOM TEMPERATURE:

MODEL: YAT-4+, YAT-4A+ (RF Parameters)

Parameter	Frequency (MHz)		Original Part @ 1 Unit YAT-4+ on TB-621-4+			Replacement Part @ 5 Units YAT-4A+ on TB-YAT-4A+		
	Low	High	Min	Ave	Max.	Min	Ave	Max.
Attenuation (dB)	10	5000	3.95	3.98	4.07	3.87	3.92	3.98
	5000	15000	4.04	4.18	4.32	3.87	3.98	4.09
	15000	18000	4.32	4.36	4.40	4.00	4.07	4.18
Return Loss (dB) (Worse of In/Out)	10	5000	23.57	37.88	48.00	22.54	25.01	29.25
	5000	15000	16.69	19.23	23.57	16.76	22.37	30.45
	15000	18000	16.98	17.45	17.67	15.83	17.90	19.92
VSWR (:1) (Worse of In/Out)	10	5000	1.01	1.03	1.14	1.07	1.12	1.16
	5000	15000	1.14	1.25	1.34	1.06	1.16	1.34
	15000	18000	1.30	1.31	1.33	1.22	1.29	1.39

3) TYPICAL PERFORMANCE GRAPHS AT ROOM TEMPERATURE:





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