

REPLACEMENT PART REFERENCE GUIDE, AVA-24+

AN-60-076

ORIGINAL PART:

AVA-24+

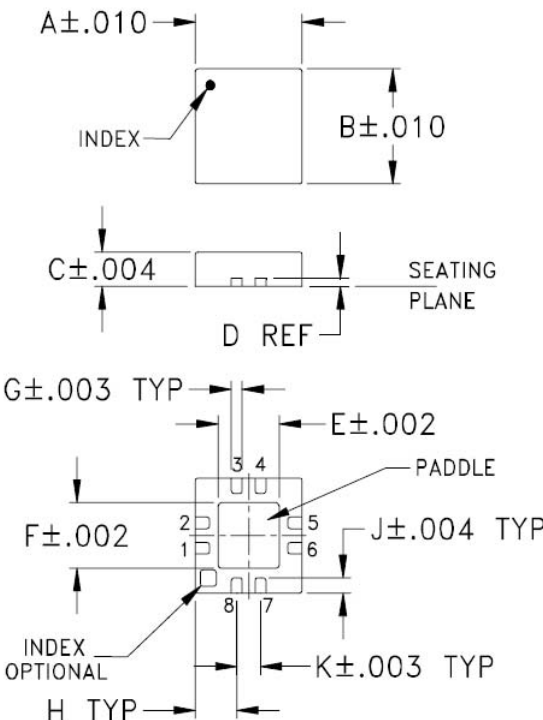
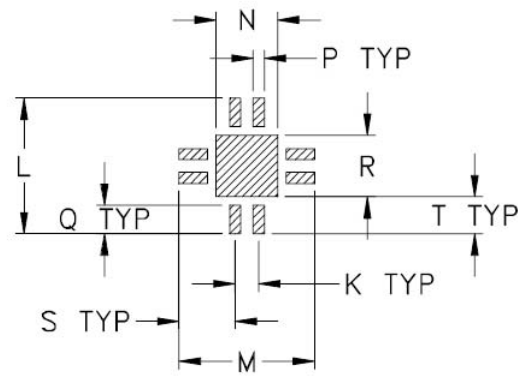
REPLACEMENT PART:

AVA-24A+



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

MECHANICAL DIMENSIONS & PCB LAND PATTERN

ORIGINAL PART: AVA-24+	REPLACEMENT PART: AVA-24A+
No Change	
<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;">  </div> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold; text-decoration: underline;">PCB Land Pattern</p>  <p style="text-align: center;">Suggested Layout, Tolerance to be within ±.002</p> </div> </div>	
<p>Marking</p> <p>AVA</p>	<p>Marking</p> <p>AVA2</p>

Notes:
a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

CONCLUSION:

1) FORM-FIT-FUNCTIONAL COMPATIBLE_a:

Replacement part is Form, Fit compatible. Following is a summary of changes/improvements:

Typical performance: See paragraphs 2 and 3

Min/Max Specifications, Thermal Resistance and Max Tj- see below:

Parameter	Original Part (AVA-24+)	Replacement Part (AVA-24A+)
Gain (dB)	18 GHz 10 min 20 GHz 9 min	11.3 typ. 8.5 min
Output Return Loss (dB)	8 GHz 10 min 10 GHz 10 min 16 GHz 10 min	10.6 typ. 13.1 typ. 11.3 typ.
Thermal resistance (°C/W)	47	53
Max Junction Temperature (°C)	160	150

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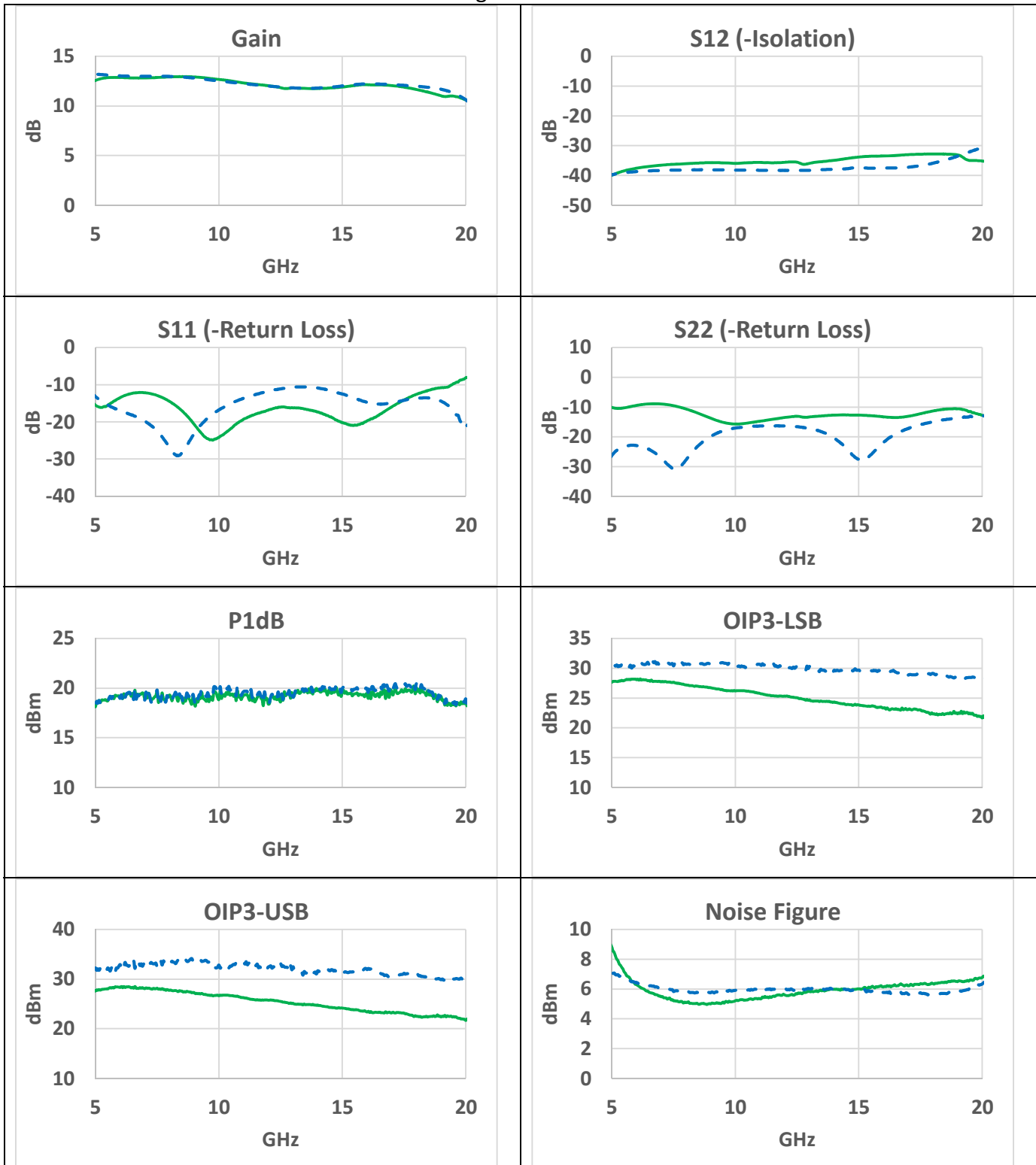
2) PERFORMANCE COMPARISON_a (TYPICAL):

	GHz	AVA-24A+ Replacement Part Qty: 9			AVA-24+ Original Part Ref Units: Qty: 1
		Min	Average	Max	
Gain (dB)	5	12.2	12.3	12.6	13.2
	8	12.8	13.0	13.2	13.0
	10	12.4	12.5	12.7	12.5
	12	11.8	11.9	12.1	12.0
	14	11.5	11.7	11.9	11.8
	16	11.6	12.0	12.2	12.2
	18	11.3	11.6	11.8	12.0
	20	10.1	10.5	11.0	10.6
Gain Flatness (dB)	5-20 GHz	1.1	1.3	1.5	1.3
Directivity (dB)	5	26.9	27.6	28.0	26.6
	8	21.9	22.7	23.1	25.1
	10	23.1	23.4	23.7	25.6
	12	23.4	23.8	24.2	26.3
	14	22.8	23.4	24.2	26.1
	16	20.9	21.7	23.0	25.3
	18	20.4	21.3	22.4	23.9
	20	23.2	24.5	26.4	20.0
RL-IN (dB)	5	12.2	13.8	15.5	13.2
	8	14.5	16.7	19.0	26.9
	10	19.3	23.7	38.8	16.8
	12	15.9	18.1	20.2	11.8
	14	15.7	19.0	23.7	10.9
	16	13.8	16.6	19.7	14.7
	18	9.2	11.1	12.9	13.6
	20	7.0	7.6	8.1	21.7
RL-OUT (dB)	5	9.2	9.6	10.2	26.3
	8	10.6	11.9	12.9	27.8
	10	13.1	14.5	16.4	17.1
	12	11.6	13.1	14.7	16.3
	14	11.8	12.5	13.4	20.4
	16	11.3	12.8	14.8	21.9
	18	11.3	12.8	16.7	15.0
	20	11.4	13.1	16.0	13.0
OIP3-Min of LSB & USB (dBm) Pout=8 dBm/tone	5	27.2	27.5	27.8	30.6
	8	26.6	26.9	27.4	30.7
	10	25.7	26.0	26.5	30.6
	12	25.0	25.2	25.7	30.3
	14	24.0	24.2	24.7	29.7
	16	22.9	23.2	23.6	29.7
	18	22.0	22.2	22.5	29.1
	20	21.4	21.7	22.0	28.3
P1dB (dBm)	5	18.1	18.2	18.3	18.9
	8	19.1	19.4	19.6	19.1
	10	18.9	19.3	19.5	18.5
	12	18.4	18.7	18.9	18.8
	14	19.7	20.0	20.1	19.0
	16	19.4	19.8	20.1	18.8
	18	20.0	20.3	20.5	18.6
	20	18.6	18.8	19.1	19.5
NF (dB)	5	8.6	8.8	9.0	7.2
	8	4.8	4.9	5.1	5.8
	10	5.2	5.2	5.3	5.9
	12	5.5	5.6	5.7	6.0
	14	5.8	5.9	6.0	6.0
	16	6.0	6.1	6.3	5.8
	18	6.2	6.4	6.7	5.7
	20	6.6	6.7	6.9	6.3
DC Current (mA)		116.3	119.5	122.4	128.8

Notes:
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3) PERFORMANCE COMPARISON CURVES^a (TYPICAL):

— Data of Replacement Part
- - - Data of Original Part



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