

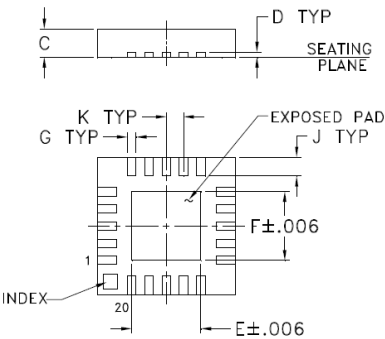
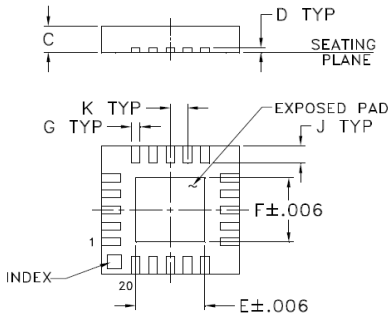
REPLACEMENT PART REFERENCE GUIDE, DAT-15R5-SN+: AN-70-017

ORIGINAL PART: DAT-15R5-SN+
 REPLACEMENT PART: DAT-15R5A-SN+

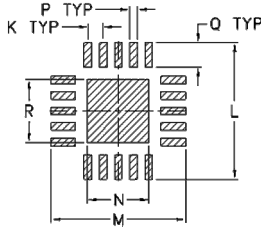


Replacement Part has been judged by Mini-Circuits Engineering as a suitable replacement to Original Part^a

MECHANICAL DIMENSIONS & PCB LAND PATTERN

ORIGINAL PART: DAT-15R5-SN+	REPLACEMENT PART: DAT-15R5A-SN+																
<p>Case Style: DG983-1</p>  <p>Inches (mm)</p> <table border="1"> <thead> <tr> <th>C</th> <th>E</th> <th>F</th> <th>G</th> </tr> </thead> <tbody> <tr> <td>.035 (0.90)</td> <td>.081 (2.06)</td> <td>.081 (2.06)</td> <td>.010 (0.25)</td> </tr> </tbody> </table>	C	E	F	G	.035 (0.90)	.081 (2.06)	.081 (2.06)	.010 (0.25)	<p>Case Style: DG983-2 (minor dimensional changes as below)</p>  <p>inches (mm)</p> <table border="1"> <thead> <tr> <th>C</th> <th>E</th> <th>F</th> <th>G</th> </tr> </thead> <tbody> <tr> <td>.033 (0.85)</td> <td>.085 (2.15)</td> <td>.085 (2.15)</td> <td>.009 (0.23)</td> </tr> </tbody> </table> <p>Note: Dimensions not shown are same as that in DG983-1</p>	C	E	F	G	.033 (0.85)	.085 (2.15)	.085 (2.15)	.009 (0.23)
C	E	F	G														
.035 (0.90)	.081 (2.06)	.081 (2.06)	.010 (0.25)														
C	E	F	G														
.033 (0.85)	.085 (2.15)	.085 (2.15)	.009 (0.23)														

Suggested PCB Land Pattern



K	L	M	N	P	Q	R
.020 (0.50)	.177 (4.50)	.177 (4.50)	.081 (2.06)	.010 (0.25)	.032 (0.81)	.081 (2.06)

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:

Parameter		DAT-15R5-SN+ (Original Part)	DAT-15R5A-SN+ (Replacement Part)
V _{DD} (V)		+2.7 to +3.3	+2.3 to +3.6, usable to +5.2V
V _{SS} (V)		-3.3 min to -2.7 max	-3.6 min to -3.2 max
Control input High (V)		0.7V _{DD} to V _{DD}	+1.17 to +3.6
Control input Low (V)		0 to 0.3V _{DD}	-0.3 to +0.6
I _{DD} (μA)		100 μA max. During turn-on and transition between attenuation states, device may draw up to 2mA.	100 μA max.
I _{SS} (μA)		100 max	40 max
Control Current (μA)		1 max	1 max, 30μA typ for CO.5 and 2μA typ. for LE at +3.6V
Attenuation accuracy	<u>Step</u> (dB)	<u>Freq</u> (GHz)	<u>Spec max</u>
	0.5	2.2-2.4	0.3
		2.4-4.0	0.3
	1.0	2.2-2.4	0.3
		2.4-4.0	0.3
	2.0	2.2-2.4	0.45
		2.4-4.0	0.45
	4.0	2.2-2.4	0.45
		2.4-4.0	0.45
	8.0	1-2.2	0.25
2.2-2.4		0.8	
Attenuation (dB)			
		1-2.2	2.5
		2.2-2.4	4.7
		2.2-4	4.7
VSWR (:1) (1-2.4 GHz)		1.5 max	1.6 Max
Operating Temperature (°C)		-40 to 85	-40 to 105
Storage Temperature(°C)		-55 to 100	-65 to 150
ESD (HBM)		Pass 500V	Pass 1500V
Max Operating Power		Not Specified	From 10 kHz to 50 MHz per Figure 1 (in Model Data Sheet) and +24 dBm above 50 MHz
Absolute Max input Power (dBm)		+24	+30

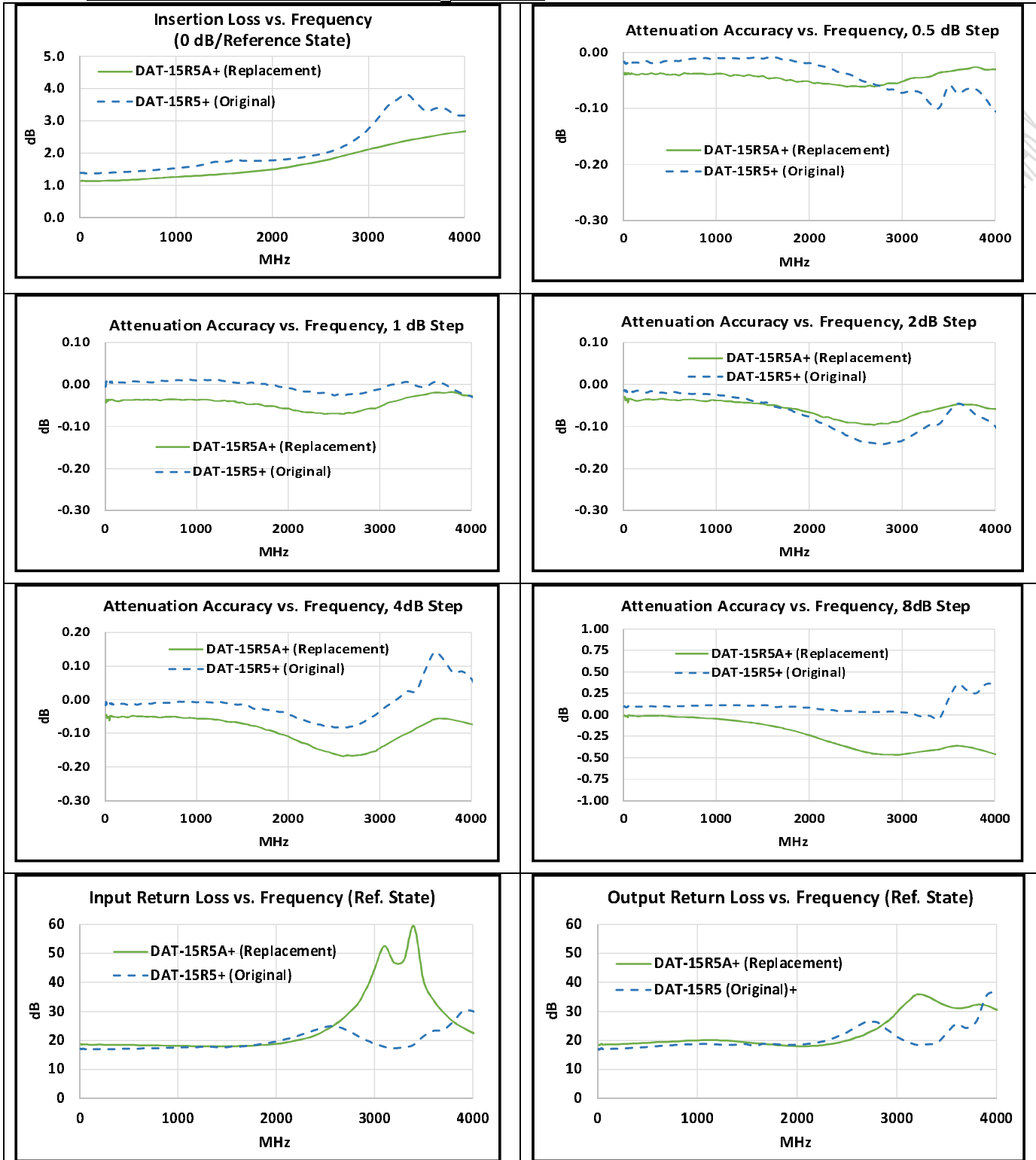
Notes:
a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions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

2) PERFORMANCE COMPARISON_a (TYPICAL):

Parameter	Frequency (GHz)	DAT-15R5-SN+ (Original Part)	DAT-15R5A-SN+ (Replacement Part)
		Average	Average
I. Loss(dB)	0.01 to 1	1.43	1.20
	1 to 2.2	1.74	1.43
	1 to 2.4	1.76	1.46
	2.2 to 4	2.62	2.09
Step Accuracy 0.5 dB Step (dB)	0.01 to 1	0.02	0.03
	1 to 2.2	0.01	0.04
	1 to 2.4	0.02	0.04
	2.2 to 4	0.06	0.04
Step Accuracy 1.0 dB Step (dB)	0.01 to 1	0.00	0.03
	1 to 2.2	0.00	0.04
	1 to 2.4	0.01	0.04
	2.2 to 4	0.03	0.04
Step Accuracy 2.0 dB Step (dB)	0.01 to 1	0.03	0.03
	1 to 2.2	0.06	0.04
	1 to 2.4	0.06	0.05
	2.2 to 4	0.12	0.07
Step Accuracy 4.0 dB Step (dB)	0.01 to 1	0.02	0.03
	1 to 2.2	0.02	0.06
	1 to 2.4	0.03	0.07
	2.2 to 4	0.02	0.10
Step Accuracy 8.0 dB Step (dB)	0.01 to 1	0.04	0.02
	1 to 2.2	0.06	0.11
	1 to 2.4	0.05	0.13
	2.2 to 4	0.08	0.35
Input R. Loss (dB)	0.01 to 1	16.9	18.2
	1 to 2.2	18.3	18.2
	1 to 2.4	18.9	18.5
	2.2 to 4	22.5	18.2
Output R. Loss	0.01 to 1	17.4	18.7
	1 to 2.2	18.4	18.8
	1 to 2.4	18.7	18.7
	2.2 to 4	22.7	17.8

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.

3) PERFORMANCE COMPARISON CURVES^a (TYPICAL):



Note: DAT-15R5+ is same as DAT-15R5-SN+ and DAT-15R5A+ is same as DAT-15R5A-SN+

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.