

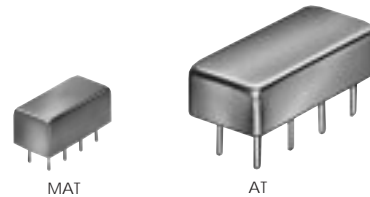
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# FIXED ATTENUATORS

50 & 75 Ω

Plug-In

1/2W, 1W 1 to 40 dB, DC to 2000 MHz



MODEL NO.	FREQ. RANGE MHz $f_c$ - $f_u$	ATTENUATION dB				VSWR (:1) Max.			POWER W	CASE STYLE Note B	CONNECTION	PRICE \$ Qty. (1-9)
		Nom.	FLATNESS, Max.			L	M	U				
MAT-1	DC-1500	1±0.2	0.3	0.4	0.5	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-2	DC-1500	2±0.2	0.3	0.4	0.8	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-3	DC-1500	3±0.2	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-4	DC-1500	4±0.2	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-5	DC-1500	5±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-6	DC-1500	6±0.3	0.3	0.6	1.0	1.3	1.5	1.7		A11	cr	4.45
MAT-7	DC-1500	7±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-8	DC-1500	8±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-9	DC-1500	9±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-10	DC-1500	10±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-12	DC-1500	12±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-15	DC-1500	15±0.4	0.4	0.7	1.1	1.3	1.5	1.7	0.5	A11	cr	4.45
MAT-20	DC-1500	20±0.5	0.4	0.8	1.3	1.3	1.6	1.8	0.5	A11	cr	4.45
MAT-25	DC-1500	25±0.5	0.4	0.8	1.3	1.3	1.6	1.8	0.5	A11	cr	4.45
MAT-30	DC-1000	30±0.5	0.5	1.0	—	1.3	1.6	—	0.5	A11	cr	4.45
MAT-40	DC-500	40±0.6	1.0	—	—	1.5	—	—	0.5	A11	cr	4.45
AT-1	DC-1500	1±0.2	0.3	0.4	0.5	1.3	1.5	1.7	1	A04	cr	3.65
AT-2	DC-1500	2±0.2	0.3	0.4	0.8	1.3	1.5	1.7	1	A04	cr	3.65
AT-3	DC-1500	3±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
■ AT-3-75	DC-500	3±0.2	0.9	—	—	2.0	—	—	1	A04	cr	3.65
AT-4	DC-1500	4±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-5	DC-1500	5±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-6	DC-1500	6±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
■ AT-6-75	DC-500	6±0.3	1.0	—	—	2.0	—	—	1	A04	cr	3.65
AT-7	DC-1500	7±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-8	DC-1500	8±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-9	DC-1500	9±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-10	DC-1500	10±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
■ AT-10-75	DC-500	10±0.4	1.0	—	—	2.0	—	—	1	A04	cr	3.65
AT-12	DC-1500	12±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	A04	cr	3.65
AT-15	DC-1500	15±0.4	0.4	0.7	1.1	1.3	1.5	1.7	1	A04	cr	3.65
■ AT-15-75	DC-500	15±0.4	0.8	—	—	1.5	—	—	1	A04	cr	3.65
AT-20	DC-1500	20±0.5	0.4	0.8	1.3	1.3	1.6	1.8	1	A04	cr	3.65
■ AT-20-75	DC-500	20±0.5	1.1	—	—	2.0	—	—	1	A04	cr	3.65
AT-30	DC-1000	30±0.5	0.5	1.0	—	1.3	1.6	—	1	A04	cr	3.65
AT-40	DC-500	40±0.6	1.0	—	—	1.5	—	—	1	A04	cr	3.65

L = DC-500 MHz

M = DC-1000 MHz

U = DC- $f_u$

**NOTES:**

- ◆ PAT models, aqueous washable
  - Non-hermetic
  - Denotes 75 ohm models.
  - \* Attenuation Flatness over DC-2000 MHz: 0.75 dB typ.
  - \*\* VSWR over DC-2000 MHz: 1.45 (typ.)
  - A. General Quality Control Procedures, Environmental Specifications, Hi-Rel and MIL description are given in General Information (Section 0).
  - B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & outline drawings".
  - C. Prices and specifications subject to change without notice.
- For PAT models:
1. RF power at 25° C case temp.: 1 Watt.
  2. Attenuation and VSWR at 25° C case temp.

**NSN GUIDE**

**MCL NO. NSN**

AT-6	5985-01-275-0339	MAT-6	5985-01-295-0261
MAT-1	5985-01-265-8138	MAT-7	5985-01-326-6978
MAT-10	5985-01-294-4719	MAT-9	5985-01-332-4595
MAT-15	5985-01-294-4720	PAT-3	5985-01-460-6040
MAT-2	5985-01-336-3058	PAT-6	5985-01-460-6042
MAT-20	5985-01-294-4721	PAT-10	5985-01-460-6045
MAT-3	5985-01-274-6609	PAT-15	5985-01-460-6043
MAT-4	5985-01-326-6977		
MAT-5	5985-01-336-3720		



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010521

Surface Mount

# 1W MINIATURE CERAMIC 1 to 30 dB, DC to 7000 MHz



PAT

MODEL NO. ◆	FREQ. RANGE MHz $f_L$ - $f_U$	ATTENUATION dB			VSWR (:1) Max.			POWER W	CASE STYLE	CON- FIG- UR- N	PRICE \$	
		Nom.	$L$	$M$	$U$	$L$	$M$					$U$
PAT-1	DC-7000	1±0.2	0.3	0.4	0.7	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-2	DC-7000	2±0.2	0.3	0.5	0.9	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-3	DC-7000	3±0.3	0.3	0.5	0.9	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-4	DC-7000	4±0.3	0.3	0.5	0.9	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-5	DC-7000	5±0.3	0.3	0.5	1.0	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-6	DC-7000	6±0.3	0.3	0.5	1.1	1.2	1.3	1.4	1	AF320	hl	2.95
PAT-7	DC-7000	7±0.3	0.4	0.6	1.3	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-8	DC-7000	8±0.4	0.4	0.6	1.5	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-9	DC-7000	9±0.4	0.4	0.6	1.7	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-10	DC-7000	10±0.4	0.4	0.6	1.7	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-12	DC-7000	12±0.6	0.5	0.6	1.8	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-15	DC-7000	15±0.6	0.5	0.7	2.4	1.3	1.4	1.5	1	AF320	hl	2.95
PAT-20	DC-7000	20±1.3	0.5	0.7	2.6	1.4	1.4	1.5	1	AF320	hl	2.95
PAT-30	DC-7000	30±1.7	0.4	0.9	2.8	1.4	1.4	1.5	1	AF320	hl	2.95

$L$  = DC-1000 MHz

$M$  = DC-2500 MHz

$U$  = DC- $f_U$

### features

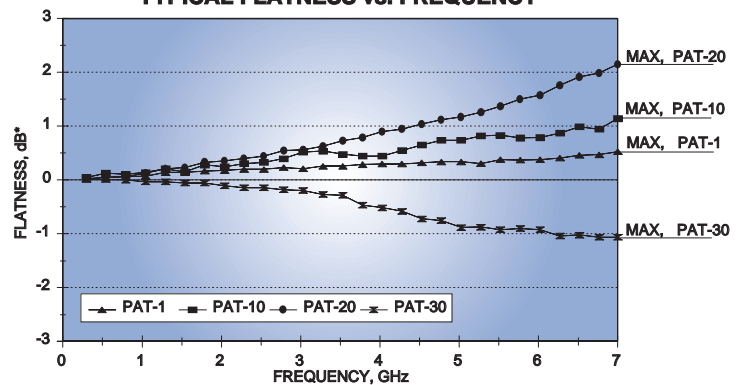
- low-cost ceramic package.
- wideband DC - 7 GHz frequency coverage.
- excellent VSWR throughout entire band.
- miniature size.

### marking code:

2 digits for nominal  
attenuation value.

examples: 03 for PAT-3, 20 for PAT-20

TYPICAL FLATNESS vs. FREQUENCY



\*0 dB on flatness graph corresponds to actual low frequency attenuation value.

### designers kits available

KIT NO.	MODEL TYPE	No. of Units in Kit	DESCRIPTION	PRICE \$ per kit
K1-PAT	PAT	20	4 of each 3, 6, 10, 15, 20	49.95

### pin connections

see case style outline drawings

PORT	cr	hl
INPUT	1	1
OUTPUT	8	3
GND	2,3,4,5,6,7	2,4



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# FIXED ATTENUATORS

50 & 75Ω

Coaxial

Up to 2W 0.5 to 40 dB, DC to 6000 MHz



CAT

MODEL NO.	FREQ. RANGE MHz $f_l$ - $f_u$	ATTENUATION dB				VSWR (:1) Max.			POWER W	CASE STYLE Note B	PRICE \$ Qty. (1-9)	
		Nom.	$\underline{L}$	$\underline{M}$	$\underline{U}$	$\underline{L}$	$\underline{M}$	$\underline{U}$				
CAT-1	DC-1500	1±0.2	0.3	0.4	0.5	1.3	1.5	1.7	1	FF55	-	16.95
CAT-2	DC-1500	2±0.2	0.3	0.4	0.8	1.3	1.5	1.7	1	FF55	-	16.95
CAT-3	DC-1500	3±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
■ CAT-3-75	DC-500	3±0.2	0.9	—	—	2.0	—	—	1	FF55	-	16.95
CAT-4	DC-1500	4±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-5	DC-1500	5±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-6	DC-1500	6±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
■ CAT-6-75	DC-500	6±0.3	1.0	—	—	2.0	—	—	1	FF55	-	16.95
CAT-7	DC-1500	7±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-8	DC-1500	8±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-9	DC-1500	9±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-10	DC-1500	10±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
■ CAT-10-75	DC-500	10±0.4	1.0	—	—	2.0	—	—	1	FF55	-	16.95
CAT-12	DC-1500	12±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF55	-	16.95
CAT-15	DC-1500	15±0.4	0.4	0.7	1.1	1.3	1.5	1.7	1	FF55	-	16.95
■ CAT-15-75	DC-500	15±0.4	0.8	—	—	1.5	—	—	1	FF55	-	16.95
CAT-20	DC-1500	20±0.5	0.4	0.8	1.3	1.3	1.6	1.8	1	FF55	-	16.95
■ CAT-20-75	DC-500	20±0.5	1.1	—	—	2.0	—	—	1	FF55	-	16.95
CAT-30	DC-1000	30±0.5	0.5	1.0	—	1.3	1.6	—	1	FF55	-	16.95
CAT-40	DC-500	40±0.6	1.0	—	—	1.5	—	—	1	FF55	-	16.95

$\underline{L}$  = DC-500 MHz

$\underline{M}$  = DC-1000 MHz

$\underline{U}$  = DC- $f_u$

**NOTES:**

- Denotes 75 ohm models. For coax connector models 75 ohm BNC connectors are standard.
- \* Attenuation Flatness over DC-2000 MHz:  
NAT-1-2W, 0.20 dB typ.; NAT-2-2W, 0.40 dB typ.; NAT-3-2W, 0.50 dB typ.  
NAT-4-2W, 0.8 dB typ.; NAT-5-2W, 0.9 dB typ.; NAT-6-2W, 1.0 dB typ.
- \*\* VSWR over DC-2000 MHz:  
NAT-2W models, 1.25 (typ.)
- A. General Quality Control Procedures, Environmental Specifications, Hi-Rel and MIL description are given in General Information (Section 0).
- B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & outline drawings".
- C. Prices and specifications subject to change without notice.

**NSN GUIDE**

MCL NO.	NSN
CAT-3	5985-01-447-0901
CAT-5	5985-01-299-9258
CAT-6	5985-01-300-0481
CAT-10	5985-01-380-3801
CAT-15	5985-01-299-9257
CAT-20	5985-01-265-0338
CAT-30	5985-01-296-0943
NAT-3	5985-01-298-0747
NAT-10	5985-01-291-5548
NAT-30	5985-01-298-0746
SAT-3	5985-01-418-0247
SAT-6	5985-01-237-5343
SAT-10	5985-01-250-4812
SAT-15	5985-01-418-0250
SAT-20	5985-01-454-7333
SAT-30	5985-01-190-6838



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MODEL NO.	FREQ. RANGE MHz $f_l-f_u$	ATTENUATION dB			VSWR (:1) Max.			POWER W	CASE STYLE Note B	NO. OF PINZOC	PRICE \$ Qty. (1-9)	
		Nom.	FLATNESS, Max.			L	M					U
			L	M	U	L	M	U				
SAT-0.5	DC-1500	0.5±0.1	0.2	0.3	0.3	1.2	1.2	1.3	1	FF56	-	20.95
SAT-1	DC-1500	1±0.2	0.3	0.4	0.5	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-2	DC-1500	2±0.2	0.3	0.4	0.8	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-2.5	DC-1500	2.5±0.2	0.2	0.4	0.7	1.2	1.2	1.3	0.25	FF56	-	20.95
SAT-3	DC-1500	3±0.2	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-4	DC-1500	4±0.2	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-5	DC-1500	5±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-6	DC-1500	6±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-7	DC-1500	7±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-8	DC-1500	8±0.3	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-9	DC-1500	9±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-10	DC-1500	10±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-12	DC-1500	12±0.4	0.3	0.6	1.0	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-15	DC-1500	15±0.4	0.4	0.7	1.1	1.3	1.5	1.7	0.5	FF56	-	20.95
SAT-20	DC-1500	20±0.5	0.4	0.8	1.3	1.3	1.6	1.8	0.5	FF56	-	20.95
SAT-30	DC-1000	30±0.5	0.5	1.0	—	1.3	1.6	—	0.5	FF56	-	20.95
SAT-40	DC-500	40±0.6	1.0	—	—	1.5	—	—	0.5	FF56	-	20.95
NAT-1	DC-1500	1±0.2	0.3	0.4	0.5	1.3	1.5	1.7	1	FF57	-	23.95
NAT-1-2W	DC-2000	1±0.2	0.2	0.3	0.5*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-2	DC-1500	2±0.2	0.3	0.4	0.8	1.3	1.5	1.7	1	FF57	-	23.95
NAT-2-2W	DC-2000	2±0.2	0.2	0.4	0.7*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-3	DC-1500	3±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-3-2W	DC-2000	3±0.2	0.3	0.4	0.7*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-4	DC-1500	4±0.2	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-4-2W	DC-2000	4±0.2	0.2	0.5	1.2*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-5	DC-1500	5±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-5-2W	DC-2000	5±0.2	0.2	0.5	1.2*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-6	DC-1500	6±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-6-2W	DC-2000	6±0.2	0.2	0.5	1.5*	1.3	1.4	1.5**	2	FF57	-	26.95
NAT-7	DC-1500	7±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-8	DC-1500	8±0.3	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-9	DC-1500	9±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-10	DC-1500	10±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-12	DC-1500	12±0.4	0.3	0.6	1.0	1.3	1.5	1.7	1	FF57	-	23.95
NAT-15	DC-1500	15±0.4	0.4	0.7	1.1	1.3	1.5	1.7	1	FF57	-	23.95
NAT-20	DC-1500	20±0.5	0.4	0.8	1.3	1.3	1.6	1.8	1	FF57	-	23.95
NAT-30	DC-1000	30±0.5	0.5	1.0	—	1.3	1.6	—	1	FF57	-	23.95
NAT-40	DC-500	40±0.6	1.0	—	—	1.5	—	—	1	FF57	-	23.95
			<u>L</u> <sub>1</sub>	<u>M</u> <sub>1</sub>	<u>U</u> <sub>1</sub>	<u>L</u> <sub>1</sub>	<u>M</u> <sub>1</sub>	<u>U</u> <sub>1</sub>				
NAT-1-60	DC-6000	1±0.2	0.4	0.8	1.1	1.2	1.5	1.5	1	FF57	-	26.95
NAT-2-60	DC-6000	2±0.2	0.4	0.8	1.2	1.2	1.4	1.4	0.9	FF57	-	26.95
NAT-3-60	DC-6000	3±0.2	0.4	1.0	1.4	1.2	1.4	1.4	0.65	FF57	-	26.95
NAT-4-60	DC-6000	4±0.2	0.4	1.0	1.5	1.2	1.3	1.5	0.5	FF57	-	26.95
NAT-5-60	DC-6000	5±0.2	0.4	0.9	1.2	1.2	1.3	1.5	0.5	FF57	-	26.95
NAT-6-60	DC-6000	6±0.2	0.4	0.7	0.9	1.15	1.25	1.5	0.5	FF57	-	26.95
NAT-7-60	DC-6000	7±0.2	0.3	0.7	0.9	1.2	1.3	1.4	0.45	FF57	-	26.95
NAT-8-60	DC-6000	8±0.2	0.2	0.5	1.0	1.2	1.3	1.4	0.35	FF57	-	26.95
NAT-9-60	DC-6000	9±0.2	0.2	0.7	1.3	1.2	1.2	1.45	0.225	FF57	-	26.95
NAT-10-60	DC-6000	10±0.2	0.3	0.9	1.9	1.2	1.2	1.5	0.225	FF57	-	26.95
NAT-12-42	DC-4200	12±0.2	0.3	0.8	1.8	1.2	1.2	1.2	0.25	FF57	-	26.95
NAT-15-30	DC-3000	15±0.2	0.3	0.8	1.5	1.2	1.2	1.2	0.2	FF57	-	26.95
NAT-20-21	DC-2100	20±0.3	0.3	0.9	1.6	1.15	1.15	1.15	0.2	FF57	-	26.95
NAT-25-21	DC-2100	25±0.3	0.4	1.0	1.9	1.2	1.2	1.2	0.175	FF57	-	26.95
NAT-30-15	DC-1500	30±0.3	0.5	0.9	1.7	1.15	1.2	1.25	0.15	FF57	-	26.95

$L$  = DC-500 MHz  
 $L_1$  = DC-(1/3) $f_u$

$M$  = DC-1000 MHz  
 $M_1$  = DC-(2/3) $f_u$

$U$  = DC- $f_u$   
 $U_1$  = DC- $f_u$



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