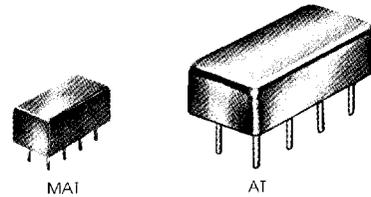


FIXED ATTENUATORS

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 NO. - Orientation	PRICE \$ Qty. (1-9)
		Nom.	L	M	U	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-25	DC-2000	25±0.5	0.4	0.8	1.3*	1.3	1.6	1.8**	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		

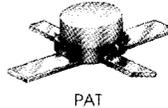


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Surface Mount □

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



MODEL NO.	FREQ. RANGE MHz f_c - f_u	ATTENUATION dB FLATNESS, Max.				VSWR (:1) Max.			POWER W	CASE STYLE Note B	PRICE \$ Qty. (10-49)	
		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

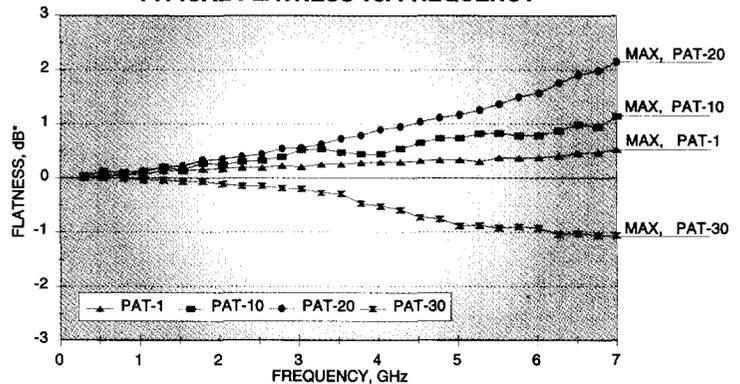
- low-cost ceramic package.
- wideband DC - 7 GHz frequency coverage.
- excellent VSWR throughout entire band.
- miniature size.

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



The Design Engineers Search Engine

Provides Actual Data Instantly
At: <http://www.minicircuits.com>

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For Custom Versions Of Standard Models
Consult Our Applications Dept.



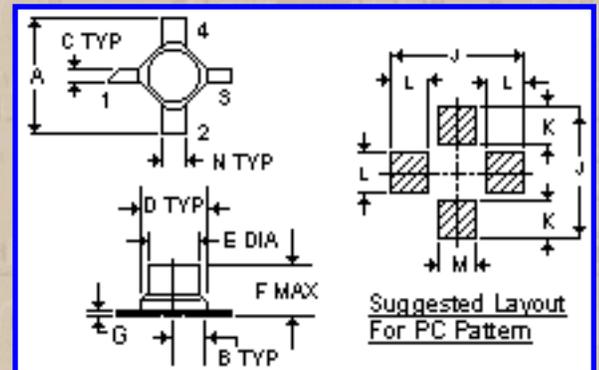
AF320^(inch mm)

A	B	C	D	E	F	G	H	J	
.200	.100	.020	.070	.068	.057	.005	.020	.230	
5.080	2.540	0.508	1.778	1.727	1.448	0.127	0.508	5.842	
K	L	M	N	P	Q	R	S	T	wt. grams.
.065	.060	.080	.040						0.04
1.651	1.524	2.032	1.016						

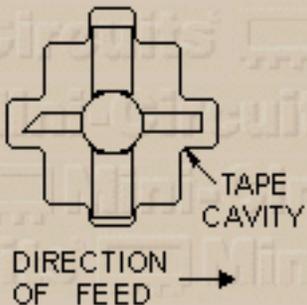
Tolerance: .x ± .1 .xx ± .03 .xxx ± .015 inch.

Notes:

- Material and Finish:
 - Case material: ceramic. Lead material: Kovar. Finish: Solder plate over nickel.
- Marking:
 - Lead (1) may have diagonal cut. Input and output interchangeable for PAT models only.
- Special Tolerances:
 - Lead width ±.005; lead thickness ±.002; cap diameter ±.005 inch.
- Packaging:



UNIT ORIENTATION



Packaging information:

Tape Width (mm): 12
 Reel Size (inches): 7
 Device Cavity Pitch (mm): 8
 Devices Per Reel: 1000

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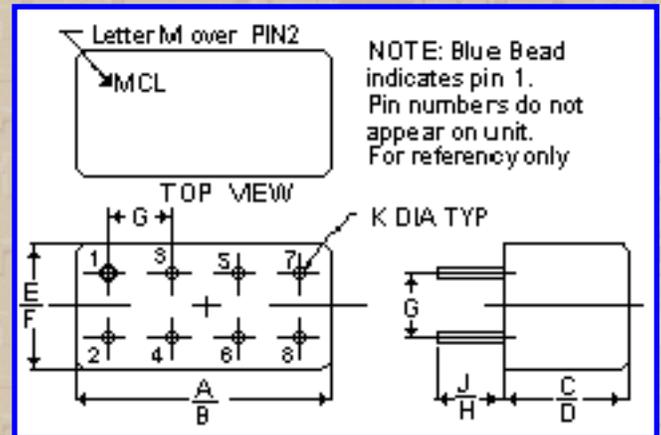
A11^(inch mm)

A	B	C	D	E	F	G	H	J	
.480	.500	.240	.255	.210	.230	.100	.20	.14	
12.192	12.700	6.096	6.477	5.334	5.842	2.540	5.080	3.556	
K	L	M	N	P	Q	R	S	T	wt. grams.
.020									1.9
0.508									

Tolerance: .x ± .1 .xx ± .03 .xxx ± .015 inch.

Notes:

- Material and Finish:
 - Header material: C.R.S. Pin material: #52 alloy. Finish: electro tin, hot-oil flowed. Cover material:upro-nickel.
- Mounting:
 - Insulated spacer available. Request P/N B-14-047-01.
 - Pin's meniscus (of header): 0.015" max.
- Special Tolerances:
 - Pin diameter ±.005 inch.



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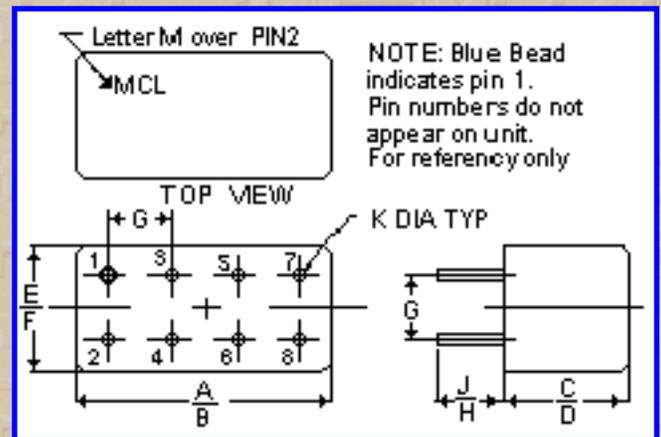
A04^(inch mm)

A	B	C	D	E	F	G	H	J	
.770	.800	.200	.210	.370	.400	.200	.20	.14	
19.558	20.320	5.080	5.334	9.398	10.160	5.080	5.080	3.556	
K	L	M	N	P	Q	R	S	T	wt. grams.
.031									3.7
0.787									

Tolerance: .x ± .1 .xx ± .03 .xxx ± .015 inch.

Notes:

- Material and Finish:
 - Header material: C.R.S. Pin material: #52 alloy. Finish: electro tin, hot-oil flowed. Cover material:upro-nickel.
- Mounting:
 - Insulated spacer available. Request P/N B14-045-01.
 - Pin's meniscus (of header): 0.015" max.
- Special Tolerances:
 - Pin diameter ±.005 inch.



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