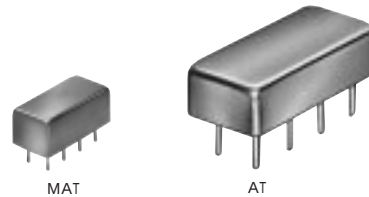


# FIXED ATTENUATORS

50 & 75  $\Omega$

Plug-In

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



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



PAT

| MODEL<br>NO. | FREQ.<br>RANGE<br>MHz<br>$f_L$ - $f_U$ | ATTENUATION<br>dB |     |     |     | VSWR (:1)<br>Max. |     |     | POWER<br>W | CASE<br>STYLE<br><br>Note B | CONFORMITY<br>NO. | PRICE<br>\$<br><br>Qty.<br>(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

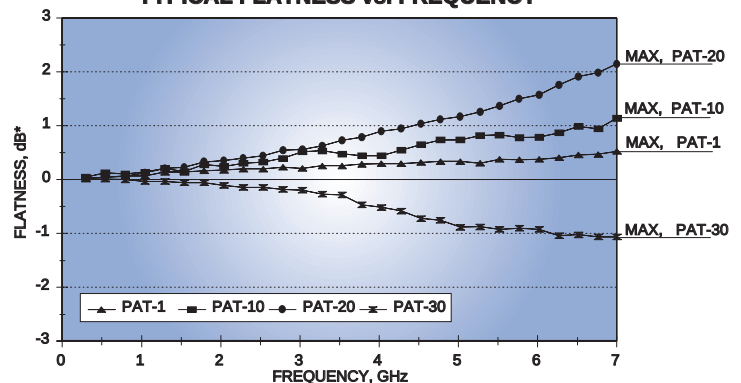
- low-cost ceramic package.
- wideband DC - 7 GHz frequency coverage.
- excellent VSWR throughout entire band.
- miniature size.

## 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<br>TYPE | No. of<br>Units in Kit | DESCRIPTION                | PRICE \$<br>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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