

# VISHAY SMD Resistors



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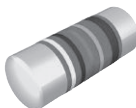
## PROFESSIONAL THIN FILM MELF RESISTORS

### Features:

- Approved according to EN140401-803
- AEC-Q200 qualified
- Advanced metal film technology
- Excellent overall stability: exceeds class 0.25

### Applications:

- Automotive
- Telecommunication
- Industrial
- Medical equipment



For quantities greater than listed, call for quote.

| MOUSER<br>STOCK NO.  | Amphenol<br>Part No. | Resistance | Tol.<br>(%) | Price Each |      |      |
|----------------------|----------------------|------------|-------------|------------|------|------|
|                      |                      |            |             | 1          | 50   | 100  |
| 400mW Power Rating   |                      |            |             |            |      |      |
| 594-MMA02040C7507JB0 | MMA02040C7507JB000   | 0.75Ω      | 1           | .10        | .07  | .06  |
| 594-MMA02040C1508FB3 | MMA02040C1508FB300   | 1.5Ω       | 1           | .17        | .129 | .102 |
| 594-MMA02040C5909FB0 | MMA02040C5909FB000   | 59Ω        | 1           | .12        | .068 | .055 |
| 594-MMA02040C6049FB3 | MMA02040C6049FB300   | 60.4Ω      | 1           | .11        | .086 | .068 |
| 594-MMA02040C1200FB3 | MMA02040C1200FB300   | 120Ω       | 1           | .10        | -    | .068 |
| 594-MMA02040C1202FB3 | MMA02040C1202FB300   | 12kΩ       | 1           | .11        | .086 | .068 |
| 594-MMA02040C7152FB3 | MMA02040C7152FB300   | 71.5kΩ     | 1           | .12        | .08  | .068 |
| 594-MMA02040C1243FB3 | MMA02040C1243FB300   | 124kΩ      | 1           | .10        | .06  | .05  |
| 594-MMA02040C1273FB3 | MMA02040C1273FB300   | 127kΩ      | 1           | .12        | .08  | .068 |
| 594-MMA02040C1603FB0 | MMA02040C1603FB000   | 160kΩ      | 1           | .12        | .068 | .055 |
| 594-MMA02040C2493FB3 | MMA02040C2493FB300   | 249kΩ      | 1           | .10        | .06  | .05  |
| 594-MMA02040C3603FB3 | MMA02040C3603FB300   | 360kΩ      | 1           | .22        | .166 | .132 |
| 594-MMA02040C4703FB3 | MMA02040C4703FB300   | 470kΩ      | 1           | .22        | .166 | .132 |
| 594-MMA02040C5603FB3 | MMA02040C5603FB300   | 560kΩ      | 1           | .22        | .166 | .132 |

For quantities greater than listed, call for quote.

| MOUSER<br>STOCK NO.        | Amphenol<br>Part No. | Resistance | Tol.<br>(%) | Price Each |      |      |
|----------------------------|----------------------|------------|-------------|------------|------|------|
|                            |                      |            |             | 1          | 50   | 100  |
| 400mW Power Rating (Cont.) |                      |            |             |            |      |      |
| 594-MMA02040C6653FB3       | MMA02040C6653FB300   | 665kΩ      | 1           | .12        | .08  | .068 |
| 594-MMA0204MC7503FB3       | MMA0204MC7503FB300   | 750kΩ      | 1           | .22        | .166 | .132 |
| 594-MMA0204MC8203FB3       | MMA0204MC8203FB300   | 820kΩ      | 1           | .22        | .166 | .132 |
| 594-MMA0204MC1004FB3       | MMA0204MC1004FB300   | 1MΩ        | 1           | .22        | .166 | .132 |
| 594-MMA0204MC1204FB3       | MMA0204MC1204FB300   | 1.2MΩ      | 1           | .22        | .166 | .132 |
| 594-MMA0204MC2204FB3       | MMA0204MC2204FB300   | 2.2MΩ      | 1           | .22        | .166 | .132 |
| 594-MMA0204MC4704FB3       | MMA0204MC4704FB300   | 4.7MΩ      | 1           | .22        | .166 | .132 |
| 594-MMA0204MC1005FB3       | MMA0204MC1005FB300   | 10MΩ       | 1           | .22        | .166 | .132 |
| 1W Power Rating            |                      |            |             |            |      |      |
| 594-MMB02070C1009FB7       | MMB02070C1009FB700   | 10Ω        | 1           | .38        | .238 | .189 |
| 594-MMB02070C2003FB7       | MMB02070C2003FB700   | 200kΩ      | 1           | .36        | .227 | .18  |
| 594-MMB0207MC3603FB2       | MMB0207MC3603FB200   | 360kΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC4703FB2       | MMB0207MC4703FB200   | 470kΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC5603FB2       | MMB0207MC5603FB200   | 560kΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC7503FB2       | MMB0207MC7503FB200   | 750kΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC8203FB2       | MMB0207MC8203FB200   | 820kΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC1004FB2       | MMB0207MC1004FB200   | 1MΩ        | 1           | .63        | .476 | .377 |
| 594-MMB0207MC1204FB2       | MMB0207MC1204FB200   | 1.2MΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC2204FB2       | MMB0207MC2204FB200   | 2.2MΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC4704FB2       | MMB0207MC4704FB200   | 4.7MΩ      | 1           | .63        | .476 | .377 |
| 594-MMB0207MC1005FB2       | MMB0207MC1005FB200   | 10MΩ       | 1           | .63        | .476 | .377 |

## VISHAY/THIN FILM - THIN FILM SMD RESISTORS - AUTOMOTIVE GRADE

| Case Size | DIMENSIONS: mm (in.) |             |             |
|-----------|----------------------|-------------|-------------|
|           | Length               | Width       | Thickness   |
| 0603      | 0.064±0.006          | 0.032±0.005 | 0.015±0.003 |
| 0805      | 0.080±0.006          | 0.050±0.005 | 0.015±0.003 |
| 1206      | 0.126±0.008          | 0.063±0.005 | 0.015±0.003 |

### PAT Series: 0.1% Wraparound

#### Features:

- Resistance Tolerance: 0.1%
- Operating Temperature: -55°C to +150°C
- Temperature Coefficient: ±25ppm
- AEC-Q200 qualified
- Cut Tape and Reels available
- Industry standard sizes

For quantities greater than listed, call for quote.

| MOUSER STOCK NO. |                  | Value<br>(Ω) | Power<br>Rating<br>(mW) | Price Each |     |     |
|------------------|------------------|--------------|-------------------------|------------|-----|-----|
| Mfr.             | Mfr. Part No.    |              |                         | 1          | 25  | 100 |
| 0603 Case Size   |                  |              |                         |            |     |     |
| 71               | PAT0603E24R9BST1 | 24.9         | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1780BST1 | 178          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E2000BST1 | 200          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4000BST1 | 400          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4990BST1 | 499          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E9090BST1 | 909          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1001BST1 | 1K           | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1501BST1 | 1.5K         | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1621BST1 | 1.62K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1781BST1 | 1.78K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E2001BST1 | 2K           | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E3011BST1 | 3.01K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4751BST1 | 4.75K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E6121BST1 | 6.12K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E7501BST1 | 7.5K         | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1002BST1 | 10K          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1152BST1 | 11.5K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1332BST1 | 13.3K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E1472BST1 | 14.7K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E2002BST1 | 20K          | 150                     | .72        | -   | .55 |
| 71               | PAT0603E3012BST1 | 30.1K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E3162BST1 | 31.6K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E3482BST1 | 34.8K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4002BST1 | 40K          | 150                     | .62        | .52 | .43 |
| 71               | PAT0603E4422BST1 | 44.2K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4702BST1 | 47K          | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E4992BST1 | 49.9K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E6042BST1 | 60.4K        | 150                     | .72        | .61 | .55 |
| 71               | PAT0603E6652BST1 | 66.5K        | 150                     | .72        | .61 | .55 |

For quantities greater than listed, call for quote.

| MOUSER STOCK NO.       |               | Value (Ω) | Power Rating (mW) | Price Each |      |      |
|------------------------|---------------|-----------|-------------------|------------|------|------|
| Mfr.                   | Mfr. Part No. |           |                   | 1          | 25   | 100  |
| 0603 Case Size (Cont.) |               |           |                   |            |      |      |
| 71-PAT0603E7502BST1    |               | 75K       | 150               | .72        | .61  | .55  |
| 0805 Case Size         |               |           |                   |            |      |      |
| 71-PAT0805E10R0BST1    |               | 10        | 200               | .75        | .63  | .58  |
| 71-PAT0805E25R0BST1    |               | 25        | 200               | .75        | .63  | .58  |
| 71-PAT0805E49R9BST1    |               | 49.9      | 200               | 1.15       | .851 | .782 |
| 71-PAT0805E1270BST1    |               | 127       | 200               | .75        | .63  | .58  |
| 71-PAT0805E1500BST1    |               | 150       | 200               | .75        | .63  | .58  |
| 71-PAT0805E3010BST1    |               | 301       | 200               | .75        | .63  | .58  |
| 71-PAT0805E4990BST1    |               | 499       | 200               | .75        | .63  | .58  |
| 71-PAT0805E1001BST1    |               | 1K        | 200               | .75        | .63  | .58  |
| 71-PAT0805E1241BST1    |               | 1.24K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E2001BST1    |               | 2K        | 200               | .75        | .63  | .58  |
| 71-PAT0805E3791BST1    |               | 3.79K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E4371BST1    |               | 4.37K     | 200               | .77        | .643 | .592 |
| 71-PAT0805E4701BST1    |               | 4.7K      | 200               | .75        | .63  | .58  |
| 71-PAT0805E6341BST1    |               | 6.34K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E7151BST1    |               | 7.15K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E1002BST1    |               | 10K       | 200               | .75        | .63  | .58  |
| 71-PAT0805E1502BST1    |               | 15K       | 200               | .75        | .63  | .58  |
| 71-PAT0805E1912BST1    |               | 19.1K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E2202BST1    |               | 22K       | 200               | .75        | .63  | .58  |
| 71-PAT0805E5172BST1    |               | 51.7K     | 200               | .75        | .63  | .58  |
| 71-PAT0805E6982BST1    |               | 69.8K     | 200               | 1.15       | .851 | .782 |
| 71-PAT0805E8982BST1    |               | 89.8K     | 200               | 1.15       | .851 | .782 |
| 71-PAT0805E1003BST1    |               | 100K      | 200               | .75        | .63  | .58  |
| 71-PAT0805E1103BST1    |               | 110K      | 200               | .75        | .63  | .58  |
| 71-PAT0805E1503BST1    |               | 150K      | 200               | .75        | .63  | .58  |
| 71-PAT0805E2493BST1    |               | 249K      | 200               | .75        | .63  | .58  |

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| MOUSER STOCK NO. |                  | Value (Ω) | Power Rating (mW) | Price Each |     |     |
|------------------|------------------|-----------|-------------------|------------|-----|-----|
| Mfr.             | Mfr. Part No.    |           |                   | 1          | 25  | 100 |
| 1206 Case Size   |                  |           |                   |            |     |     |
| 71               | PAT1206E10R0BST1 | 10        | 400               | .88        | .74 | .61 |
| 71               | PAT1206E20R0BST1 | 20        | 400               | .88        | .56 | .53 |
| 71               | PAT1206E30R1BST1 | 30.1      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E49R9BST1 | 49.9      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4420BST1 | 442       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4990BST1 | 499       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E7500BST1 | 750       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E9000BST1 | 900       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1001BST1 | 1K        | 400               | .88        | .74 | .61 |
| 71               | PAT1206E2001BST1 | 2K        | 400               | .88        | .74 | .61 |
| 71               | PAT1206E2491BST1 | 2.49K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E3011BST1 | 3.01K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4021BST1 | 4.02K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4991BST1 | 4.99K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E8061BST1 | 8.06K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E9091BST1 | 9.09K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1002BST1 | 10K       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1502BST1 | 15K       | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1692BST1 | 16.9K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E2742BST1 | 27.4K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E3012BST1 | 30.1K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4222BST1 | 42.2K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E4992BST1 | 49.9K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E5052BST1 | 50.5K     | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1003BST1 | 100K      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E1503BST1 | 150K      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E2003BST1 | 200K      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E2493BST1 | 249K      | 400               | .88        | .74 | .61 |
| 71               | PAT1206E6043BST1 | 604K      | 400               | .88        | .74 | .61 |

### PATT Series: 0.1% and 1% High Temperature

#### Features:

- Operating Temperature: -55°C to +250°C
- Temperature Coefficient: ±25ppm, ±100ppm, ±200ppm
- 155°C at full rated power
- AEC-Q200 qualified, table 7F
- Resistance Tolerance: 0.1%
- AEC-Q200 qualified, ESD rated class 1C (2 kV)
- Tantalum nitride resistor film on alumina substrate
- Laser trimmed to any value
- Load life stability 0.2% at 1000h @ 155°C and 100% rated power
- Intrinsic moisture protected resistor element
- Sulfur resistant

For quantities greater than listed, call for quote.

| MOUSER STOCK NO.     |               | Value (Ω) | Power Rating (mW) | Price Each |      |     |
|----------------------|---------------|-----------|-------------------|------------|------|-----|
| Mfr.                 | Mfr. Part No. |           |                   | 1          | 25   | 100 |
| 0603 Case Size       |               |           |                   |            |      |     |
| 71-PATT0603E49R9BGT1 | 49.9          | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E1000BGT1 | 100           | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E4990BGT1 | 499           | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E1001BGT1 | 1K            | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E2001BGT1 | 2K            | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E4991BGT1 | 4.99K         | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E5111BGT1 | 5.11K         | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E1002BGT1 | 10K           | 15        | 1.35              | 1.24       | 1.05 |     |
| 71-PATT0603E1502BGT1 | 15K           | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E2002BGT1 | 20K           | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E2492BGT1 | 24.9K         | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E2942BGT1 | 29.4K         | 15        | 1.46              | 1.18       | .935 |     |
| 71-PATT0603E4929BGT1 | 49.9K         | 15        | 1.46              | 1.18       | .935 |     |