

TA Series



Power Chip Thick Film on Alumina Substrate

Ohmite's original Power Chip resistors feature our thick film on alumina substrate technology. These planar packages yield space saving, 10W/in² power densities that require over 50% less board space than other radial packages. Convection cooling is maximized by the planar package configuration which dissipates heat well above board level.

Ohmite's power chip resistors have a 125% higher operating temperature range than competitive product of similar design. High temperature solder and in-process plating keep terminations secure under self-heating effects by preventing re-flow from full power operation.

Flexible packaging schemes make these resistors ideal for power supplies, audio amplifiers, video fly-back, and other power control applications.



FEATURES

- High-Temp Terminal Construction
- Wide Resistance Range
- Low Inductance (50nH-100nH)
- High Power Density
- Easy to install. PC-mountable

SERIES SPECIFICATIONS

| Series | Wattage | Series | Wattage | Series | Wattage | Series | Wattage | Series | Wattage |
|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| TA203 | 3.0 | TA205 | 5.0 | TA207 | 7.5 | TA310 | 10.0 | TA025 | 25.0 |
| TA303 | 3.0 | TA305 | 5.0 | TA307 | 7.5 | TA810 | 10.0 | TA050 | 50.0 |
| | | TA605 | 5.0 | | | | | TA100 | 100.0 |
| | | TA805 | 5.0 | | | | | | |

CHARACTERISTICS

| Parameter | Value | Test Condition | Specification |
|---------------------------------|---|----------------|----------------------|
| Substrate | Alumina | Test MILR83401 | |
| Resistor | Thick Film | | |
| Coating | Glass | | |
| Terminals | Solder Plated Phosphor Bronze | | |
| Temperature Coefficient | 1 ohm: 450 ppm/°C 1 to 100Ω: 100 ppm/°C 101Ω and up: 50 ppm/°C | | |
| Tolerance | ±1%, ±5% and ±10% | | |
| Power Rating | Based on 25°C free air | | |
| Resistance Range | 0.25 ohm to 10M ohm. Consult factory for other values | | |
| Maximum Operating Voltage | 350 VAC, 500 VDC through glass, 1000 VAC, 1500 VDC through substrate, not to exceed power rating | | |
| Overload | Five times rated power, as long as the one second average dissipation does not exceed the wattage rating. ΔR: ±2%, 2000 hours | | |
| Derating | 100% @ 25°C to 0% @ 180°C ambient. | | |
| Equivalent Parallel Capacitance | 1.0pf (100 MHz) | | |
| Withstanding Voltage | 5000V thru back side | | |
| Operating Temperature Range | -55°C to +180°C | | |
| Overload Current | 20 x rated current up to 8 ms (ΔR ± 0.5%) | | |
| Life (Rated Power) | 40°C, rated power, 90 min ON 30 min OFF, 1000 hrs. | | ΔR ±(1.0% + 0.05Ω) |
| Life (Moisture Load) | 60°C, 90 - 95% RH, rated power, 90 min ON 30 min OFF, 1000 hrs. | | ΔR ±(1.0% + 0.05Ω) |
| Temperature Cycling | Room temp > -55°C 30 min > RT 10 min ± 120°C 30 min > RT10 min 5 cycles | | ΔR ±(0.25% + 0.05Ω) |
| Flammability | UL94V-O rated (not recognized) | | |
| Soldering Heat | 350°C Solderpot, 3 secs. | | ΔR ±(0.25% + 0.05Ω) |
| Insulation Resistance | DC 100V, 1 min | | Over 1000M ohm |

(continued)

rev 6/18-1

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DIMENSIONS

(±.020 in. / ±.508mm)

PA
3, 5, 7.5
& 10 watt



PW
10, 25, 50
& 100 watt



| Series | Wattage | P | Length L | Height H |
|----------|---------|---------------|----------------|---------------|
| TA203PA | 3.0 | 0.200 / 5.08 | 0.50 / 12.70 | 0.60 / 15.24 |
| TA303PA | 3.0 | 0.300 / 7.62 | 0.50 / 12.70 | 0.60 / 15.24 |
| TA205PA | 5.0 | 0.200 / 5.08 | 0.50 / 12.70 | 1.00 / 25.40 |
| TA305PA | 5.0 | 0.300 / 7.62 | 0.50 / 12.70 | 1.00 / 25.40 |
| TA605PA | 5.0 | 0.600 / 15.24 | 1.00 / 25.40 | 0.50 / 12.70 |
| TA805PA | 5.0 | 0.800 / 20.32 | 1.00 / 25.40 | 0.50 / 12.70 |
| TA207PA | 7.5 | 0.200 / 5.08 | 0.75 / 19.05 | 1.00 / 25.40 |
| TA307PA | 7.5 | 0.300 / 7.62 | 0.75 / 19.05 | 1.00 / 25.40 |
| TA310PA | 10.0 | 0.300 / 7.62 | 1.00 / 25.40 | 1.00 / 25.40 |
| TA310PW* | 10.0 | 0.300 / 7.62 | 1.085 / 27.56 | 1.00 / 25.40 |
| TA810PA | 10.0 | 0.800 / 20.32 | 1.00 / 25.40 | 1.00 / 25.40 |
| TA810PW* | 10.0 | 0.800 / 20.32 | 1.085 / 27.56 | 1.00 / 25.40 |
| TA025PA | 25.0 | 1.90 / 48.3 | 2.220 / 56.39 | 1.170 / 29.70 |
| TA025PY* | 25.0 | 1.90 / 48.3 | 2.220 / 56.39 | 1.170 / 29.70 |
| TA050PA | 50.0 | 1.90 / 48.3 | 2.220 / 56.39 | 2.270 / 57.60 |
| TA050PY* | 50.0 | 1.90 / 48.3 | 2.220 / 56.39 | 2.270 / 57.60 |
| TA100PA | 100.0 | 4.10 / 104.1 | 4.420 / 112.27 | 2.270 / 57.60 |
| TA100PY* | 100.0 | 4.10 / 104.1 | 4.420 / 112.27 | 2.270 / 57.60 |

*10-100 watts available in PW,PA, and PY packages.

ORDERING INFORMATION

Pin spacing (on 3-10W models only)
 2 = .2"
 3 = .3"
 8 = .8"

Tolerance
 K = 10%
 J = 5%
 F = 1%

RoHS compliant

TA 3 0 5 PA 4 K 5 0 J E

Series: TA
 Power Rating: 3 = 3W, 05 = 5W, 07 = 7.5W, 10 = 10W, 025 = 25W, 050 = 50W, 100 = 100W
 Package: PA = pin terminals, std. for 3-10W; PW = wraparound, std. for 10-100W; PY = high-stability wraparound
 Resistance Value (Ω): R250 = 0.25, 10R0 = 10.0, 2K00 = 2,000, 45K0 = 45,000

Standard part numbers for TA series

| Ohmic value | Part No. Prefix Suffix | Part Number | Ohmic value | Part No. Prefix Suffix | Part Number | Ohmic value | Part No. Prefix Suffix | Part Number |
|-------------|------------------------|-------------|-------------|------------------------|-------------|-------------|------------------------|-------------|
| 0.25 | R250J | ✓ | 50.00 | 50R0J | ✓ | 2,500.00 | 2K50J | ✓ |
| 1.00 | 1R00J | ✓ | 62.00 | 62R0J | ✓ | 3,000.00 | 3K00J | ✓ |
| 1.50 | 1R50J | ✓ | 68.00 | 68R0J | ✓ | 4,000.00 | 4K00J | ✓ |
| 2.00 | 2R00J | ✓ | 75.00 | 75R0J | ✓ | 4,700.00 | 4K70J | ✓ |
| 4.70 | 4R70J | ✓ | 100.00 | 100RJ | ✓ | 5,000.00 | 5K00J | ✓ |
| 5.00 | 5R00J | ✓ | 150.00 | 150RJ | ✓ | 5,100.00 | 5K10J | ✓ |
| 5.10 | 5R10J | ✓ | 200.00 | 200RJ | ✓ | 7,500.00 | 7K50J | ✓ |
| 7.50 | 7R50J | ✓ | 250.00 | 250RJ | ✓ | 10,000.00 | 10K0J | ✓ |
| 8.20 | 8R20J | ✓ | 270.00 | 270RJ | ✓ | 15,000.00 | 15K0J | ✓ |
| 10.00 | 10R0J | ✓ | 300.00 | 300RJ | ✓ | 18,000.00 | 18K0J | ✓ |
| 11.00 | 11R0J | ✓ | 470.00 | 470RJ | ✓ | 20,000.00 | 20K0J | ✓ |
| 12.00 | 12R0J | ✓ | 500.00 | 560 | ✓ | 30,000.00 | 30K0J | ✓ |
| 15.00 | 15R0J | ✓ | 620.00 | 620RJ | ✓ | 39,000.00 | 39K0J | ✓ |
| 20.00 | 20R0J | ✓ | 680.00 | 680RJ | ✓ | 50,000.00 | 50K0J | ✓ |
| 24.00 | 24R0J | ✓ | 1,000.00 | 1K00J | ✓ | 75,000.00 | 75K0J | ✓ |
| 27.00 | 27R0J | ✓ | 1,500.00 | 1K50J | ✓ | 100,000 | 100KJ | ✓ |
| 33.00 | 33R0J | ✓ | 1,800.00 | 1K80J | ✓ | 150,000 | 150KJ | ✓ |
| 47.00 | 47R0J | ✓ | 2,000.00 | 2K00J | ✓ | 200,000 | 200KJ | ✓ |

✓ = Stock values, + = Most popular standard values