

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

Substrate	Alumina	Test Condition		
Resistor	Thick Film	Test	MILR83401	Specification
Coating	Glass	Life (Rated Power)	40°C, rated power, 90 min ON 30 min OFF, 1000 hrs.	ΔR $\pm(1.0\% + 0.05\Omega)$
Terminals	Solder Plated Phosphor Bronze			
Temperature Coefficient	1 ohm: 450 ppm/°C 1 to 100Ω: 100 ppm/°C 101Ω and up: 50 ppm/°C	Life (Moisture Load)	60°C, 90 - 95% RH, rated power, 90 min ON 30 min OFF, 1000 hrs.	ΔR $\pm(1.0\% + 0.05\Omega)$
Tolerance	$\pm 1\%$, $\pm 5\%$ and $\pm 10\%$			
Power Rating	Based on 25°C free air	Temperature Cycling	Room temp > -55°C 30 min > RT 10 min $\pm$ 120°C 30 min > RT10 min 5 cycles	ΔR $\pm(0.25\% + 0.05\Omega)$
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	Flammability	UL94V-O rated (not recognized)	
Overload	Five times rated power, as long as the one second average dissipation does not exceed the wattage rating. ΔR : $\pm 2\%$, 2000 hours	Soldering Heat	350°C Solderpot, 3 secs.	ΔR $\pm(0.25\% + 0.05\Omega)$
Derating	100% @ 25°C to 0% @ 180°C ambient.	Insulation Resistance	DC 100V, 1 min	Over 1000M ohm
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 ($\Delta R \pm 0.5\%$)			

(continued)

rev 6/18-

(continued)

rev 6/18-1

TA Series

Power Chip Thick Film on Alumina Substrate

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)		Tolerance		RoHS compliant
2 = .2"		K = 10%		
3 = .3"		J = 5%		
8 = .8"		F = 1%		

Series	Power Rating:	Package:	Resistance Value (Ω)
TA	03 = 3 W	PA = pin terminals,	R250 = 0.25
3	05 = 5	std. for 3-10 W	10R0 = 10.0
0	07 = 7.5	PW = wraparound,	2K00 = 2,000
5	10 = 10	std. for 10-100 W	45K0 = 45,000
P	025 = 25	PY = high-stability	
A	050 = 50	wraparound	
4	100 = 100		
K			
5			
0			
J			
E			

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	✓

✓ = Most popular standard values, ✓ = Stock values