

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 MILR83401		Specification
Resistor	Thick Film	Test		
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	Life (Moisture Load)	60°C, 90 - 95% RH, rated power, 90 min ON 30 min OFF, 1000 hrs.	ΔR $\pm(1.0\% + 0.05\Omega)$
Temperature Coefficient	1 ohm: 450 ppm/°C 1 to 100Ω: 100 ppm/°C 101Ω and up: 50 ppm/°C	Temperature Cycling	Room temp > -55°C 30 min > RT 10 min $\pm$ 120°C 30 min > RT 10 min 5 cycles	ΔR $\pm(0.25\% + 0.05\Omega)$
Tolerance	$\pm 1\%$, $\pm 5\%$ and $\pm 10\%$	Flammability	UL94V-O rated (not recognized)	
Power Rating	Based on 25°C free air	Soldering Heat	350°C Solderpot, 3 secs.	ΔR $\pm(0.25\% + 0.05\Omega)$
Resistance Range	0.25 ohm to 10M ohm. Consult factory for other values	Insulation Resistance	DC 100V, 1 min	Over 1000M ohm
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 : $\pm 2\%$, 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 ($\Delta R \pm 0.5\%$)			

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

Standard part numbers for TA series

Ohmic value	Part Number												Ohmic value	Part Number												Ohmic value	Part Number												
	Part No. Prefix ▶ Suffix ▼	TA203PA	TA303PA	TA205PA	TA305PA	TA207PA	TA310PA	TA810PW	TA025PW	TA050PW	TA100PW	Part No. Prefix ▶ Suffix ▼		TA203PA	TA303PA	TA205PA	TA305PA	TA207PA	TA310PA	TA810PW	TA025PW	TA050PW	TA100PW	Part No. Prefix ▶ Suffix ▼	TA203PA		TA303PA	TA205PA	TA305PA	TA207PA	TA310PA	TA810PW	TA025PW	TA050PW	TA100PW				
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