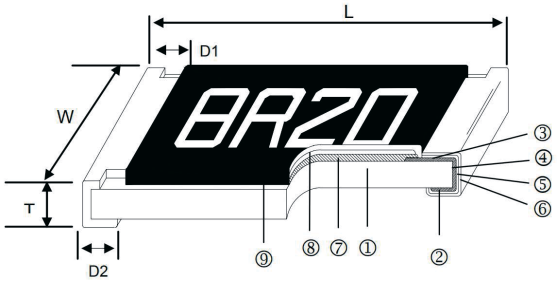
akyga passive

Resume

- Small size & light weight
- Reduction of assembly costs and matching with placement machine.
- Suitable for both wave & re-flow soldering.
- Applications: Navigator (GPS), Mobile Phone,Telecom, PDA, Setbox, Meter.
  GPS，PDA

Construction



① Alumina Substrate
② Bottom Electrode
③ Top Electrode
④ Edge Electrode
⑤ Barrier Layer
⑥ External Electrode
⑦ Resistor Layer
⑧ Overcoat
⑨ Marking

Dimensions

规 格	L	W	T	D1	D2
01005	0.40 ±0.02	0.20 ±0.02	0.13 ±0.02	0.10 ±0.05	0.10 ±0.05
0201	0.60 ±0.03	0.30 ±0.03	0.23 ±0.03	0.10 ±0.05	0.15 ±0.05
0402	1.00 ±0.10	0.50 ±0.05	0.35 ±0.10	0.20 ±0.10	0.25 ±0.10
0603	1.60 ±0.10	0.80 ±0.15	0.45 ±0.10	0.30 ±0.20	0.30 ±0.20
0805	2.00 ±0.15	1.25 ±0.15	0.55 ±0.10	0.45 ±0.20	0.40 ±0.20
1206	3.10 ±0.15	1.55 ±0.15	0.55 ±0.10	0.45 ±0.20	0.45 ±0.20
1210	3.10 ±0.10	2.60 ±0.15	0.55 ±0.10	0.50 ±0.25	0.60 ±0.25
1812	4.50 ±0.20	3.20 ±0.20	0.55 ±0.20	0.55 ±0.20	0.60 ±0.30
2010	5.00 ±0.20	2.50 ±0.20	0.55 ±0.10	0.60 ±0.25	0.60 ±0.30
2512	6.35 ±0.10	3.20 ±0.15	0.55 ±0.10	0.75 ±0.35	0.80 ±0.40
2512*	6.35 ±0.10	3.20 ±0.15	1.10 ±0.10	0.60 ±0.25	1.80 ±0.20

Part Numbering

RR	3216 (1206)	L182	J	T	*O
Product Type	Resistor Size	Resistance	Resistance Tolerance	Packing Code	High Power
RR	0402 (01005) 0603 (0201) 1005 (0402) 1608 (0603) 2012 (0805) 3216 (1206) 3225 (1210) 4532 (1812) 5025 (2010) 6432 (2512)	±5% L105:1MΩ L182:1.8KΩ L1R3:1.3Ω ±1% L1004:1MΩ L1801:1.8KΩ L1R30:1.3Ω	D= ±0.5% F= ±1 % J = ±5 %	T:Taping Reel B:Bulk	R:3W S:2W N:1W Q:3/4W U:1/2W O:1/3W V:1/4W P:1/5W W:1/8W X:1/10W

◆*O：High Power

Standard Electrical Specifications

Item / Type	Power Rating	Max.Operating Voltage	Max.Overload Voltage	Resistance Range			TCR (PPM/℃)
				±0.5%	±1%	±5%	
01005	1/32W	15V	30V	/	1Ω–10MΩ	1Ω–10MΩ	1Ω≤R≤10Ω: ±600 10Ω<R≤10MΩ: ±300
0201	1/20W	25V	50V	/	1Ω–10MΩ	1Ω–10MΩ	1Ω≤R≤10Ω: ±350 10Ω<R≤10MΩ: ±200
0402	1/16W	50V	100V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
0603	1/10W	75V	150V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
0805	1/8W	150V	300V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
1206	1/4W	200V	400V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
1210	1/2W	200V	400V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
1812	3/4W	200V	400V	1Ω–10MΩ	1Ω–10MΩ	1Ω–10MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
2010	3/4W	200V	400V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200
2512	1W	200V	400V	1Ω–10MΩ	1Ω–22MΩ	1Ω–100MΩ	1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100 10MΩ<R≤100MΩ: ±200

◆Operating Temp.Range：01005～0201：-55～125℃，0402～2512：-55～155℃

Type	01005	0201	0402	0603	0805	1206	1210	1812	2010	2512
Rated Current of Jumper	0.5A	0.5A	1A	1A	2A	2A	2A	2A	2A	2A
Max Current of Jumper	1A	1A	2A	2A	5A	10A	10A	10A	10A	10A
Jumper Resistance Value	50mΩMax									

High-Power Thick Film Chip Resistors

Item / Type	Power Rating	Max.Operating Voltage	Max.Overload Voltage	±1%	±5%	TCR (PPM/℃)
0402	1/10W	50V	100V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤100Ω: ±200 100Ω<R≤10MΩ: ±100
	1/8W	50V	100V	1Ω-10MΩ		
0603	1/5W	75V	150V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	1/4W	75V	150V	1Ω-10MΩ		
0805	1/4W	150V	300V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	1/3W	150V	300V	1Ω-10MΩ		
	1/2W	200V	300V	1Ω-10MΩ		
1206	1/2W	200V	400V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	3/4W	200V	400V	1Ω-10MΩ		
1210	3/4W	200V	400V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	1W	200V	400V	1Ω-10MΩ		
1812	1.25W	200V	400V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
2010	1W	200V	400V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	1.5W	200V	400V	1Ω-10MΩ		
2512	2W	200V	400V	1Ω-10MΩ		1Ω≤R≤10Ω: ±400 10Ω<R≤10MΩ: ±100
	3W	200V	400V	1Ω-10MΩ		

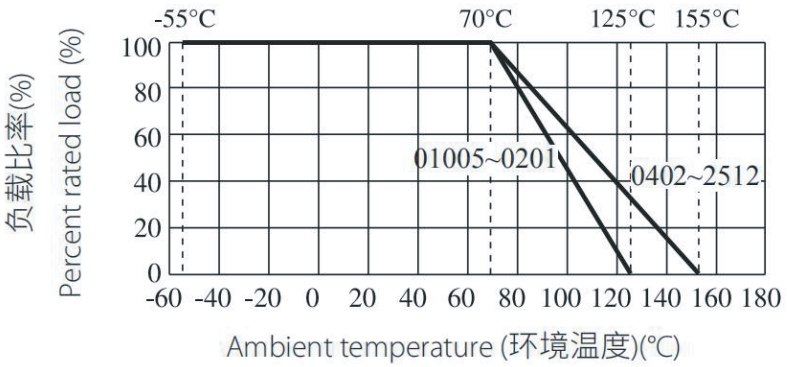
◆Operating Temp.Range：0402～2512：-55～155℃

±50PPM/℃ TC50 Electrical Specifications

Item / Type	Power Rating	Max.Operating Voltage	Max.Overload Voltage	Resistance Range ±0.1%	±0.25%	±0.5%	±1%	TCR (PPM/℃)
0402	1/16W	50V	100V	/	/	100Ω-1MΩ		±50
0603	1/10W	75V	150V	10Ω-1MΩ	10Ω-10MΩ			±50
0805	1/8W	150V	300V	10Ω-1MΩ	10Ω-10MΩ			±50
1206	1/4W	200V	400V	10Ω-1MΩ	10Ω-10MΩ			±50
1210	1/3W	200V	400V	10Ω-1MΩ	10Ω-10MΩ			±50
2010	3/4W	200V	400V	10Ω-1MΩ	10Ω-10MΩ			±50
2512	1W	250V	500V	10Ω-1MΩ	10Ω-10MΩ			±50

◆Operating Temp.Range：0402～2512：-55～155℃

Derating Curve



Environmental Characteristics

Item	Requirement			Test Method
	±1%	±5%	Jumper	
Temperature Coefficient (TCR)	As Spec.			-55℃~+125℃，25℃ is the refence temperature
Short Time Overload	±(1.0%+0.10Ω)	±(2.0%+0.10Ω)	<50mΩ	RCWV*2.5 or Max.Overload voltage whichever is lower for 5 seconds,2seconds for high power series
Insulation Resistor	≥10G			Max.Overload voltage for 1 minute
Endurance	±(3.0%+0.10Ω)		<50mΩ	70±2℃,RCWV for 1000hrs with 1.5hrs" ON" and 0 5hrs" OFF"
Damp Heat with Load	±(2.0%+0.10Ω)	±(3.0%+0.10Ω)	<50mΩ	40±2℃,90~95%R.H.,RCWV for 1000hrs with 1.5hrs" ON" and 0.5hrs" OFF"
Dry Heat	±(1.0%+0.05Ω)		<50mΩ	At+125/+155℃ for 1000hrs
Bending Strength	±(1.0%+0.05Ω)		<50mΩ	Bending once for 5 seconds 2010 2512sizes:2mm Other sizes:3mm
Solderability	95%min.coverage			245±5℃ for 3 seconds
Resistance to Soldering Heat	±(1.0%+0.05Ω)		<50mΩ	260±5℃ for 10 seconds
Voltage Proof	No breakdown or flashover			1.42 times Max.Operating Voltage for 1 minute
Leaching	Individual leaching area≤5% Total leaching area≤10%			260±5℃ for 30 seconds
Rapid Change of Temperature	±(1.0%+0.05Ω)		<50mΩ	-55℃ to +155℃ 5 cycles

Operating Voltage=√(P*R) or Max.Operating Voltage listed above,whichever is lower.
Overload Voltage=2.5*√(P*R) or Max.Overload Voltage listed above,whichever is lower.
RCWV(Rated Continuous Working Voltage)=√(P*R) or Max.Operating Voltage whichever is lower.
Environmental conditions for electrical performance measurement,Temperature：25±5 Humidity: 25%~75%RH
Reference Standards:IEC 60115-1,60068-2-58；JIS-C 5201-1