

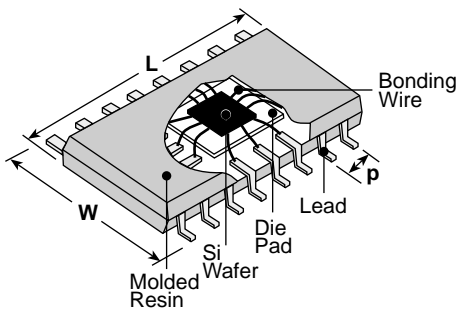
## features

- Thin film on silicon
- Electrical and mechanical stability
- High integration (up to 12 terminating lines per package)
- Products with lead-free terminations meet RoHS requirements

## applications

- Series termination
- Pull-up/pull-down
- Current limiting

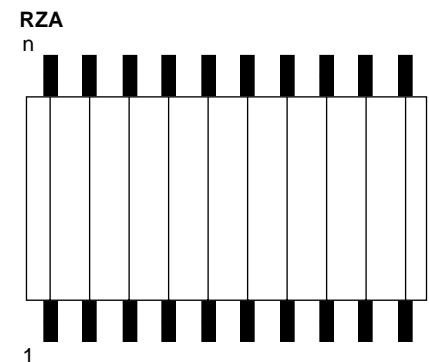
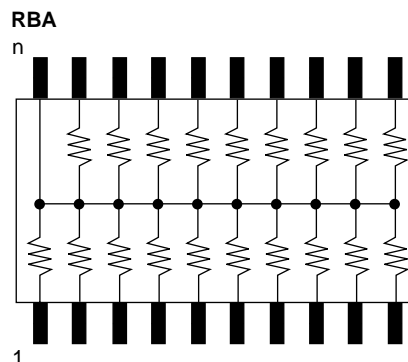
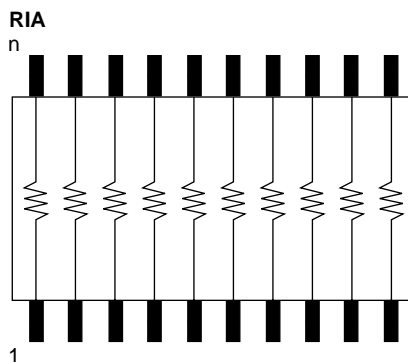
## dimensions and construction



Size Code	Dimensions inches (mm)		
	L	W	p
T16	.197 (5.00)	.252 (6.40)	.026 (0.65)
T20	.256 (6.50)	.252 (6.40)	.026 (0.65)
T24	.307 (7.80)	.252 (6.40)	.026 (0.65)
Q16	.193 (4.90)	.236 (5.99)	.025 (0.635)
Q20	.341 (8.66)	.236 (5.99)	.025 (0.635)
Q24	.341 (8.66)	.236 (5.99)	.025 (0.635)

Size Code	Dimensions inches (mm)		
	L	W	p
N08	.190 (4.83)	.024 (5.99)	.050 (1.27)
N14	.341 (8.66)	.024 (5.99)	.050 (1.27)
N16	.390 (9.91)	.024 (5.99)	.050 (1.27)
W16	.411 (10.44)	.411 (10.44)	.050 (1.27)
W20	.500 (12.70)	.500 (12.70)	.050 (1.27)

## circuit schematic



n = number of pins (16, 20 or 24)

## ordering information

New Part #	RIA	Q20	T	TEB	1002	B	H
Type	RIA RBA RZA*	Package Symbol Package type symbol + number of pins TSSOP: T16, T20, T24 QSOP: Q16, Q20, Q24 SOIC Narrow: N08, N14, N16 SOIC Wide: W16, W20	Termination Material T: Sn (Other termination styles available, contact factory for options)	Packaging TEB: 13" embossed plastic	Nominal Resistance B,C,D,F: 4 digits G,J: 3 digits	Absolute Tolerance B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$	T.C.R. T: $\pm 10$ E: $\pm 25$ C: $\pm 50$ H: $\pm 100$

\* Example of New Part # for RZA: RZAQ20TTEB

For further information on packaging, please refer to Appendix A.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

12/06/05

## applications and ratings

Part Designation	Power Rating @ 70°C (Per Element)	T.C.R. (ppm/°C)	Resistance Range	Resistance Tolerance	Tracking T.C.R. (ppm/°C)	Storage Temperature Range	Operating Temperature Range
RIA, RBA	100mW	±10,±25,±50,±100*	10Ω - 1MΩ	±20% ~ ±0.1%	±10	-65°C to +150°C	-55°C to +125°C

\*For special tolerance and T.C.R. requests, please contact KOA Engineering

## electrical characteristics

Package	TSSOP			QSOP			SOIC				SOT-23	
Package Symbol	T16	T20	T24	Q16	Q20	Q24	N08	N14	N16	W16	W20	S03
Power Rating	0.8W	1.0W	1.0W	0.8W	1.0W	1.0W	0.4W	0.6W	0.8W	1.0W	1.2W	0.2W
Resistance Range	10Ω ~ 1kΩ	Power rating 200mW/resistor element *2										
	1.1kΩ	Power rating 50mW/resistor element *2										
Max. Working Voltage	100V											
Rated Voltage	√ Rated power x nominal resistance value, rated voltage should not exceed max. working voltage											
Rated Ambient Temp.	+70°C											

\*2 Above rating is based on the thermal resistance using multi-layer circuit board (EIA/JESD51). For mounting on a mono-layer board, power derating shall be needed. Total power consumption of all elements should not exceed the package power rating.

## resistance ranges

Product Code	Number of Pins	T.C.R.	Resistance Range (Ω) (E24) and Resistance Tolerance				
			B: ±0.1%	C: ±0.25%	D: ±0.05%	F: ±1%	G: ±2%, J: ±5%
RIA	16	T: ±10	510 ~ 100k				
		E: ±25					
		C: ±50					
		H: ±100					
	20, 24	T: ±10	510 ~ 100k				
		E: ±25					
		C: ±50					
		H: ±100					
RBA	8, 14, 16, 20, 24	T: ±10	1k ~ 30k				
		E: ±25	510 ~ 30k				
		C: ±50	100 ~ 100k				
		H: ±100	51 ~ 100k	51 ~ 100k			10 ~ 100k