

### Metal Film (Thin Film) Chip Resistors, High Reliability Type 0402, 0603, 0805, 1206

Type: **ERA 2A, 3A, 6A, 8A**

#### ■ Features

- High reliability .....Stable at high temperature and humidity  
(85 °C 85 %RH rated load, Category temperature range : -55 to +155 °C)
- High accuracy .....Small resistance tolerance and Temperature Coefficient of Resistance
- High performance .....Low current noise, excellent linearity
- Reference Standard .....IEC 60115-8, JIS C 5201-8, EIAJ RC-2133B
- RoHS compliant

#### ■ Packaging Methods

Please see Pages 40 to 43

#### ■ Recommended Land Pattern

Please see Pages 44 to 45

#### ■ Recommended Soldering Conditions

Please see Page 46

#### ■ Safety Precautions

Please see Page 47

#### ■ Explanation of Part Numbers

- E24 Series



- E96 Series



### Construction



### Dimensions in mm (not to scale)



Type (inch size)	Dimensions (mm)					Mass (Weight) [g/1000pcs.]
	L	W	a	b	t	
ERA2A (0402)	1.00 <sup>±0.10</sup>	0.50 <sup>+0.10/-0.05</sup>	0.15 <sup>±0.10</sup>	0.25 <sup>±0.10</sup>	0.35 <sup>±0.05</sup>	0.6
ERA3A (0603)	1.60 <sup>±0.20</sup>	0.80 <sup>±0.20</sup>	0.30 <sup>±0.20</sup>	0.30 <sup>±0.20</sup>	0.45 <sup>±0.10</sup>	2
ERA6A (0805)	2.00 <sup>±0.20</sup>	1.25 <sup>±0.10</sup>	0.40 <sup>±0.25</sup>	0.40 <sup>±0.25</sup>	0.50 <sup>±0.10</sup>	4
ERA8A (1206)	3.20 <sup>±0.20</sup>	1.60 <sup>+0.05/-0.15</sup>	0.50 <sup>±0.25</sup>	0.50 <sup>±0.25</sup>	0.60 <sup>±0.10</sup>	8

### Ratings

Type (inch size)	Power Rating at 85 °C (W)	Limiting Element Voltage <sup>(1)</sup> (V)	Maximum Overload Voltage <sup>(2)</sup> (V)	Type (detail)	Resistance Tolerance (%)	T.C.R. (×10 <sup>-6</sup> /°C)	Resistance Range <sup>(3)</sup> (Ω)	Category Temperature Range (°C)
ERA2A (0402)	0.063	25	50	ERA2AKD	±0.5	±100	10 to 46.4 (E24, E96)	-55 to +155
				ERA2AED	±0.5		±25	
				ERA2AEB	±0.1			
ERA3A (0603)	0.1	75	150	ERA3AHD	±0.5	±50	10 to 46.4 (E24, E96)	
				ERA3AED	±0.5		±25	
				ERA3AEB	±0.1	±15	470 to 100 k (E24, E96)	
				ERA3APB	±0.1		1 k to 100 k (E24, E96)	
				ERA3ARB	±0.1	±10	1 k to 100 k (E24, E96)	
				ERA3ARW	±0.05			
ERA6A (0805)	0.125	100	200	ERA6AHD	±0.5	±50	10 to 46.4 (E24, E96)	
				ERA6AED	±0.5		±25	47 to 1 M (E24, E96)
				ERA6AEB	±0.1	±15	470 to 100 k (E24, E96)	
				ERA6APB	±0.1		1 k to 100 k (E24, E96)	
				ERA6ARB	±0.1	±10	1 k to 100 k (E24, E96)	
				ERA6ARW	±0.05			
ERA8A (1206)	0.25	150	300	ERA8AHD	±0.5	±50	10 to 46.4 (E24, E96)	
				ERA8AED	±0.5		±25	47 to 1 M (E24, E96)
				ERA8AEB	±0.1	±15	470 to 100 k (E24, E96)	
				ERA8APB	±0.1		1 k to 100 k (E24, E96)	
				ERA8ARB	±0.1	±10	1 k to 100 k (E24, E96)	
				ERA8ARW	±0.05			

(1) Rated Continuous Working Voltage (RCWV) shall be determined from  $RCWV = \sqrt{\text{Rated Power} \times \text{Resistance Values}}$ , or Limiting Element Voltage listed above, whichever less.

(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from  $SOTV = 2.5 \times \text{Power Rating}$  or max. Overload Voltage listed above whichever less.

(3) E192 series resistance values are also available. Please contact us for details.

### Power Derating Curve

For resistors operated in ambient temperatures above 85 °C, power rating shall be derated in accordance with the figure on the right.

