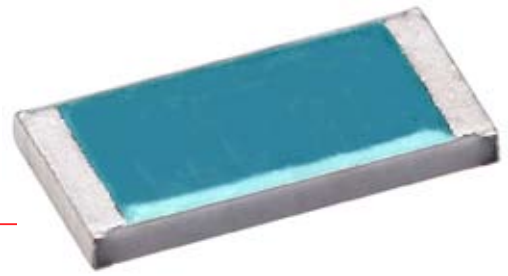


# ALN Series

## Thick Film High Power Chip Resistor



### FEATURES

- Thick film resistive element on an aluminum nitride (AlN) substrates
- Lead (Pb)-free wraparound termination over nickel barrier
- Industry standard size 2512 for easy PCB application

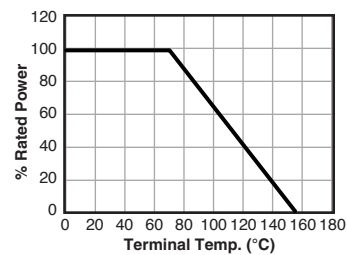
### APPLICATIONS

- Industrial
- Telecom markets

### CHARACTERISTICS

<b>Resistance Range</b>	10Ω – 2KΩ ±1% (E24 E96) / ±5% (E24)
<b>TCR</b>	±150 ppm/°C
<b>Oper. Temp. Range</b>	-55°C to +155°C
<b>Max. Oper. Voltage</b>	200
<b>Rated Voltage</b>	$\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower
<b>Overload Voltage</b>	$2.5 \cdot \sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower
<b>Power Rating</b>	3.5W @70°C 22W (temp. control) Depends on temperature of the resistive element. The maximum power rating only applies if the temperature of the resistive element is maintained below 155°C
<b>Storage Temp.</b>	15~28°C; Humidity < 80%RH

### Derating



### PERFORMANCE

Item	Requirement	Typical	Test Method
<b>Temperature Coefficient of Resistance (TCR)</b>	As Spec.	±120 ppm	JIS-C-5201-1 4.8; IEC-60115-1 4.8; At 25°C/-55°C and 25°C/+125°C, 25°C is the reference temperature
<b>Short Time Overload</b>	±0.50%	±0.10%	7.7W applied for 5 sec.
<b>Endurance</b>	±0.50%	±0.20%	JIS-C-5201-1 4.25; IEC-60115-1 4.25.1; 70°C, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF"
<b>High Temp. Exposure</b>	±0.50%	±0.10%	MIL-STD-202 Method 108; +150°C for 100 hrs.
<b>Solderability</b>	95% min. coverage	95% min. coverage	JIS-C-5201-1 4.17; IEC-60115-1 4.17; 245°C ±5 for 3 seconds
<b>Terminal Strength</b>	No evidence of mechanical damage	No evidence of mechanical damage	3kg force applied
<b>Moisture Resistance</b>	±0.50%	±0.15%	≥80% RH, 240 hrs
<b>Resistance to Soldering Heat</b>	±0.50%	±0.20%	MIL-STD-202 Method 210; 260°C ±5 for 10 seconds

(continued)

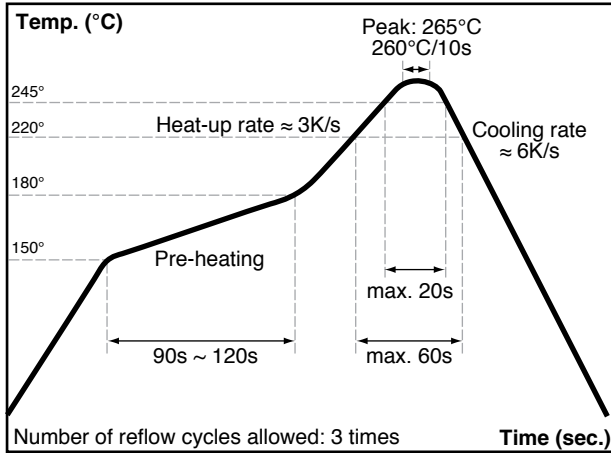
# ALN Series

## Thick Film High Power Chip Resistor

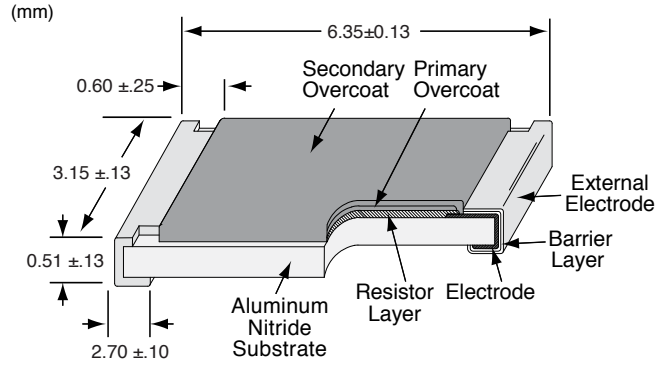
### SOLDERING

#### IR Reflow Soldering

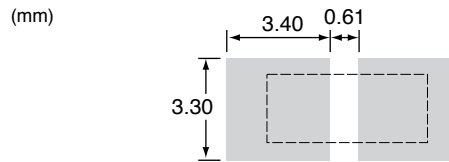
Time of IR reflow soldering at maximum temperature point 260°C: 10 sec.



### DIMENSIONS



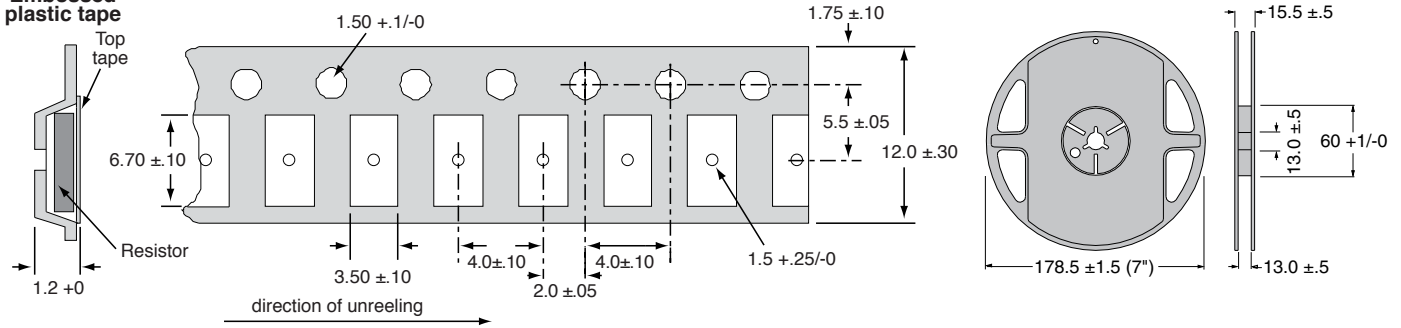
#### Land pattern



### TAPE AND REEL

(mm)

#### Embossed plastic tape



### ORDERING INFORMATION

**ALN2512F10R0E-1**

ALN series	Size	Tolerance	Resistance	RoHS Compliant	Tape & Reel
		F = 1%	10R2 = 10.2Ω		1 = 1,000 pc
		J = 5%	1K00 = 1KΩ		4 = 4,000 pc
			10K0 = 10KΩ		

#### Standard Values

Ohms	Part. no.
10	ALN2512F10R0E-1
25	ALN2512F25R0E-1
50	ALN2512F50R0E-1
75	ALN2512F75R0E-1
100	ALN2512F100RE-1
120	ALN2512F120RE-1
200	ALN2512F200RE-1
470	ALN2512F470RE-1
1,000	ALN2512F1K00E-1
2,000	ALN2512F2K00E-1