

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

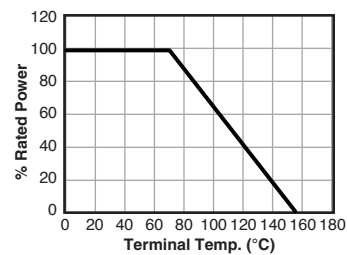
APPLICATIONS

- Industrial
- Telecom markets

CHARACTERISTICS

Resistance Range	10Ω – 2KΩ ±1% (E24 E96) / ±5% (E24)
TCR	±150 ppm/°C
Oper. Temp. Range	-55°C to +155°C
Max. Oper. Voltage	200
Rated Voltage	$\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower
Overload Voltage	$2.5 \cdot \sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower
Power Rating	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
Storage Temp.	15~28°C; Humidity < 80%RH

Derating



PERFORMANCE

Item	Requirement	Typical	Test Method
Temperature Coefficient of Resistance (TCR)	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
Short Time Overload	±0.50%	±0.10%	7.7W applied for 5 sec.
Endurance	±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"
High Temp. Exposure	±0.50%	±0.10%	MIL-STD-202 Method 108; +150°C for 100 hrs.
Solderability	95% min. coverage	95% min. coverage	JIS-C-5201-1 4.17; IEC-60115-1 4.17; 245°C ±5 for 3 seconds
Terminal Strength	No evidence of mechanical damage	No evidence of mechanical damage	3kg force applied
Moisture Resistance	±0.50%	±0.15%	≥80% RH, 240 hrs
Resistance to Soldering Heat	±0.50%	±0.20%	MIL-STD-202 Method 210; 260°C ±5 for 10 seconds

(continued)

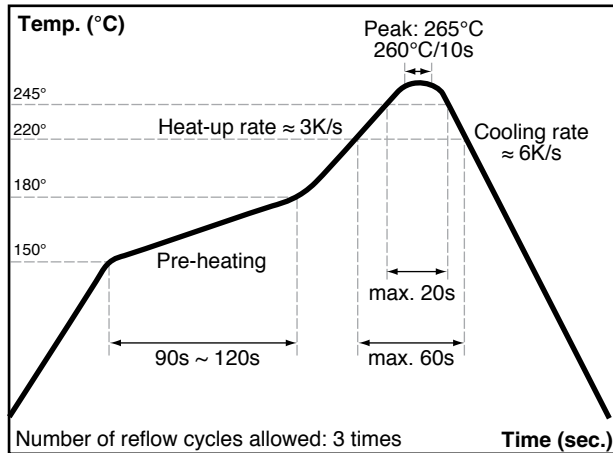
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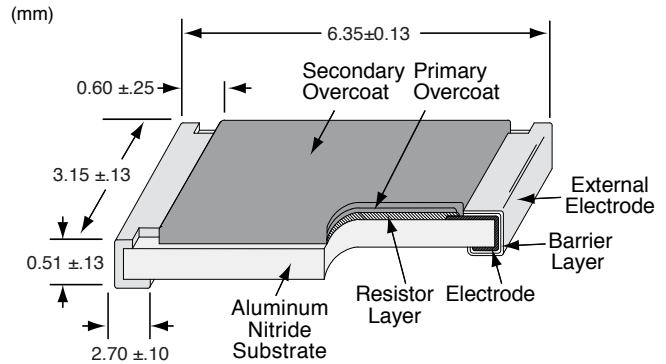
SOLDERING

IR Reflow Soldering

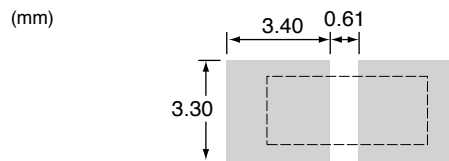
Time of IR reflow soldering at maximum temperature point 260°C: 10 sec.



DIMENSIONS



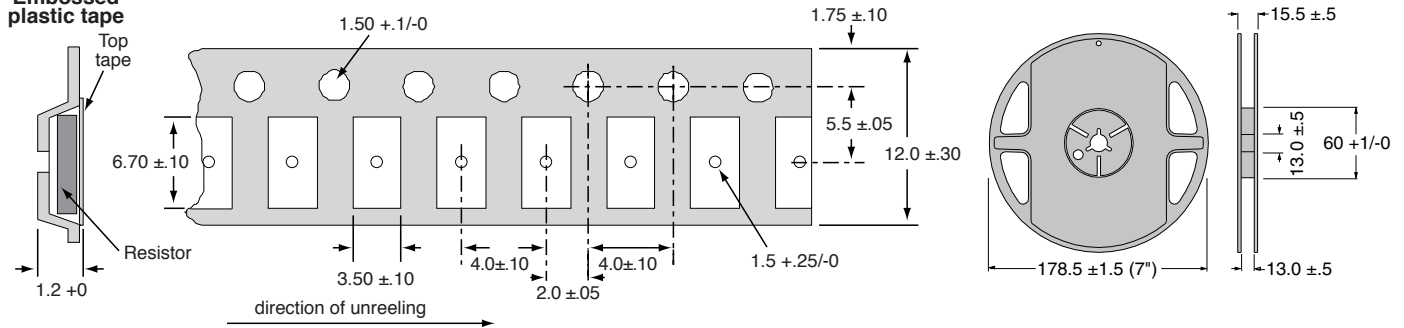
Land pattern



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