

NTC Type CR1

Harsh Environment Chip Thermistor



Description

NTC type CR1 are NK format chip thermistors on Sn coated Alloy 52 leads with a high performance acid and moisture resistant coating. Our NTC chip thermistors are ideal for harsh environment applications and high volume assembly.

Features

- AEC Q200 Rev D Qualified
- Suitable for EGR, SCR, TMAP, OAT, HVAC & white goods applications
- Performance up to 190°C with excellent stability
- Small body diameter
- Fast response
- High thermal shock resistance
- · Harsh environment fluids resistance
- Water immersion
- Flexible coated leads can be formed
- Insulation resistance to 1kV d.c.
- Designed for accurate temperature measurement, control & compensation
- Tight tolerances on resistance and B value
- Available on bandolier to IEC 286-2 RoHS 2011/65/EC / REACH compliant

Applications

- Automotive
- HVAC
- · White goods
- Marine
- Aerospace
- Military
- Industrial
- Healthcare



Type CR1 Specifications

Specification Data				
Minimum operating temp.	-40°C			
Performance up to:	190°C			
Thermal time constant	15s (cooling) 2.4s (ambient change)			
Dissipation factor	2.2mW/K			
Mass	0.18g			
Packing	1000/box 2000/reel			

Options

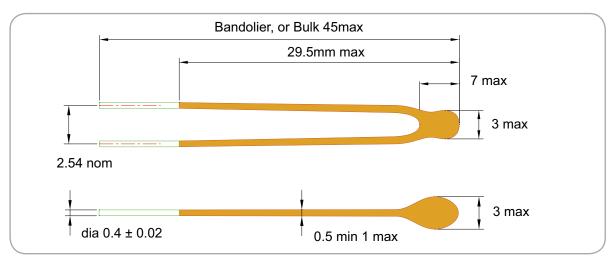
- Other resistance values and B values within the ranges shown
- Alternative reference temperatures 0°C to 100°C
- Bulk packed or bandolier up to H₁ = 48mm
- Lead materials: Steel/Alloy 52
- Contact Amphenol for specific application requirements

Coding:

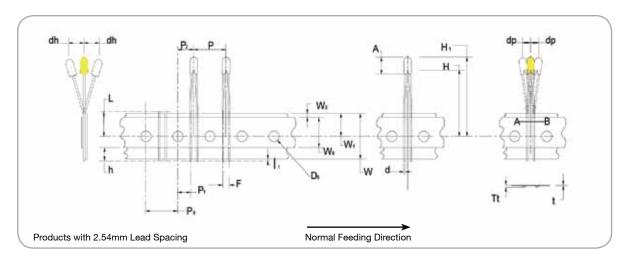
- Standard EGR Sensor NKA202C2B2
- For CR1 Coating add Suffix C to Code

See Table on page 4 for standard resistance values

Typical Dimensions (mm)



Bandolier Schematic



Bandolier Specifications

Item	Symbol	Value (mm)	
TOTAL BAND THICKNESS	t	0.7 ± 0.2	
MAXIMUM BAND THICKNESS	Т1	4 5 140 2/114/114	
Including component lead/splices	Tt	1.5 MAXIMUM	
CARRIER TAPE WIDTH	W	18 + 1.0 / - 0.5	
ADHESION TAPE WIDTH	14/0	C O MAINUMALIMA	
The hold down tape shall not protrude beyond either edge of the carrier tape	W0	6.0 MINIMUM	
POSITION OF ADHESION TAPE	W2		
Gap between upper edges of carrier tape and hold-down tape	VVZ	3.0 MAXIMUM	
SPROCKET HOLE POSITION	W1	9.0 ± 0.5	
SPROCKET HOLE DIAMETER	D0	4.0 ± 0.2	
PITCH OF COMPONENT	Р	12.7 ± 1.0	
SPROCKET HOLE PITCH	P0	12.7 ± 0.3	
PITCH TOLERANCE OVER ANY 20 PITCHES		± 1.0	
WIRE POSITION			
Distance between the ordinate and the first lead of the following component in the			
direction of unreeling or feeding. (Valid from upper edge of the tape to the seating	P1	5.08 ± 0.7	
plane)			
HOLE CENTRE TO COMPONENT CENTRE	P2	6.35 ± 1.3	
IN-PLANE COMPONENT DEVIATION	-1	_	
Maximum deviation of the component body in the tape plane (from the nominal position)	dp	± 3	
FRONT TO REAR DEVIATION			
The maximum lateral deviation of the component from the nominal position measured at			
the bottom centre of the component body. Maximum alignment deviation of the leads	dh	± 3	
(valid from the upper edge of the tape to the seating plane) when dh is taken as zero,	-		
shall be 0.2mm. This dimension must remain in limits after the device has been cropped			
from the bandolier			
WIRE SPACING	F	2.5 ± 0.5	
At upper edge of tape	-1	0.4 - 0.00	
WIRE DIAMETER	d	0.4 ± 0.02	
SEATING HEIGHT		45 . 4	
Distance between the abscissa and the seating plane of the component body with straight leads.	Н	45 ±1	
HEAD HEIGHT			
Distance between the abscissa and the top of the component body	H1	48 max	
WIRE PROTRUSION			
(Adhesive tape)	h	5 MAXIMUM	
Protrusion of wires beyond the lower side of the adhesive tape		o III. VIIVIOIVI	
WIRE PROTRUSION			
(Carrier)	I1	NO PROTRUSION	
Protrusion of wires beyond the lower side of the carrier tape		PERMITTED	
CUT WIRE LENGTH			
For cut out components the length of the residual leads beyond the upper edge of the	L	12 Nom	
carrier tape measured from the abscissa			
COMPONENT HEAD LENGTH	Α	5 max	

EGR SENSOR	Resistance	B value 25/85°C	Coating	Packing
NKA202C2B2	R100= $186.6\Omega \pm 2\%$	3540K ± 0.75%	CR1	Bandoliered H ₁ = 45 ±1mm

NKA Standard Range Resistance Values

(other values available upon request)

R25 Ω	Material System	B Value 25/85°C K	Maximum# Operating Temp. °C (°F)	Code R25°C ± 1%	Code R25°C ± 2%	Code R25°C ± 3%	Code R25°C ± 5%	Code R25°C ± 10%
500	2	3540 ± 1%	170 (338)	NKA501C2*1	NKA501C2*2	NKA501C2*3	NKA501C2*5	NKA501C2*10
500	2A	3627 ± 1%	170 (338)	NKA501C2A*1	NKA501C2A*2	NKA501C2A*3	NKA501C2A*5	NKA501C2A*10
500	7	3977± 1%	170 (338)	NKA501C7*1	NKA501C7*2	NKA501C7*3	NKA501C7*5	NKA501C7*10
1000	2	3540 ± 1%	170 (338)	NKA102C2*1	NKA102C2*2	NKA102C2*3	NKA102C2*5	NKA102C2*10
1000	2A	3627 ± 1%	170 (338)	NKA102C2A*1	NKA102C2A*2	NKA102C2A*3	NKA102C2A*5	NKA102C2A*10
1000	7	3977± 1%	170 (338)	NKA102C7*1	NKA102C7*2	NKA102C7*3	NKA102C7*5	NKA102C7*10
2000	2	3540 ± 1%	170 (338)	NKA202C2*1	NKA202C2*2	NKA202C2*3	NKA202C2*5	NKA202C2*10
2050	2	3540 ± 0.75%	170 (338)		NKA202C2B2			
2000	2A	3627 ± 1%	170 (338)	NKA202C2A*1	NKA202C2A*2	NKA202C2A*3	NKA202C2A*5	NKA202C2A*10
2000	7	3977± 1%	170 (338)	NKA202C7*1	NKA202C7*2	NKA202C7*3	NKA202C7*5	NKA202C7*10
2700	1	3977 ± 0.75%	190 (374)	NKA272C1*1	NKA272C1*2	NKA272C1*3	NKA272C1*5	NKA272C1*10
5000	4A	3435 ± 1%	170 (338)	NKA502C4A*1	NKA502C4A*2	NKA502C4A*3	NKA502C4A*5	NKA502C4A*10
5000	1	3977 ± 0.75%	190 (374)	NKA502C1*1	NKA502C1*2	NKA502C1*3	NKA502C1*5	NKA502C1*10
10000	4A	3435 ± 1%	170 (338)	NKA103C4A*1	NKA103C4A*2	NKA103C4A*3	NKA103C4A*5	NKA103C4A*10
10000	5	3740 ± 1%	170 (338)	NKA103C5*1	NKA103C5*2	NKA103C5*3	NKA103C5*5	NKA103C5*10
10000	1	3977 ± 0.75%	190 (374)	NKA103C1*1	NKA103C1*2	NKA103C1*3	NKA103C1*5	NKA103C1*10
12000	5	3740 ± 1%	170 (338)	NKA123C5*1	NKA123C5*2	NKA123C5*3	NKA123C5*5	NKA123C5*10
30000	8	3977± 1%	170 (338)	NKA303C8*1	NKA303C8*2	NKA303C8*3	NKA303C8*5	NKA303C8*10
50000	8	3977± 1%	170 (338)	NKA503C8*1	NKA503C8*2	NKA503C8*3	NKA503C8*5	NKA503C8*10

Replace * in the table codes shown above as follows:

Loose-packed R

Bandoliered B

Note: Add Suffix C to Code for CR1

See separate tables for resistance - temperature data



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Amphenol:

NKA272C1R1C NKA501C2R2C NKA102C2R1C NKA202C7R1C NKA102C7R2C NKA102C2R2C NKA202C2R2C NKA502C4AR10C NKA202C2AR2C NKA202C7R10C NKA103C4AR1C NKA103C1R10C NKA102C2AR1C NKA102C7R1C NKA102C7R1C NKA503C8R1C NKA503C8R1C NKA102C2R10C NKA202C2R10C NKA272C1R10C NKA303C8R10C NKA202C2AR1C NKA502C4AR2C NKA503C8R2C NKA103C4AR10C NKA501C2R1C NKA501C7R10C NKA103C1R1C NKA502C1R10C NKA503C8R10C NKA103C1R2C NKA501C2R10C NKA103C5R10C NKA103C5R10C NKA501C7R10C NKA501C7R10C NKA501C7R10C NKA501C2AR2C NKA501C2AR2C NKA501C2AR10C NKA501C2AR10C NKA501C2AR1C NKA202C2R11 NKA202C7R2C NKA272C1R2C NKA123C5R2C NKA501C2R10C NKA501C2AR1C NKA501C7R2C NKA103C5R2C NKA102C7R10C NKA103C4AR2C NKA303C8R1C NKA303C8R1C NKA303C8R2C NKA102C2AR10C NKA502C1R1C NKA103C5R1C NKA102C2AR2C NKA102C2R5 NKA103C1R10 NKA502C1R10 NKA502C1R1 NKA103C1R1 NKA103C1B1 NKA103C1R5 NKA103C5R2 NKA123C5R2 NKA272C1B1 NKA302C1R3 NKA502C1R1 NKA502C1R5 NKA103C1R1 NKA103C1R3 NKA103C1R5 NKA123C5R2 NKA123C5R2 NKA123C5R2 NKA202C2R2