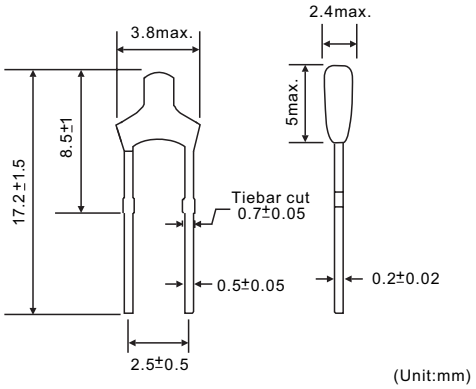
Temperature Compensation/Sensing KNU Series (Lead Frame Type)

- Features
  1. Body size ϕ3mm
  2. Radial lead resin coated
  3. -40 ~ +100℃ operating temperature range
  4. Wide resistance range
  5. Cost effective

- Recommended applications
  1. Home appliances (air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
  2. Automotive electronics
  3. Computers
  4. Digital meter

- Approvals

- Dimensions



(Unit:mm)

- Part number code

K	N	U	3	A	1	0	3	G	3	0	G	1	A	

Product Code	
KNU3	NTC Thermistor KNU3 Type

Define of Beta Value	
A	$B_{25/85}$
B	$B_{25/50}$

Zero Power Resistance at 25℃ (R_{25})	
102	1KΩ
103	10KΩ
473	47KΩ

Tolerance of R_{25}	
F	±1%
G	±2%
H	±3%
J	±5%
K	±10%

Beta Value First Two Digits	
30	30
31	31
32	32
⋮	⋮
40	40
41	41
⋮	⋮

Tolerance of Beta Value	
F	±1%
G	±2%
H	±3%

Appearance	
A	0.5×2mm Straight Lead

Custom Spec. Controlling Number
Do not use reserved for factory only

Beta Value Code For Last Two Digits

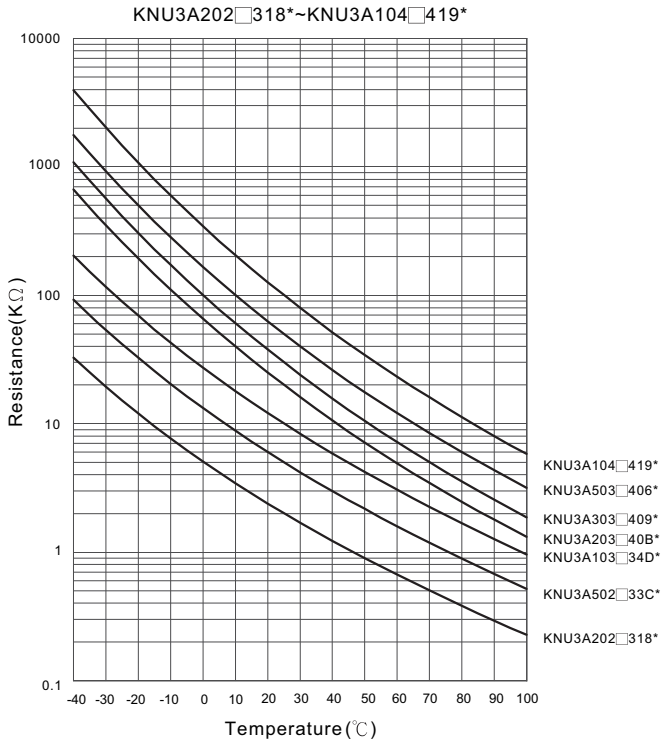
Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits
0	98	2	18	4	38	6	58	8	78
	99		19		39		59		79
	00		20		40		60		80
	01		21		41		61		81
	02		22		42		62		82
A	03	C	23	E	43	G	63	J	83
	04		24		44		64		84
	05		25		45		65		85
	06		26		46		66		86
	07		27		47		67		87
1	08	3	28	5	48	7	68	9	88
	09		29		49		69		89
	10		30		50		70		90
	11		31		51		71		91
	12		32		52		72		92
B	13	D	33	F	53	H	73	K	93
	14		34		54		74		94
	15		35		55		75		95
	16		36		56		76		96
	17		37		57		77		97

Characteristics

Part no.	Zero power resistance at 25℃ (KΩ)	Tolerance of resistance (±%)	B value (K)		Tolerance of B value (±%)	Max. power rating at 25℃ (mW)	Thermal dissipation constant (mW/℃)	Thermal time constant (Sec.)	Operating temperature range (℃)
KNU3A202□318*	2	1、2、3、5、10	25/85	3180	1、2、3	150	≧2	≦12	-40 ~ +100
KNU3A502□33C*	5			3325					
KNU3A103□34D*	10			3435					
KNU3A123□347*	12			3470					
KNU3A203□40B*	20			4015					
KNU3A303□409*	30			4090					
KNU3A333□409*	33			4090					
KNU3A473□409*	47			4090					
KNU3A503□406*	50			4060					
KNU3A104□419*	100			4190					

Note 1: □ = Tolerance of resistance
Note 2: *= Tolerance of B value

R-T characteristic curve (representative)



- Reliability test

Item	Test Conditions/Methods	Specifications
Tensile Strength of Terminations	Gradually applying the force specified below to each terminal and keeping the unit fixed for 10±1 sec. Terminal diameter (mm): 0.3<d≦0.5 — Force (Kg): 0.5	No visible damage
Bending Strength of Terminations	Hanging the force specified below to each terminal and gradually bending each terminal by 90° in one direction, then 90° in the opposite direction, and again back to the origin. Terminal cross-sectional area (mm): 0.07<S≦0.2 — Terminal diameter (mm): 0.3<d≦0.5 — Force (Kg): 0.25	No visible damage
Solderability	235±5℃ , 2±0.5 sec	At least 95% of terminal electrode is covered by new solder
Resistance to Soldering Heat	260±5℃ ,10±1sec	No visible damage | △R/R | ≦ 3 %
High Temperature Storage	100±5℃X1000HRS	No visible damage | △R/R | ≦ 5 %
Damp Heat	40±2℃,90~95%RH,1000±24HRS	No visible damage | △R/R | ≦ 3 %
Thermal Shock	The thermal shock conditions shown below shall be repeated 5 cycles	No visible damage | △R/R | ≦ 3%
Life Test	25±5℃, Pmax X 1000 HRS	No visible damage | △R/R | ≦ 5%

Step	Temperature (℃)	Period (minutes)
1	-40±5	30±3
2	Room temperature	5±3
3	100±5	30±3
4	Room temperature	5±3