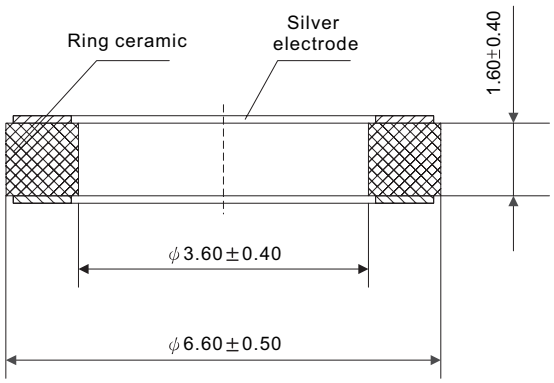
Temperature Compensation/Sensing KNR Series (Ring Type)

- Features
  1. Washer shape Leadless discs
  2. -40 ~ +125 ℃ operating temperature range
  3. Suitable for clamp contact

- Recommended applications
  1. Automotive electronic

- Dimensions



(Unit: mm)

- Part number code

K	N	R	6	A	1	0	2	F	4	1	5	F	

Product Code	
KNR6	NTC Thermistor KNR6 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%

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

Beta Value Code For Last Two Digits

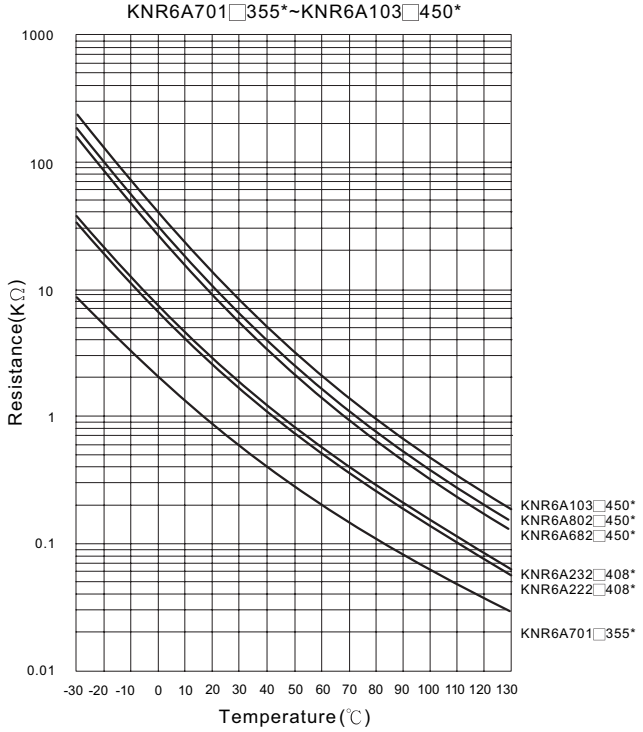
Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits	Code	Beta Value Last Two Digits
0	98	2	18	4	38	6	58	8	78
	99		19		39		59		79
	00		20		40		60		80
	01		21		41		61		81
	02		22		42		62		82
A	03	C	23	E	43	G	63	J	83
	04		24		44		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 (℃)
KNR6A401□403*	0.4	5、10、20	25/85	4030	1、2、3	210	≧3.5	≦50	-40 ~ +125
KNR6A701□355*	0.7			3550					
KNR6A102□360*	1			3600					
KNR6A222□408*	2.2			4080					
KNR6A232□408*	2.3			4080					
KNR6A472□445*	4.7			4450					
KNR6A502□445*	5			4450					
KNR6A682□450*	6.8			4500					
KNR6A802□450*	8			4500					
KNR6A103□450*	10			4500					

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

- R-T characteristic curve (representative)



- Reliability test

<table>
<tr><th>Item</th><th>Test conditions/methods</th><th>Specifications</th></tr>
<tr><td>High Temperature Storage</td><td>125±5℃X1000 HRS</td><td>No visible damage
| △R/R | ≦ 5 %</td></tr>
<tr><td>Thermal Shock</td><td>The thermal shock conditions shown below shall be repeated 5 cycles
<table>
<tr><th>Step</th><th>Temperature (℃)</th><th>Period (minutes)</th></tr>
<tr><td>1</td><td>-40±5</td><td>30±3</td></tr>
<tr><td>2</td><td>Room temperature</td><td>5±3</td></tr>
<tr><td>3</td><td>125±5</td><td>30±3</td></tr>
<tr><td>4</td><td>Room temperature</td><td>5±3</td></tr>
</table></td><td>No visible damage
| △R/R | ≦ 3 %</td></tr>
<tr><td>Life Test</td><td>25±5℃,PmaxX1000 HRS</td><td>No visible damage
| △R/R | ≦ 5 %</td></tr>
</table>