

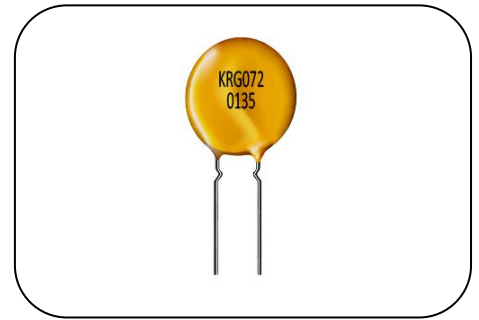
Polymer PTC Resettable Fuse: KRG Series

72Vdc Radial Leaded Type



■ Features

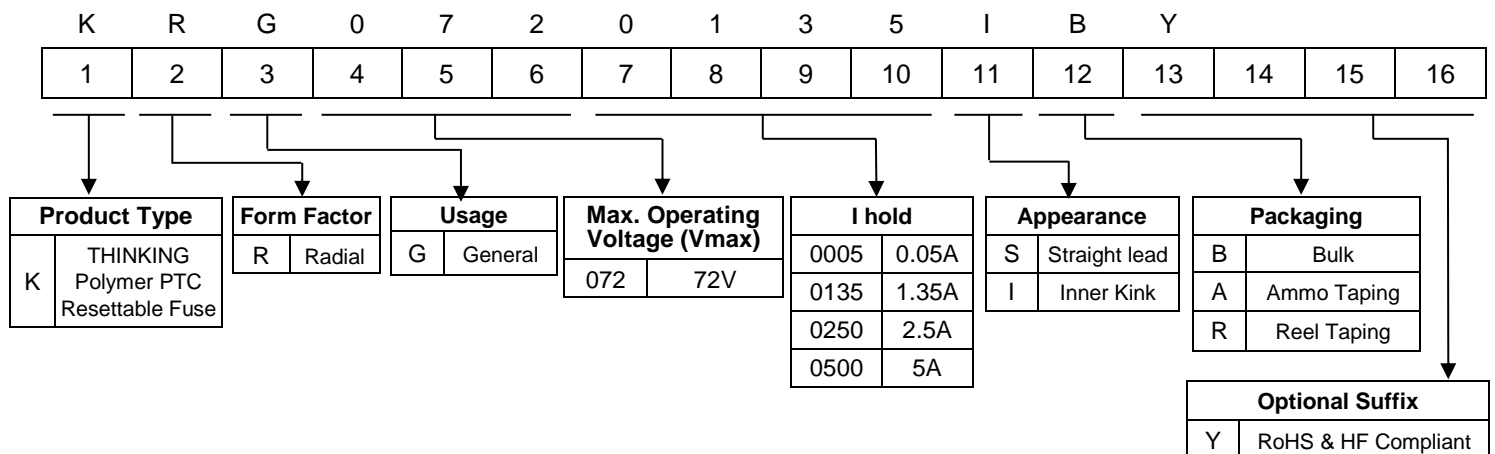
1. RoHS & Halogen-Free (HF) compliant
2. Resettable over-current protection device
3. Radial leaded devices
4. Hold current ratings from 0.05~ 5A
5. Maximum voltage is 72Vdc
6. Operating & storage temperature range: -40 ~ +85°C
7. Agency Recognition: UL/cUL, TUV



■ Recommended Applications

1. Satellite video receivers
2. Industrial controls
3. Transformers
4. Computer motherboards
5. USB hubs, ports and peripherals
6. IEEE 1394 ports
7. CD-ROMs
8. Game machines
9. Battery packs
10. Phones
11. Analog and digital line cards
12. Printers

■ Part Number Code

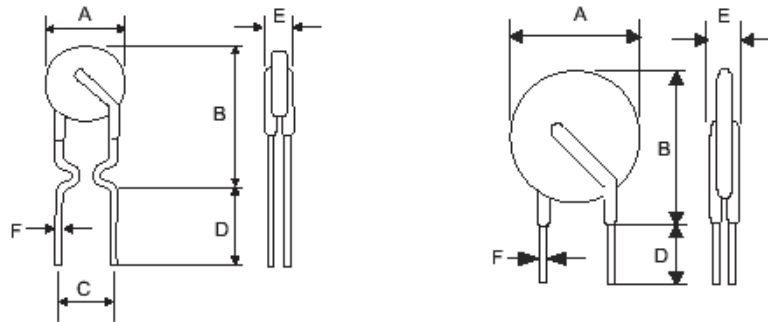


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■ Structure and Dimensions



Style1
(Inner kink)

Style2
(Straight lead)

Marking: Device is marked with product type, Vmax, and I hold.

(Unit: mm)

Part No.	A		B				C		D		E		F		Style
	Min.	Max.	Min.		Max.		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
			Straight Lead	Inner Kink	Straight Lead	Inner Kink									
KRG0720005	3.8	6	3.7	9.4	8.4	11.4	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720010	3.8	6	3.7	9.4	8.4	11.4	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720017	4.9	6.8	4.8	10.5	9.5	12.5	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720020	4.2	6.2	4.1	9.8	8.8	11.8	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720025	4.76	6.6	4.66	10.36	9.36	12.36	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720030	5.16	6.76	5.06	10.76	9.76	12.76	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720040	6.35	7.6	6.25	10.95	10.95	13.15	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720050	6.75	7.6	6.65	11.35	11.35	13.55	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720065	8.34	9.7	8.24	12.44	12.94	14.5	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720075	9.13	10.4	9.03	13.23	13.73	15.2	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720090	9.9	11.7	9.8	14	14.5	15.7	4.2	5.8	7.6	11.6	1.7	3	0.48	0.52	1, 2
KRG0720110	11.51	13	11.41	16.11	16.11	18	4.2	5.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720135	13.1	14.5	13	17.7	17.7	19.6	4.2	5.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720160	14.69	16.3	14.59	19.29	19.29	21.19	4.2	5.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720185	16.28	17.8	16.18	20.38	20.88	22.38	4.2	5.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720250	19.45	21.3	19.35	23.55	24.05	25.55	9.2	10.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720300	22.62	24.9	22.52	26.72	27.22	28.72	9.2	10.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720375	25.8	28.4	25.7	29.9	30.4	31.9	9.2	10.8	7.6	11.6	2	3.5	0.78	0.82	1, 2
KRG0720500	25.8	28.4	25.7	29.9	30.4	31.9	9.2	10.8	7.6	11.6	2	3.5	0.78	0.82	1, 2

Note:

UL&cUL File No: E138827

TUV File No:R 50541205

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■ Electrical Characteristics at 23°C

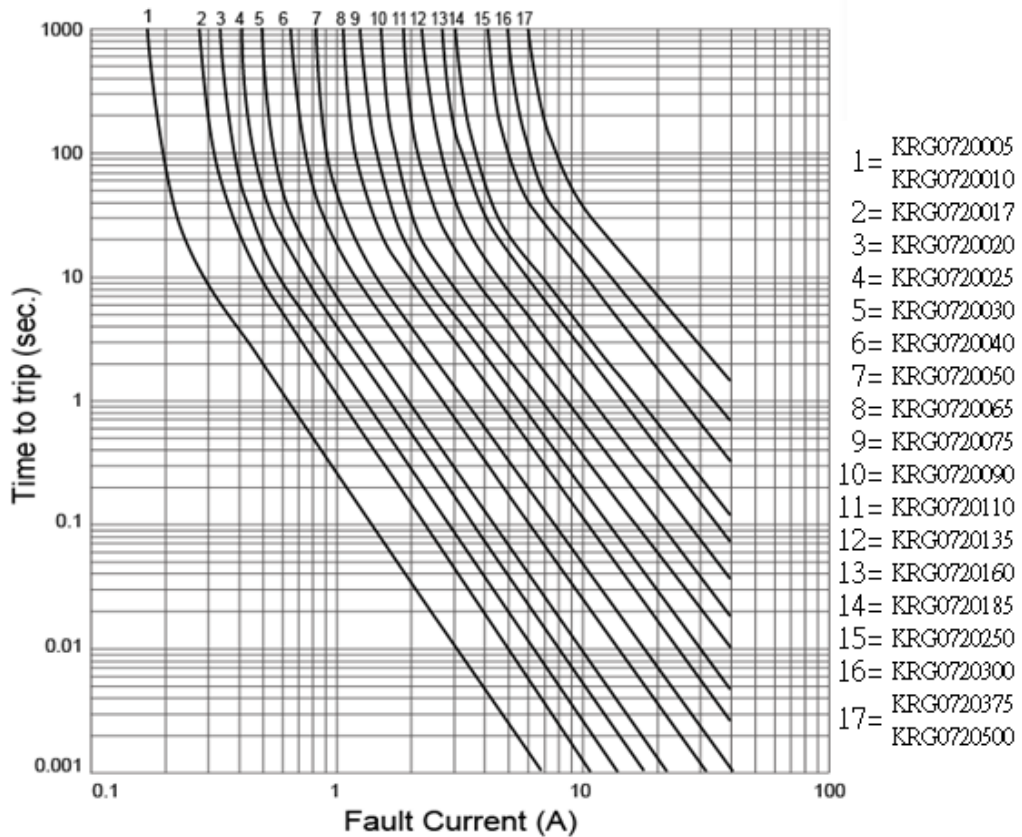
Part No.	Vmax.	I _{max} .	I _{hold}	I _{trip}	P _d (Typ.)	Maximum Time to Trip		Resistance			Safety Approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	Current	Time	Initial R _i		Post Trip R ₁	UL/ cUL	TUV
						(A)	(Sec)	Min. (Ω)	Max. (Ω)	Max.(Ω)		
KRG0720005	72	40	0.05	0.1	0.3	0.25	3	8	25	40	✓	✓
KRG0720010	72	40	0.1	0.2	0.45	0.5	4	2.5	4.5	7.5	✓	✓
KRG0720017	72	40	0.17	0.34	0.55	0.85	3	3.3	5.21	8	✓	✓
KRG0720020	72	40	0.2	0.4	0.55	1	2.2	1.83	2.75	4.4	✓	✓
KRG0720025	72	40	0.25	0.5	0.55	1.25	2.5	1.25	1.95	3	✓	✓
KRG0720030	72	40	0.3	0.6	0.6	1.5	3	0.88	1.33	2.1	✓	✓
KRG0720040	72	40	0.4	0.8	0.65	2	3.8	0.55	0.86	1.29	✓	✓
KRG0720050	72	40	0.5	1	1.05	2.5	4	0.5	0.77	1.17	✓	✓
KRG0720065	72	40	0.65	1.3	1.05	3.25	5.3	0.31	0.48	0.72	✓	✓
KRG0720075	72	40	0.75	1.5	1.1	3.75	6.3	0.25	0.4	0.6	✓	✓
KRG0720090	72	40	0.9	1.8	1.2	4.5	7.2	0.2	0.31	0.47	✓	✓
KRG0720110	72	40	1.1	2.2	1.8	5.5	8.2	0.15	0.25	0.38	✓	✓
KRG0720135	72	40	1.35	2.7	2	6.75	9.6	0.12	0.19	0.3	✓	✓
KRG0720160	72	40	1.6	3.2	2.25	8	11.4	0.09	0.14	0.22	✓	✓
KRG0720185	72	40	1.85	3.7	2.5	9.25	12.6	0.08	0.12	0.19	✓	✓
KRG0720250	72	40	2.5	5	3	12.5	15.6	0.05	0.08	0.13	✓	✓
KRG0720300	72	40	3	6	3.5	15	19.8	0.04	0.06	0.1	✓	✓
KRG0720375	72	40	3.75	7.5	4	18.75	24	0.03	0.05	0.08	✓	✓
KRG0720500	72	40	5	10	5	25	28	0.012	0.03	0.05	✓	✓

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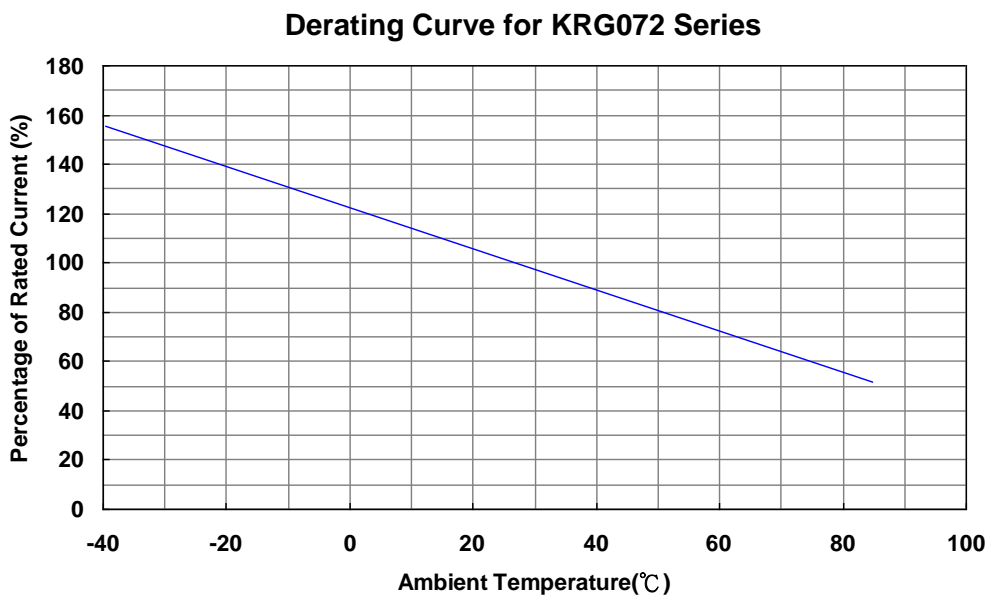
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■ Typical Time to Trip Curves at 23°C



■ Ihold & Itrip Thermal Derating Curve



Polymer PTC Resettable Fuse: KRG Series

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■ Ihold Thermal Derating Chart

(Unit: A)

Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KRG0720005	0.075	0.07	0.06	0.05	0.045	0.04	0.035	0.03	0.025
KRG0720010	0.15	0.14	0.12	0.10	0.09	0.08	0.07	0.06	0.05
KRG0720017	0.26	0.23	0.20	0.17	0.15	0.13	0.11	0.095	0.085
KRG0720020	0.31	0.27	0.24	0.20	0.17	0.16	0.13	0.11	0.09
KRG0720025	0.38	0.34	0.30	0.25	0.22	0.20	0.16	0.14	0.13
KRG0720030	0.46	0.41	0.36	0.30	0.26	0.23	0.19	0.16	0.15
KRG0720040	0.61	0.54	0.48	0.40	0.35	0.31	0.25	0.22	0.20
KRG0720050	0.77	0.68	0.60	0.50	0.44	0.39	0.31	0.27	0.25
KRG0720065	0.99	0.88	0.78	0.65	0.57	0.51	0.41	0.36	0.33
KRG0720075	1.15	1.02	0.90	0.75	0.65	0.59	0.51	0.46	0.38
KRG0720090	1.38	1.22	1.08	0.90	0.78	0.70	0.62	0.55	0.45
KRG0720110	1.60	1.43	1.27	1.10	0.92	0.85	0.75	0.67	0.57
KRG0720135	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.83	0.70
KRG0720160	2.23	2.08	1.84	1.60	1.33	1.23	1.08	0.98	0.80
KRG0720185	2.68	2.41	2.13	1.85	1.54	1.43	1.26	1.13	0.90
KRG0720250	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.50	1.30
KRG0720300	4.35	3.90	3.45	3.00	2.50	2.30	1.90	1.80	1.50
KRG0720375	5.44	4.88	4.31	3.75	3.11	2.90	2.54	2.29	1.90
KRG0720500	7.49	6.91	6.12	5	4.52	4.05	3.55	3.05	2.51

■ Reliability

Item	Standard	Test Condition/methods	Criteria
Resistance to Soldering Heat	IEC 60068-2-58	260 ± 5°C, 10 ± 1 sec	R _f < R _{1max} No visible damage
Passive Aging	IEC 60738-1	85 ± 5°C, 1000 ± 24hrs	±5% typical resistance change
Humidity Aging	IEC 60068-2-78	85 ± 5°C, 80~85%RH, 1000 ± 5hrs	±5% typical resistance change
Rapid Change of Temperature	IEC 60738-1	85 ± 5/-40 ± 5°C, 10 cycles, Duration: 30min	±5% typical resistance change
Overload Endurance	UL 1434	V _{max} , 120% I _{max} , 50 cycles V _{max} , 300% I _{trip} , 6000 cycles	No visible damage
Trip Endurance	UL 1434	V _{max} , I _{trip} ≤ I ≤ I _{max} , 1000 ± 24hrs	No visible damage

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■ Packaging

Devices are taped according to IEC 60286-2 standards. See table below and Fig. 1~3 for details.

Dimension description	IEC Mark	Dimension (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.70	±0.3
Ordinate to adjacent component lead KRG0720005~KRG0720185	P ₁	3.85	±0.7
Ordinate to adjacent component lead KRG0720250~KRG0720500		7.70	±0.7
Device pitch KRG0720025~KRG0720090	P	12.70	±1.0
Device pitch KRG0720110~KRG0720300		25.40	±1.0
Device pitch KRG0720375~KRG0720500		38.10	±1.0
Lead spacing KRG0720005~KRG0720185	C	5.00	±0.8
Lead spacing KRG0720250~KRG0720500		10.00	
Lead diameter KRG0720005~KRG0720090	d	0.50	±0.02
Lead diameter KRG0720110~KRG0720500		0.80	
Carrier tape width	W	18.00	+1/-0.5
Top distance between tape edges	W ₂	3.00	Max
Hold-down tape width	W ₀	12.00	±1.5
Sprocket hole position	W ₁	9.00	+0.75/-0.5
Abscissa to top KRG0720005~KRG0720090	H ₁	32.20	Max.
Abscissa to top KRG0720110~KRG0720500		47.50	
Abscissa to plane (straight lead)	H	18.00	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.00	±0.5
Sprocket hole diameter	D ₀	4.00	±0.2
Lead protrusion	L ₁	0.50	Max.
Tape thickness	t	0.60	±0.2
Body lateral deviation	Δh	2.00	Max.
Body tape plane deviation	Δp	1.00	Max.
Reel width	W ₃	See reel specification	±1
Reel diameter		340.00	±10
Arbor hole diameter	n ₀	31.00	±1
Core diameter	n	80.00	Min.

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● Taping Specification

Fig.1 For KRG0720005 ~ KRG0720185

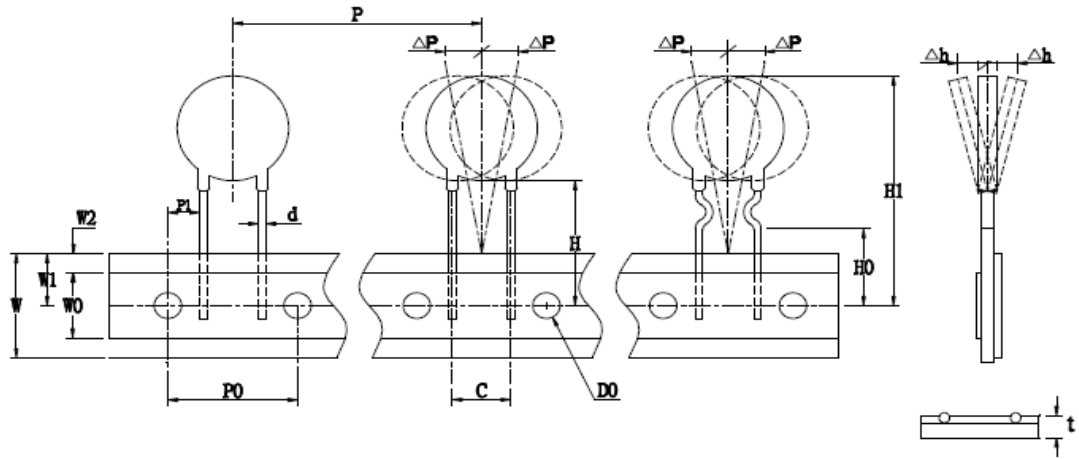
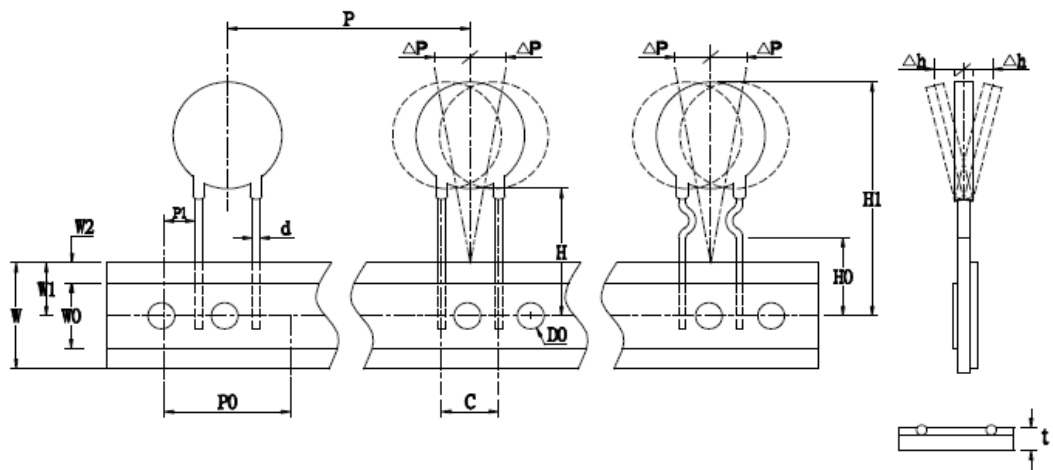
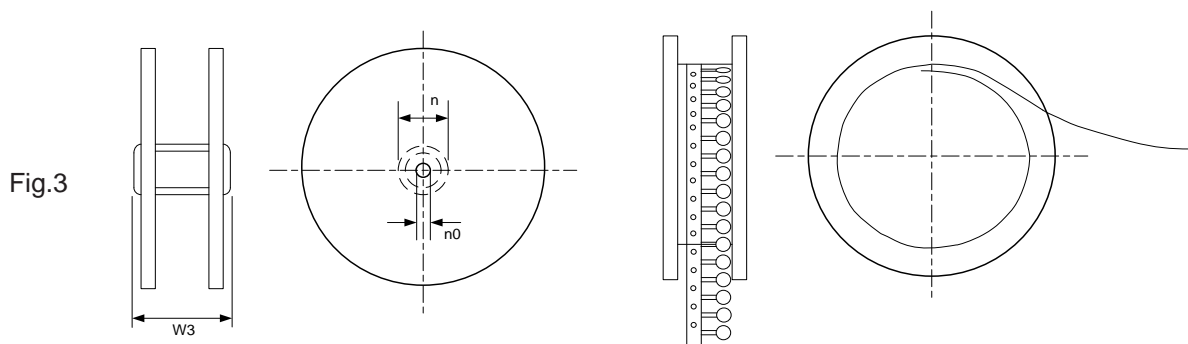


Fig.2 For KRG0720250-KRG0720500



● Reel Specification



Series	W3 (mm)
KRG072 (0005~0185)	46±1
KRG072 (0250)	52±1
KRG072 (0300~0500)	55±1

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■ Quantity

● Bulk Packing

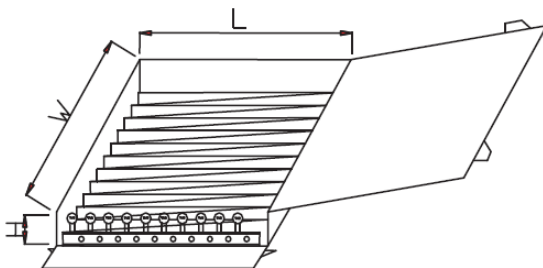
Series	Quantity (pcs/bag)
KRG072 (0005~0025)	1,000
KRG072 (0030~0185)	500
KRG072 (0250~0500)	250

● Reel Packing

Series	Quantity (pcs/reel)
KRG072 (0005-010)	3,000
KRG0720017	2,500
KRG072 (0020~0040)	3,000
KRG072 (0050~0090)	2,000
KRG072 (0110~0185)	1,200
KRG072 (0250~0500)	1,000

● Ammo Packing

Series	Quantity (pcs/box)
KRG072 (0005~0090)	1,000
KRG072 (0110~0500)	500



(Unit: mm)

Series	W	L	H
KRG072 (0005~0500)	345	275	55

■ Warehouse Storage Conditions of Products

● Storage Conditions:

1. Storage Temperature: -10°C~+40°C
2. Relative Humidity: ≤ 75%RH
3. Keep away from corrosive atmosphere and sunlight.

● Period of Storage: 1 year