

# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leded Type



### ■ Features

1. RoHS & Halogen-Free (HF) compliant
2. Radial leaded devices
3. Broadest range of resettable devices available in the industry
4. Hold current ratings from 0.75 to 15A
5. Maximum voltage: 6Vdc / 16Vdc
6. Operating & storage temperature range : -40 ~ +85°C
7. Agency Recognition : UL / cUL / TUV



### ■ Recommended Applications

1. Motors / fans
2. Keyboard / mouse
3. Transformers
4. Industrial controls

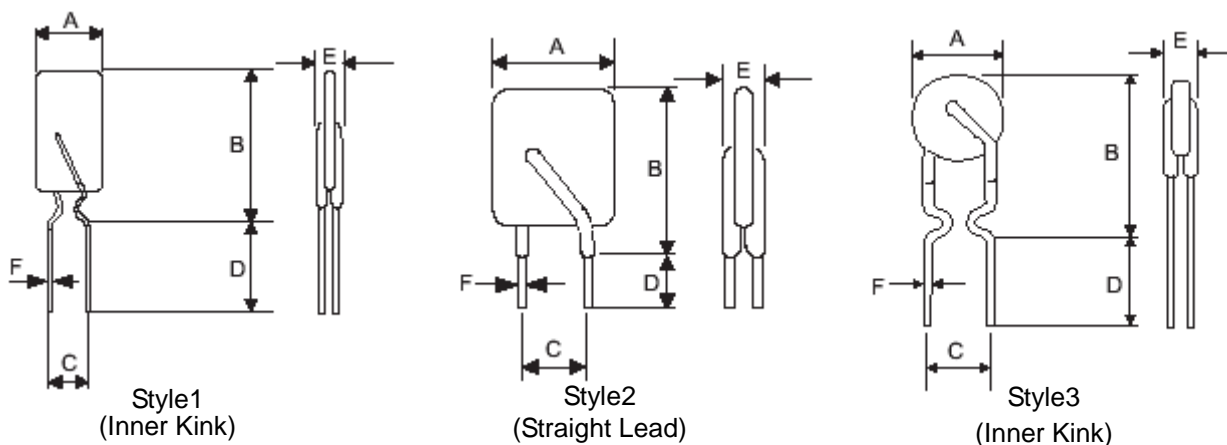
### ■ Part Number Code

K	R	G	0	1	6	0	1	3	5	I	B	Y				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

Product Type		Form Factor		Usage		Max. Operating Voltage (Vmax.)		I hold		Appearance		Packaging		Optional Suffix	
K	THINKING Polymer PTC Resettable Fuse	R	Radial	G	General	006	6V	0075	0.75A	S	Straight lead	B	Bulk	Y	RoHS &HF Compliant
						016	16V	0120	1.2A	I	Inner kink lead	A	Ammo Taping		
								0135	1.35A			R	Reel Taping		
								0600	6A						
								1000	10A						
								1500	15A						

### ■ Structure and Dimensions



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

(Unit: mm)

# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type



Part No.	A		B		C	D	E	F	Figure
	Max.	Max.		Typ.	Min.	Max.	Typ.	Style	
		Straight Lead	Inner Kink						
KRG0060075	7.0	--	11.4	5.0±0.8	7.6	3.1	0.5±0.02	3	
KRG0060120	7.0	--	11.7	5.0±0.8	7.6	3.1	0.5±0.02	3	
KRG0060155	6.9	--	11.7	5.0±0.8	7.6	3.1	0.5±0.02	3	
KRG0160090	7.4	12.2	12.2	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160110	7.4	14.2	14.2	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160135	8.9	13.5	13.5	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160160	8.9	15.2	15.2	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160185	10.2	15.7	15.7	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160250	11.4	18.3	20.5	5.0±0.8	7.6	3.1	0.5±0.02	1,2	
KRG0160300	7.1	11.0	14.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160400	8.9	12.8	14.8	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160500	10.4	14.3	16.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160600	10.7	17.1	19.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160700	11.2	19.7	22.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160800	12.7	20.9	23.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0160900	14.0	21.9	24.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0161000	16.5	25.2	28.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0161100	17.5	26.0	29.0	5.0±0.8	7.6	3.5	0.8±0.02	1,2	
KRG0161200	17.5	28.0	31.0	10.0±0.8	7.6	3.5	1.0±0.02	1,2	
KRG0161300	21.6	29.2	32.0	10.0±0.8	7.6	3.5	1.0±0.02	1,2	
KRG0161400	23.5	27.9	30.0	10.0±0.8	7.6	3.5	1.0±0.02	1,2	
KRG0161500	25.1	29.0	32.0	10.0±0.8	7.6	3.5	1.0±0.02	1,2	

### ■ Electrical Characteristics at 23°C

Part No.	Vmax.	I <sub>max</sub>	I <sub>hold</sub>	I <sub>trip</sub>	P <sub>d</sub> (Typ.)	Maximum Time to Trip		Resistance			Safety Approvals	
	(V <sub>dc</sub> )	(A)	(A)	(A)	(W)	Current	Time	Initial R <sub>i</sub>		Post Trip R <sub>1</sub>	UL/cUL	TUV
						(A)	(Sec)	Min. (Ω)	Max. (Ω)	Max.(Ω)		
KRG0060075	6	40	0.75	1.50	0.30	8.00	0.40	0.110	0.175	0.230	√	√
KRG0060120	6	40	1.20	2.40	0.60	8.00	0.50	0.065	0.0975	0.140	√	√
KRG0060155	6	40	1.55	3.10	0.70	7.80	2.20	0.043	0.0705	0.100	√	√
KRG0160090	16	40	0.90	1.80	0.60	8.00	1.20	0.070	0.120	0.180	√	√
KRG0160110	16	40	1.10	2.20	0.70	8.00	2.30	0.050	0.095	0.140	√	√
KRG0160135	16	40	1.35	2.70	0.80	8.00	4.50	0.040	0.074	0.120	√	√
KRG0160160	16	40	1.60	3.20	0.90	8.00	9.00	0.030	0.061	0.110	√	√
KRG0160185	16	40	1.85	3.70	1.00	8.00	10.00	0.030	0.051	0.090	√	√
KRG0160250	16	40	2.50	5.00	1.20	8.00	40.00	0.020	0.036	0.070	√	√
KRG0160300	16	100	3.00	5.10	2.30	15.00	1.00	0.038	0.065	0.098	√	√
KRG0160400	16	100	4.00	6.80	2.40	20.00	1.70	0.021	0.038	0.060	√	√
KRG0160500	16	100	5.00	8.50	2.60	25.00	2.00	0.010	0.023	0.034	√	√
KRG0160600	16	100	6.00	10.20	2.80	30.00	3.30	0.006	0.018	0.028	√	√
KRG0160700	16	100	7.00	11.90	3.00	35.00	3.50	0.006	0.013	0.020	√	√
KRG0160800	16	100	8.00	13.60	3.00	40.00	5.00	0.005	0.011	0.018	√	√
KRG0160900	16	100	9.00	15.30	3.30	45.00	5.50	0.005	0.009	0.014	√	√
KRG0161000	16	100	10.00	17.00	3.60	50.00	6.00	0.004	0.007	0.010	√	√
KRG0161100	16	100	11.00	18.70	3.70	55.00	7.00	0.003	0.006	0.009	√	√
KRG0161200	16	100	12.00	20.40	4.20	60.00	7.50	0.003	0.006	0.009	√	√
KRG0161300	16	100	13.00	22.10	4.60	65.00	8.50	0.002	0.006	0.008	√	√
KRG0161400	16	100	14.00	23.80	4.60	70.00	9.00	0.002	0.005	0.007	√	√
KRG0161500	16	100	15.00	25.50	4.60	75.00	10.00	0.002	0.005	0.007	√	√

Note: UL&cUL File No: E138827

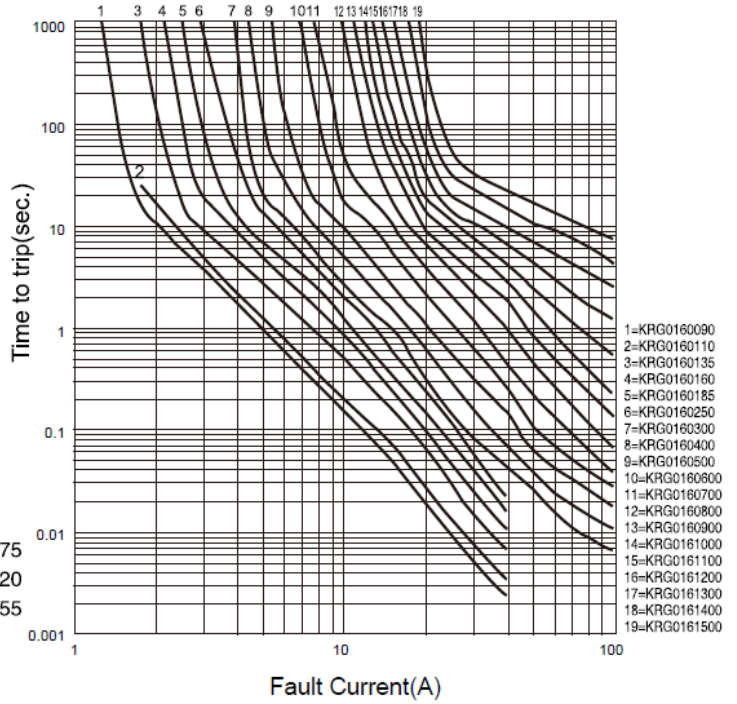
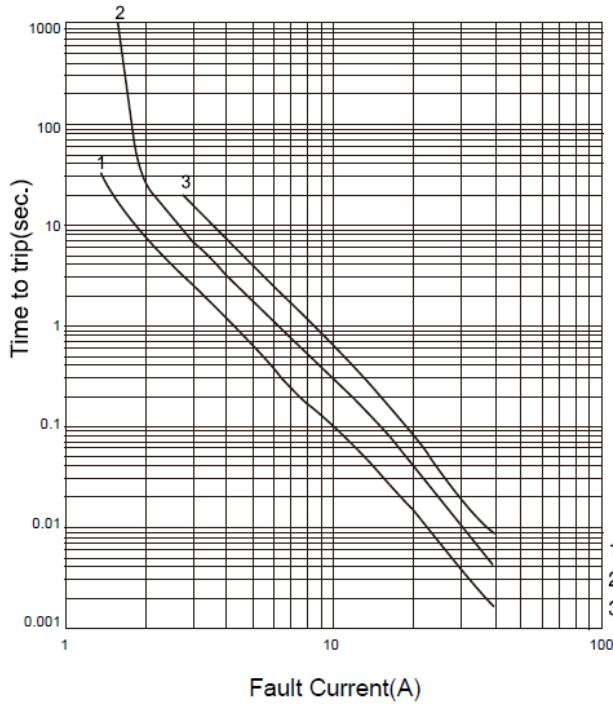
TUV File No: J 50161442, J 50231157

# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type

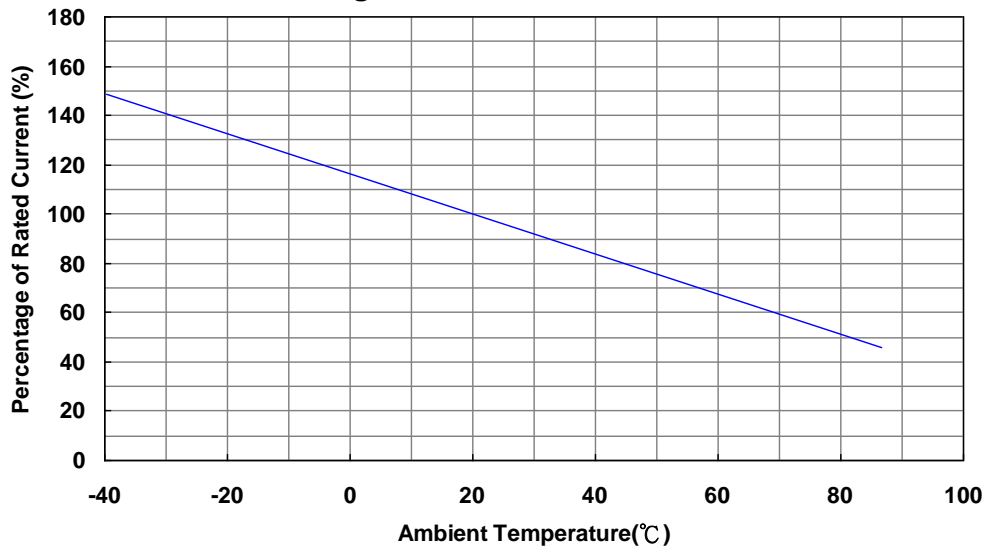


### Typical Time to Trip Curves at 23°C



### Ihold & Itrip Thermal Derating Curve

Derating Curve for KRG060/016 Series



# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type



### Hold Thermal Derating Chart

(Unit: A)

Part No.	Ambient Temperature								
	-40℃	-20℃	0℃	23℃	40℃	50℃	60℃	70℃	85℃
KRG0060075	1.05	0.95	0.85	<b>0.75</b>	0.64	0.58	0.51	0.44	0.35
KRG0060120	1.69	1.52	1.36	<b>1.20</b>	1.02	0.92	0.82	0.71	0.56
KRG0060155	2.17	1.96	1.75	<b>1.55</b>	1.32	1.19	1.05	0.91	0.73
KRG0160090	1.33	1.20	1.05	<b>0.90</b>	0.77	0.69	0.61	0.53	0.42
KRG0160110	1.63	1.46	1.29	<b>1.10</b>	0.94	0.85	0.75	0.65	0.52
KRG0160135	2.00	1.80	1.58	<b>1.35</b>	1.15	1.04	0.92	0.80	0.63
KRG0160160	2.37	2.13	1.87	<b>1.60</b>	1.36	1.23	1.09	0.94	0.75
KRG0160185	2.74	2.46	2.16	<b>1.85</b>	1.57	1.42	1.26	1.09	0.87
KRG0160250	3.63	3.25	2.88	<b>2.50</b>	2.08	1.93	1.70	1.48	1.18
KRG0160300	4.40	3.96	3.60	<b>3.00</b>	2.55	2.31	2.10	1.77	1.35
KRG0160400	5.90	5.28	4.80	<b>4.00</b>	3.40	3.08	2.80	2.36	1.80
KRG0160500	7.30	6.60	6.00	<b>5.00</b>	4.25	3.85	3.60	2.95	2.25
KRG0160600	8.80	7.92	7.20	<b>6.00</b>	5.10	4.62	4.20	3.54	2.70
KRG0160700	10.30	9.24	8.40	<b>7.00</b>	5.95	5.39	5.00	4.13	3.15
KRG0160800	11.70	10.56	9.60	<b>8.00</b>	6.80	6.16	5.60	4.72	3.60
KRG0160900	13.20	11.88	10.70	<b>9.00</b>	7.65	6.93	6.40	5.31	4.05
KRG0161000	14.70	13.20	12.00	<b>10.00</b>	8.50	7.70	7.00	5.90	4.50
KRG0161100	16.10	14.52	13.10	<b>11.00</b>	9.35	8.47	7.80	6.49	4.95
KRG0161200	17.60	15.84	14.40	<b>12.00</b>	10.20	9.24	8.40	7.08	5.40
KRG0161300	17.70	16.30	14.80	<b>13.00</b>	11.05	10.01	9.60	7.67	5.85
KRG0161400	20.50	18.48	16.80	<b>14.00</b>	11.90	10.78	9.80	8.26	6.30
KRG0161500	20.40	18.80	17.10	<b>15.00</b>	12.75	11.55	11.10	8.85	6.75

### Reliability

Item	Standard	Test Condition/methods	Criteria
Resistance to Soldering Heat	IEC 60068-2-58	260 ± 5 °C , 10 ± 1 sec	Rf<R1max No visible damage
Passive Aging	IEC 60738-1	85±5℃, 1000±24hrs	±5% typical resistance change
Humidity Aging	IEC 60068-2-78	85±5℃, 80~85%RH, 1000±5hrs	±5% typical resistance change
Rapid Change of Temperature	IEC 60738-1	85±5/-40±5℃, 10 cycles, Duration:30min	±5% typical resistance change
Overload Endurance	UL 1434	Vmax,120% Imax ,50 cycles Vmax,300% Itrip ,6000 cycles	No visible damage
Trip endurance	UL 1434	Vmax, Itrip ≤ I ≤ Imax , 1000±24hrs	No visible damage

# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type



### ■ Packaging

Devices taped using IEC 60286-2 standards. See table below and Fig. 1~4 for details.

Dimension description	IEC Mark	Dimension (mm)	Tolerance (mm)
Sprocket hole pitch	P <sub>0</sub>	12.70	±0.3
Ordinate to adjacent component lead KRG0060075, KRG0060120, KRG0060155 KRG0160090~KRG0161100	P <sub>1</sub>	3.85	±0.7
Ordinate to adjacent component lead KRG0161200~KRG0161500		7.70	±0.7
Device pitch KRG0060075, KRG0060120, KRG0060155 KRG0160090~KRG0160600	P	12.70	±1.0
Device pitch KRG0160700~KRG0161400		25.40	±1.0
Device pitch KRG0161500		38.10	±1.0
Lead spacing KRG0060075, KRG0060120, KRG0060155 KRG0160090~KRG0161100	F	5.00	±0.8
Lead spacing KRG0161200~KRG0161500		10.00	
Lead diameter KRG0060075, KRG0060120, KRG0060155 KRG0160090~KRG0160250	d	0.50	±0.02
Lead diameter KRG0160300~KRG0161500		0.80	
Carrier tape width	W	18.00	+1/-0.5
Top distance between tape edges	W <sub>2</sub>	3.00	Max
Hold-down tape width	W <sub>0</sub>	12.00	±1.5
Sprocket hole position	W <sub>1</sub>	9.00	+0.75/-0.5
Abscissa to top KRG0060075, KRG0060120, KRG0060155 KRG0160090~KRG0160600	H <sub>1</sub>	32.20	Max.
Abscissa to top KRG0160700~KRG0161500		47.50	
Abscissa to plane (straight lead)	H	18.00	+2/-0
Abscissa to plane (kinked lead)	H <sub>0</sub>	16.00	±0.5
Sprocket hole diameter	D <sub>0</sub>	4.00	±0.2
Lead protrusion	L <sub>1</sub>	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 <sub>3</sub>	See reel specification	±1
Reel diameter		340.00	±10
Arbor hole diameter	n <sub>0</sub>	31.00	±1
Core diameter	n	80.00	Min.

# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leded Type



- Taping Specification

Fig.1. For KRG0060075, KRG0060120 and KRG0060155

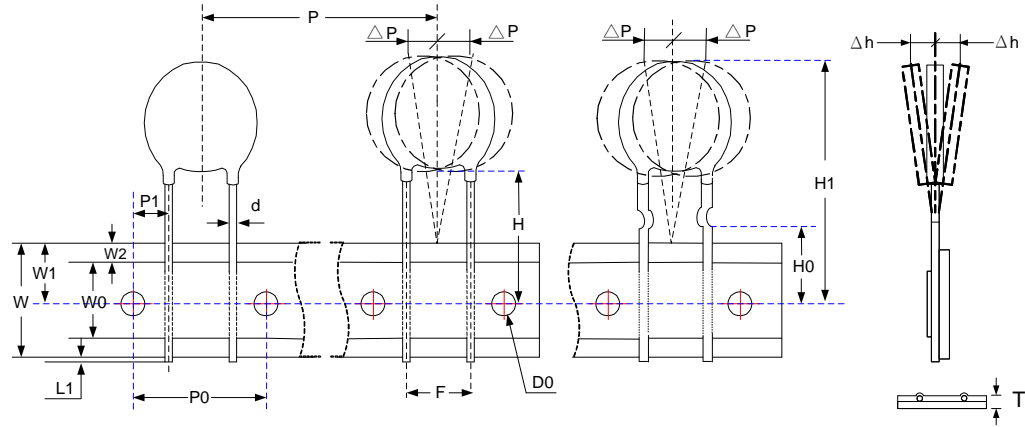


Fig.2. For KRG0160090 ~ KRG0161100

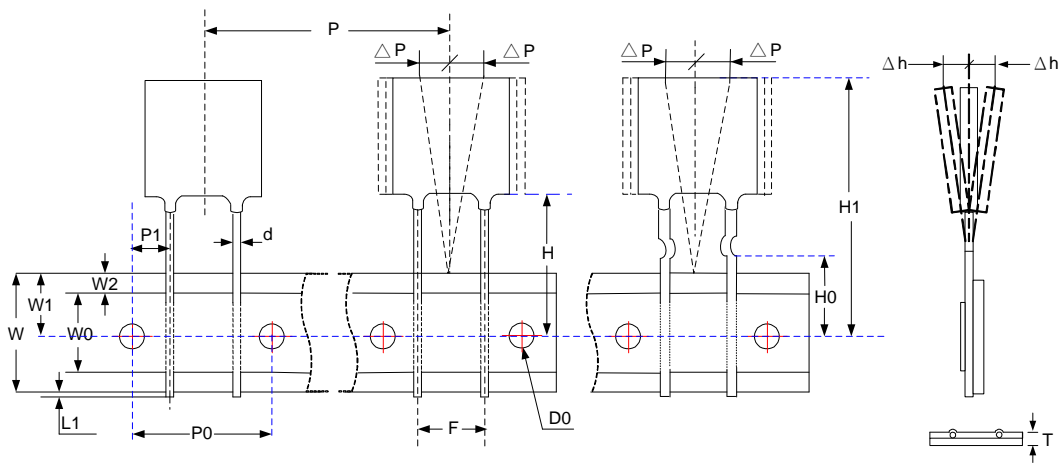
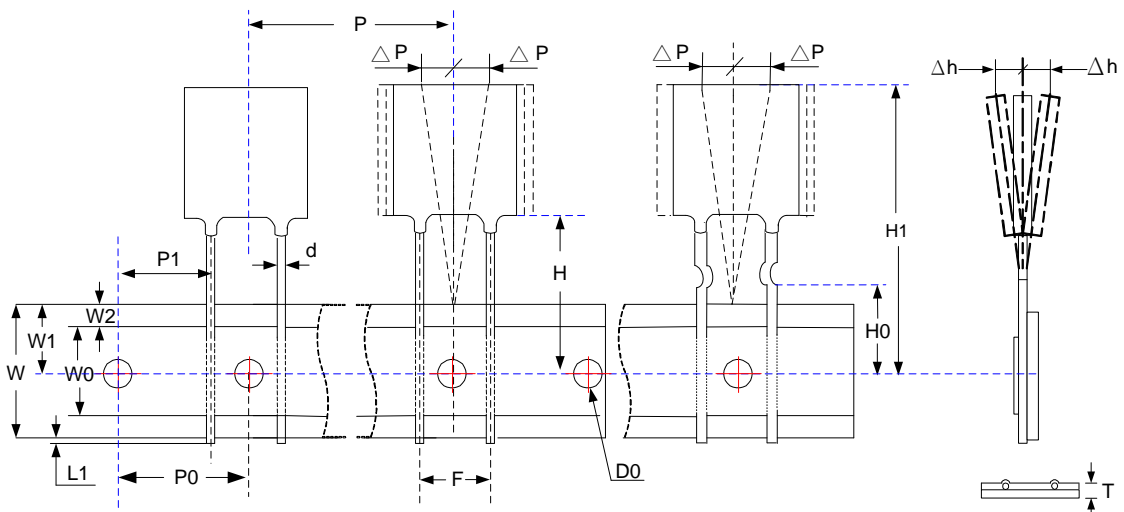


Fig.3. For KRG0161200 ~ KRG0161500

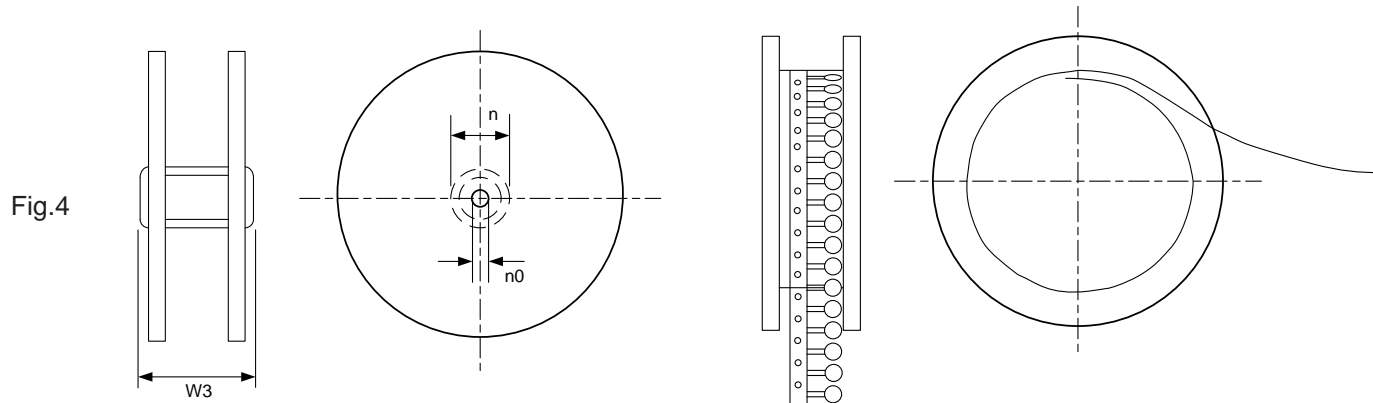


# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type



### ● Reel Specification



Series	W3 (mm)
KRG0060075, KRG0060120, KRG0060155 KRG016 (0090~0800)	46±1
KRG016 (0900~1100)	52±1
KRG016 (1200~1500)	55±1

### ■ Quantity

#### ● Bulk Packing

Series	Quantity (pcs/bag)
KRG0060075, KRG0060120, KRG0060155	1,000
KRG016 (0090~0160)	1,000
KRG016 (0185~0900)	500
KRG016 (1000~1500)	250

#### ● Reel Packing

Series	Quantity (pcs/reel)
KRG0060075, KRG0060120, KRG0060155	3,000
KRG016 (0090~0185)	3,000
KRG016 (0250~0400)	2,500
KRG016 (0500~0700)	1,500
KRG016 (0800~1500)	1,000

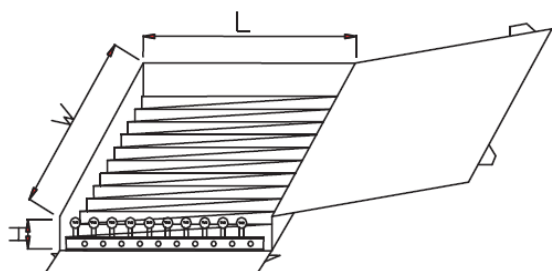
# Polymer PTC Resettable Fuse: KRG Series

## 6Vdc/16Vdc Radial Leaded Type



- Ammo Packing

Series	Quantity (pcs/box)
KRG0060075, KRG0060120, KRG0060155	1,000
KRG016 (0090~0600)	1,000
KRG016 (0700~1500)	500



(Unit:mm)

Series	W	L	H
KRG0060075, KRG0060120, KRG0060155	345	275	55
KRG0160090~KRG0161500	345	275	55

### ■ Warehouse Storage Conditions of Products

- Storage Conditions:
  1. Storage Temperature: -10°C ~ +40°C
  2. Relative Humidity:  $\leq 75\%RH$
  3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year