

Polymer PTC Resettable Fuse: KRL Type

240Vac Radial Leded Type For Line Voltage Application



■ Features

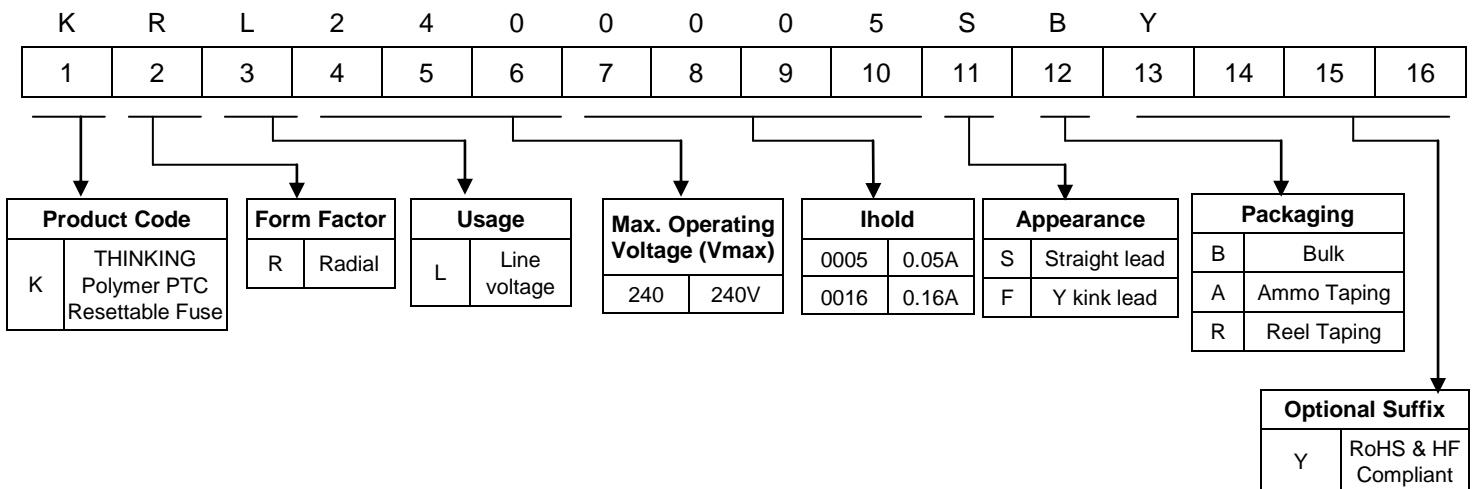
1. RoHS & Halogen-Free (HF) compliant
2. Radial leaded devices
3. Hold current ratings from 0.05A ~ 0.55A
4. Maximum operating voltage: 240Vac
5. Operating & storage temperature range : -40 ~ +85°C
6. Agency Approval: UL / cUL / TUV



■ Recommended Applications

1. Motors
2. Transformers
3. Power supplies
4. Industrial controllers
5. Home appliance

■ Part Number Code

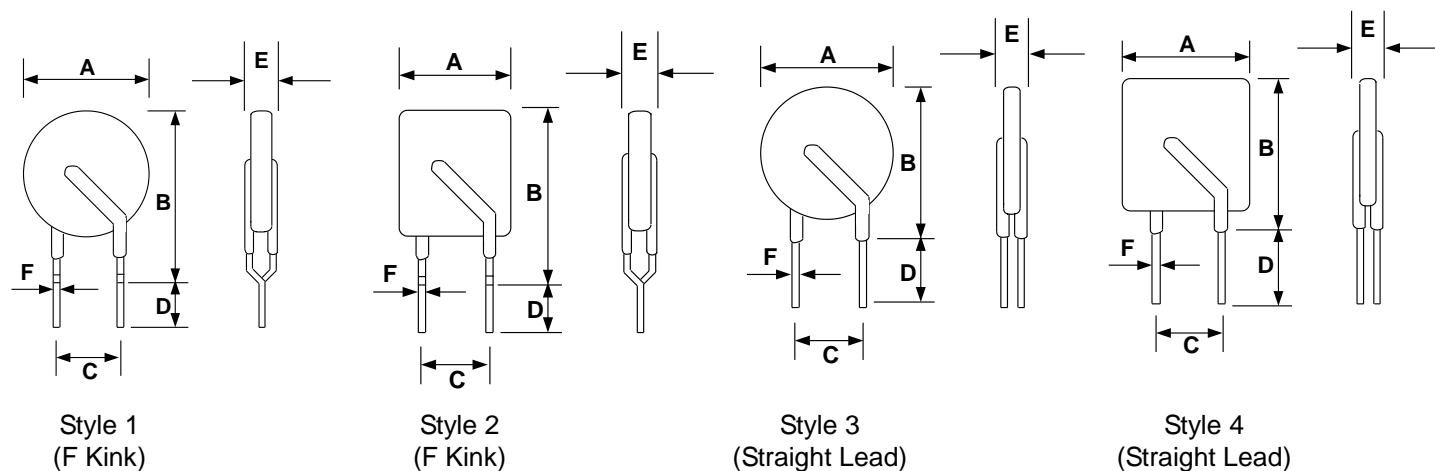


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■ Structure and Dimensions



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

(Unit:mm)

Part No.	A	B (Max.)		C	D	E	F	Figure
	Max.	F Kink	Straight Lead	Typ.	Min.	Max.	Typ.	Style
KRL2400005	8.3	12.1	10.7	5.0±0.8	7.6	4.6	0.50±0.02	1,3
KRL2400008	8.3	12.4	10.7	5.0±0.8	7.6	4.6	0.50±0.02	1,3
KRL2400012	8.3	12.9	10.7	5.0±0.8	7.6	3.8	0.50±0.02	1,3
KRL2400016	9.9	13.8	12.5	5.0±0.8	7.6	3.8	0.50±0.02	1,3
KRL2400025	9.6	18.8	17.4	5.0±0.8	7.6	3.8	0.60±0.02	2,4
KRL2400033	11.4	19.0	16.5	5.0±0.8	7.6	3.8	0.60±0.02	2,4
KRL2400040	11.5	20.9	19.5	5.0±0.8	7.6	3.8	0.60±0.02	2,4
KRL2400055	14.0	22.4	21.7	5.0±0.8	7.6	4.1	0.80±0.02	2,4

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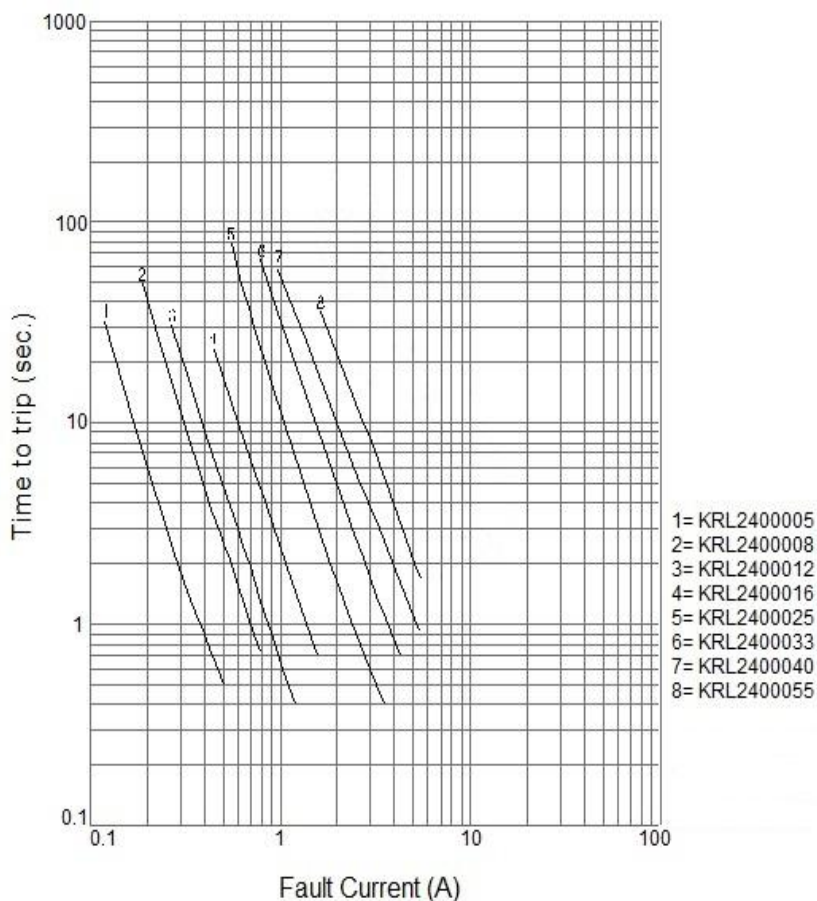
■ Electrical Characteristics at 23°C

Part No.	V _{max.}	V _{interrupt}	I _{max.}	I _{hold}	I _{trip}	P _d (Typ.)	Max. Time to Trip		Resistance		Safety Approvals	
							Current	Time	Initial R _i	Post Trip R ₁	UL/cUL	TUV
							(A)	(Sec.)	Min. (Ω)	Max. (Ω)		
KRL2400005	240	265	1.00	0.05	0.12	0.70	0.25	15.00	18.500	65.000	√	√
KRL2400008	240	265	1.20	0.08	0.19	0.80	0.40	15.00	7.400	26.000	√	√
KRL2400012	240	265	1.20	0.12	0.30	1.00	0.60	15.00	3.000	12.000	√	√
KRL2400016	240	265	2.00	0.16	0.37	1.40	0.80	15.00	2.500	7.800	√	√
KRL2400025	240	265	3.50	0.25	0.56	1.50	1.25	18.50	1.300	3.800	√	√
KRL2400033	240	265	4.50	0.33	0.74	1.70	1.65	21.00	0.770	2.600	√	√
KRL2400040	240	265	5.50	0.40	0.90	2.00	2.00	24.00	0.600	1.900	√	√
KRL2400055	240	265	7.00	0.55	1.25	3.40	2.75	26.00	0.450	1.450	√	√

Note: UL&cUL File No: E138827

TUV File No: J50218395

■ Typical Time to Trip Curves at 23°C

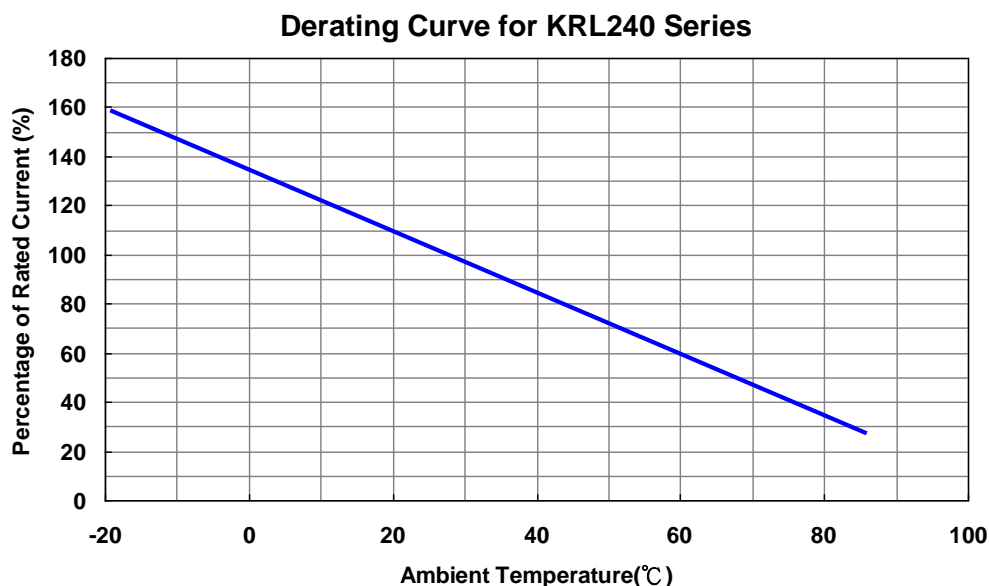


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■ Ihold & Itrip Thermal Derating Curve



■ Ihold Thermal Derating Chart

(Unit: A)

Part no	Ambient Temperature							
	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KRL2400005	0.08	0.06	0.05	0.04	0.04	0.03	0.03	0.02
KRL2400008	0.12	0.10	0.08	0.07	0.06	0.05	0.04	0.03
KRL2400012	0.18	0.15	0.12	0.10	0.09	0.07	0.06	0.04
KRL2400016	0.24	0.20	0.16	0.13	0.11	0.10	0.08	0.05
KRL2400025	0.38	0.32	0.25	0.21	0.18	0.15	0.13	0.09
KRL2400033	0.50	0.42	0.33	0.27	0.23	0.20	0.17	0.11
KRL2400040	0.61	0.51	0.40	0.33	0.28	0.24	0.20	0.14
KRL2400055	0.80	0.68	0.55	0.46	0.40	0.35	0.29	0.22

■ 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°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	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

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■ Packaging

Devices taped using IEC 60286-2 standards. See table below and Fig. 1~5 for details.

Description	EIA Mark	Dimensions (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.70	±0.3
Ordinate to adjacent component lead KRL2400005~KRL2400055	P ₁	3.85	±0.7
Device pitch KRL2400005-KRL2400040	P	12.70	±1.0
Device pitch KRL2400055		25.40	
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
Lead spacing KRL2400005~KRL2400055	F	5.00	±0.8
Lead diameter KRL2400005~KRL2400016	d	0.50	±0.02
Lead diameter KRL2400025~KRL2400040		0.60	
Lead diameter KRL2400055		0.80	
Abscissa to top KRL2400005-KRL2400016	H ₁	32.20	Max
Abscissa to top KRL2400025-KRL2400055		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 tape plane deviation	Δh	2.00	Max.
Body lateral deviation	Δp	1.00	Max.
Reel width	W3	See reel specification	±1
Reel diameter		340.00	±10.0
Arbor hold diameter	n0	31.00	±1
Core diameter	n	80.00	Min.

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● Taping Specification

Fig .1 For KRL2400005 ~ KRL2400016

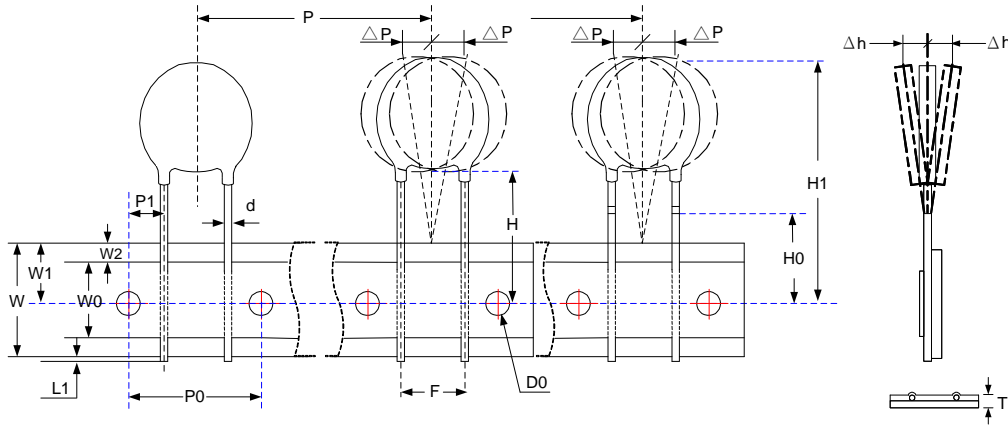
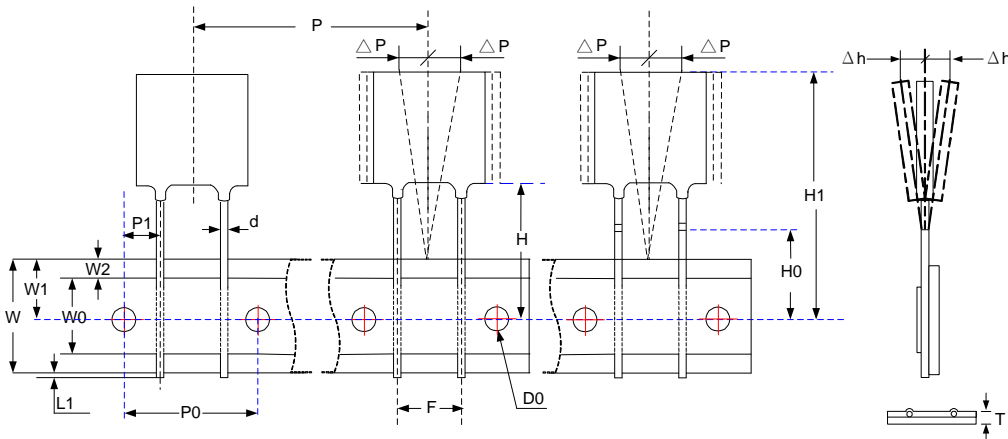
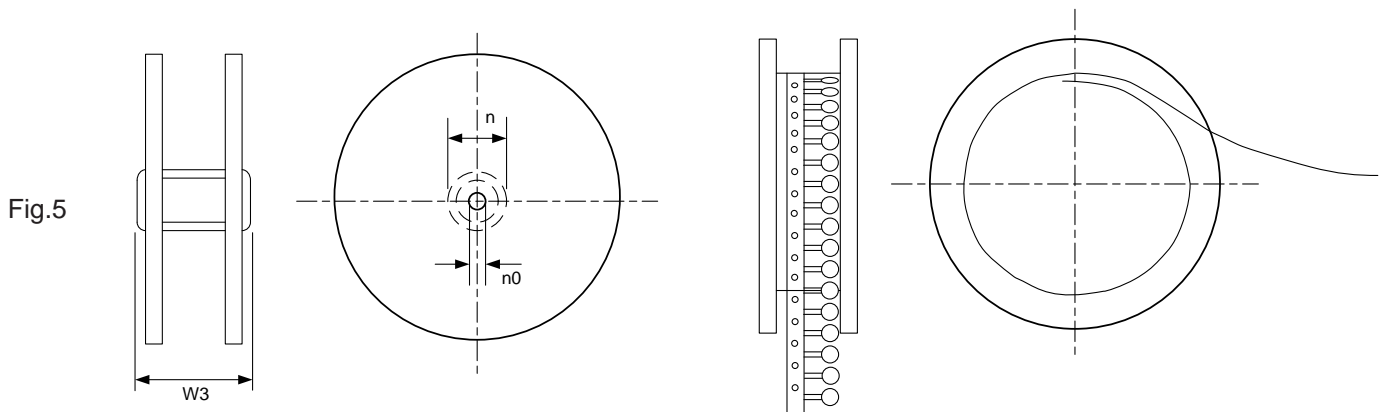


Fig. 2 For KRL2400025 ~ KRL2400055



● Reel Specification



Series	W3 (mm)
KRL240 0005~0055	46±1

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■ Quantity

● Bulk Packing

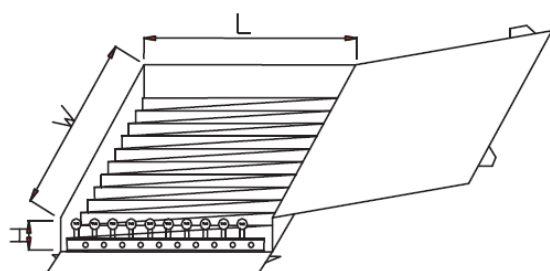
Series	Quantity (pcs/bag)
KRL240 (0005 ~ 0055)	500

● Reel Packing

Series	Quantity (pcs/reel)
KRL240 (0005 ~ 0016)	2,000
KRL240 (0025 ~ 0040)	1,500
KRL2400055	1,000

● Ammo Packing

Series	Quantity (pcs/box)
KRL240 (0005 ~ 0016)	1,000
KRL240 (0025 ~ 0055)	500



(Unit: mm)

Series	W	L	H
KRL240 (0005~0055)	345	275	55

■ Warehouse Storage Conditions of Products

● Storage Conditions :

1. Storage Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
2. Relative humidity: $\leq 75\% \text{RH}$
3. Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.

● Period of Storage: 1 year