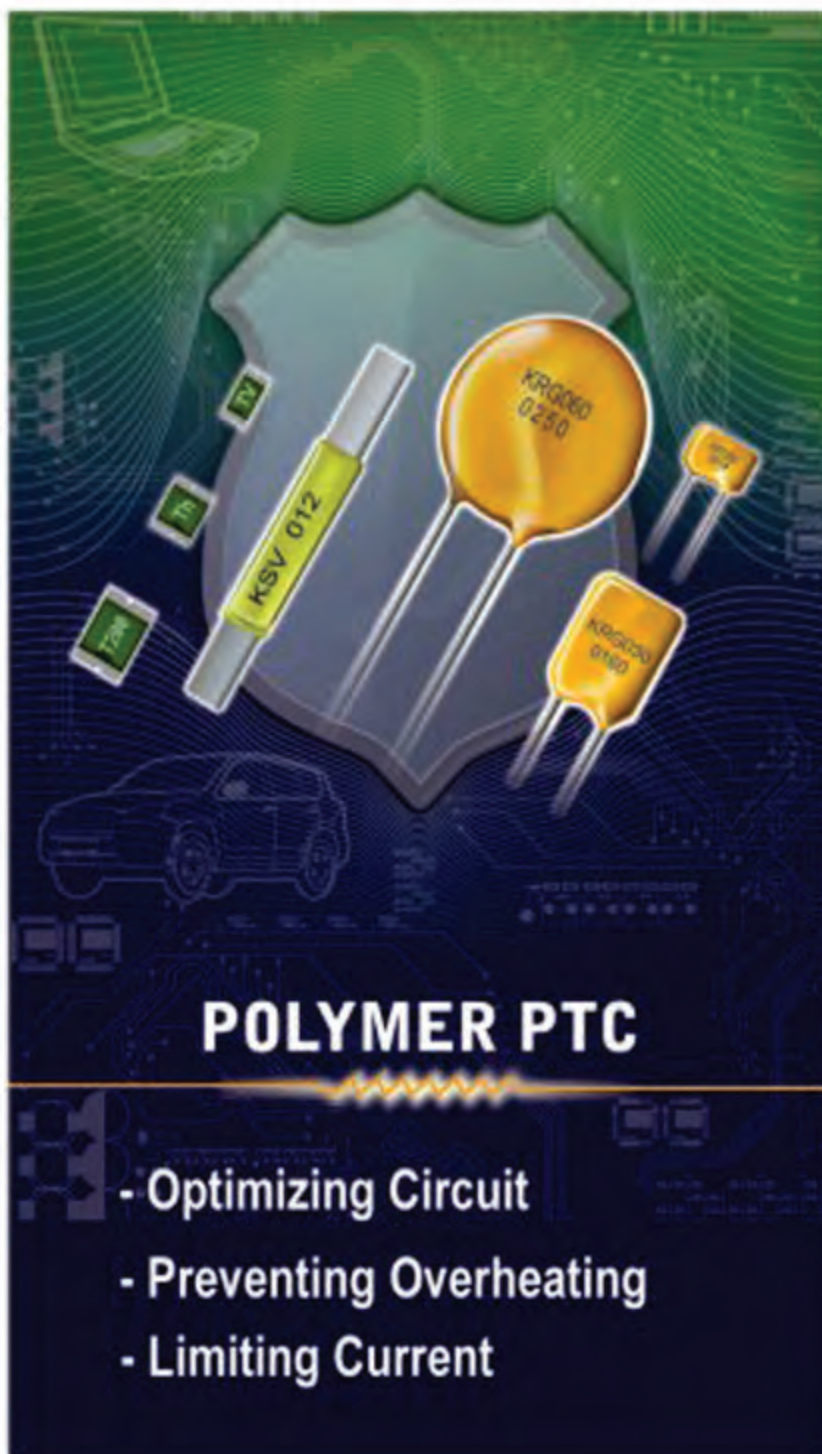


ELITAVIA



POLYMER PTC

- Optimizing Circuit
- Preventing Overheating
- Limiting Current



KMC
KMCS
KRG016
KRG030
KRG060
KRL120
KRL240
KRT250
KRT600
KSH
KSL
KSM
KSV

SERIE	PAG
KMC	01
KMCS	17
KRG016	24
KRG030	28
KRG060	35
KRL120	42
KRL240	49
KRT250	54A
KRT600	54A
KSH	56
KSL	60
KSM	64
KSV	68

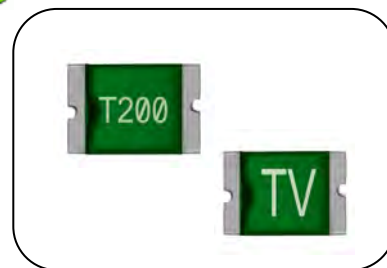
Polymer PTC Resettable Fuse : KMC Series



SMD Type

■ Features

1. RoHS compliant
2. EIA size:1206~1812
3. Hold current ratings from 0.05 to 3A
4. Voltage ratings from 6V computer and electronic applications to 60V
5. Small footprint
6. Fast time to trip
7. Low resistance
8. Operating temperature range : -40~+85°C



■ Recommended Applications

1. Computer and peripherals
2. Mobile phone battery packs
3. Automobiles
4. Power supplies
5. Telecommunication

■ Part Number Code

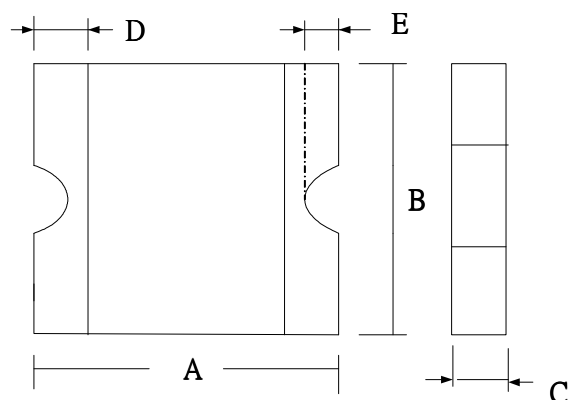
K		M		C		3		S		0		5		0		R		Y	
1	2	3	4	5	6	7	8	9	10	11	12	13							
Product Code		Type		Dimension		Structure		I hold		Packing		Optional Suffix							
K	THINKING PPTC Thermistor	MC	SMD Type	3	1206	S Type		035	0.35A	B	Bulk	Y	RoHS + HF						
				4	1210			050	0.5A	R	Tape & Reel								
				5	1812			075	0.75A										

Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Structure & Dimensions



(Unit: mm)

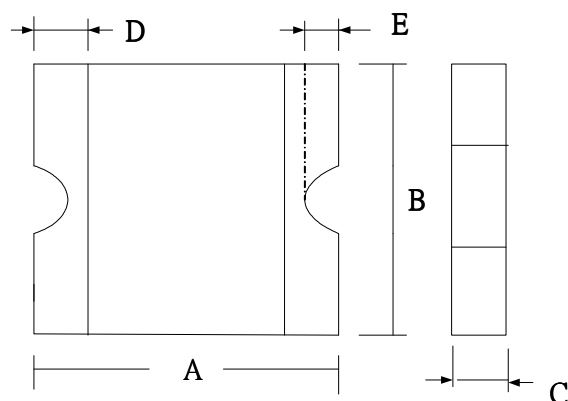
Part No.	A		B		C	D	E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Max.)	(Min.)	(Min.)	(Max)
KMC3S005	3.00	3.50	1.50	1.80	1.45	0.20	0.10	0.45
KMC3S010					1.45			
KMC3S012					1.45			
KMC3S016					1.45			
KMC3S020					1.10			
KMC3S025					1.00			
KMC3S035					0.75			
KMC3S050					0.75			
KMC3S050-15					1.25			
KMC3S075					0.85			
KMC3S100					1.10			
KMC3S110					1.10			
KMC3S150					1.40			
KMC3S200					1.60			
KMC4S005	3.00	3.43	2.35	2.80	1.30	0.25	0.10	0.50
KMC4S010					1.30			
KMC4S020					1.10			
KMC4S035					0.85			
KMC4S050					0.85			
KMC4S075					0.85			
KMC4S110					1.30			
KMC4S150					1.80			
KMC4S175					1.80			

Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Structure & Dimensions



(Unit: mm)

Part No.	A		B		C	D	E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Max.)	(Min.)	(Min.)	(Max)
KMC5S010	4.37	4.73	3.07	3.41	1.30	0.30	0.20	0.65
KMC5S014					1.25			
KMC5S020					1.10			
KMC5S035					0.90			
KMC5S050					0.75			
KMC5S075					0.75			
KMC5S075-24					1.55			
KMC5S075-33					1.55			
KMC5S110					0.73			
KMC5S110-16					1.25			
KMC5S110-24					1.60			
KMC5S110-33					2.00			
KMC5S125-16					1.25			
KMC5S125					0.75			
KMC5S150					0.73			
KMC5S150-12					1.25			
KMC5S150-24					1.80			
KMC5S160					0.75			
KMC5S200					1.20			
KMC5S260					1.34			
KMC5S300					1.55			

Polymer PTC Resettable Fuse : KMC Series



SMD Type

■ Electrical Characteristics(23°C)

Part No.	Vmax.	Imax.	Ihold @ 23°C	Itrip @ 23°C	Pd (Max.)	Maximum Time to Trip		Resistance @ 23°C (Ω)		Safety Approvals		
								Initial (Min.Ri)	Post trip (Max.R1)			
	(V _{DC})	(A)	(A)	(A)	(W)	Current (A)	Time (Sec.)	(Ω)	(Ω)	UL	cUL	TUV
KMC3S005	60	100	0.05	0.15	0.4	0.25	1.5	3.6	50	✓	✓	✓
KMC3S010	60	100	0.10	0.25	0.4	0.50	1.0	1.6	15	✓	✓	✓
KMC3S012	30	100	0.125	0.29	0.5	1	0.2	1.4	6	✓	✓	✓
KMC3S016	30	100	0.16	0.37	0.5	1	0.3	1.1	4.5	✓	✓	✓
KMC3S020	24	100	0.20	0.42	0.6	8	0.1	0.65	2.6	✓	✓	✓
KMC3S025	16	100	0.25	0.50	0.6	8	0.08	0.55	2.3	✓	✓	✓
KMC3S035	16	100	0.35	0.75	0.6	8	0.1	0.3	1.2	✓	✓	✓
KMC3S050	6	100	0.50	1.00	0.6	8	0.1	0.15	0.7	✓	✓	✓
KMC3S050-15	15	100	0.50	1.00	0.6	8	0.1	0.15	0.7	✓	✓	✓
KMC3S075	6	100	0.75	1.50	0.6	8	0.2	0.1	0.29	✓	✓	✓
KMC3S100	6	100	1.00	1.80	0.8	8	0.3	0.065	0.21	✓	✓	✓
KMC3S110	6	100	1.10	2.20	0.8	8	0.3	0.07	0.2	✓	✓	✓
KMC3S150	6	100	1.50	3.00	0.8	8	1	0.04	0.12	✓	✓	✓
KMC3S200	6	100	2.00	3.50	1	8	1.5	0.02	0.08	✓	✓	✓
KMC4S005	30	10	0.05	0.15	0.6	0.25	1.5	3.6	50	✓	✓	✓
KMC4S010	30	10	0.10	0.30	0.6	0.5	1.5	1.6	15	✓	✓	✓
KMC4S020	30	10	0.20	0.40	0.6	8	0.02	0.8	5	✓	✓	✓
KMC4S035	6	100	0.35	0.70	0.6	8	0.2	0.32	1.3	✓	✓	✓
KMC4S050	13.2	100	0.50	1.00	0.6	8	0.1	0.25	0.9	✓	✓	✓
KMC4S075	6	100	0.75	1.50	0.6	8	0.1	0.11	0.4	✓	✓	✓
KMC4S110	6	100	1.10	2.20	0.6	8	0.3	0.06	0.21	✓	✓	✓
KMC4S150	6	100	1.50	3.00	0.8	8	0.5	0.04	0.11	✓	✓	✓
KMC4S175	6	40	1.75	3.50	0.8	8	0.8	0.02	0.08	✓	✓	✓

Polymer PTC Resettable Fuse : KMC Series



SMD Type

■ Electrical Characteristics(23°C)

Part No.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	P _d (Max.)	Maximum Time to Trip		Resistance @ 23°C (Ω)		Safety Approvals		
	(V _{DC})	(A)	(A)	(A)	(W)	Current	Time	Initial (Min.Ri)	Post trip (Max.R1)			
						(A)	(Ω)	(Ω)	(Ω)	UL	cUL	TUV
KMC5S010	30	100	0.10	0.30	0.8	0.5	1.5	1.6	15	✓	✓	✓
KMC5S014	60	10	0.14	0.34	0.8	1.5	0.15	1.5	6	✓	✓	✓
KMC5S020	30	100	0.20	0.40	0.8	8	0.02	0.8	5	✓	✓	✓
KMC5S035	16	100	0.35	0.70	0.8	8	0.1	0.32	1.5	✓	✓	✓
KMC5S050	16	100	0.50	1.00	0.8	8	0.15	0.15	1	✓	✓	✓
KMC5S075	13.2	100	0.75	1.50	0.8	8	0.2	0.11	0.45	✓	✓	✓
KMC5S075-24	24	100	0.75	1.50	0.8	8	0.2	0.11	0.29	✓	✓	✓
KMC5S075-33	33	20	0.75	1.50	0.8	8	0.2	0.11	0.4	✓	✓	✓
KMC5S110	8	100	1.10	2.20	0.8	8	0.3	0.04	0.21	✓	✓	✓
KMC5S110-16	16	100	1.10	2.20	0.8	8	0.5	0.06	0.18	✓	✓	✓
KMC5S110-24	24	20	1.10	2.20	0.8	8	0.5	0.06	0.2	✓	✓	✓
KMC5S110-33	33	20	1.10	2.20	0.8	8	0.5	0.06	0.2	✓	✓	✓
KMC5S125-16	16	100	1.25	2.50	0.8	8	0.4	0.05	0.14	✓	✓	✓
KMC5S125	6	100	1.25	2.50	0.8	8	0.4	0.05	0.14	✓	✓	✓
KMC5S150	8	100	1.50	3.00	0.9	8	0.3	0.04	0.11	✓	✓	✓
KMC5S150-12	12	100	1.50	3.00	0.9	8	0.5	0.04	0.11	✓	✓	✓
KMC5S150-24	24	20	1.50	3.00	0.9	8	1.5	0.04	0.12	✓	✓	✓
KMC5S160	8	100	1.60	3.20	0.8	8	1.0	0.03	0.1	✓	✓	✓
KMC5S200	8	100	2.00	3.50	1.2	8	2.0	0.02	0.06	✓	✓	✓
KMC5S260	6	100	2.60	5.00	1.2	8	2.5	0.015	0.047	✓	✓	✓
KMC5S300	6	100	3.00	5.00	1.2	8	4.0	0.012	0.04	✓	✓	✓

Note : UL&cUL File No. E138827

TUV File No. R50143386

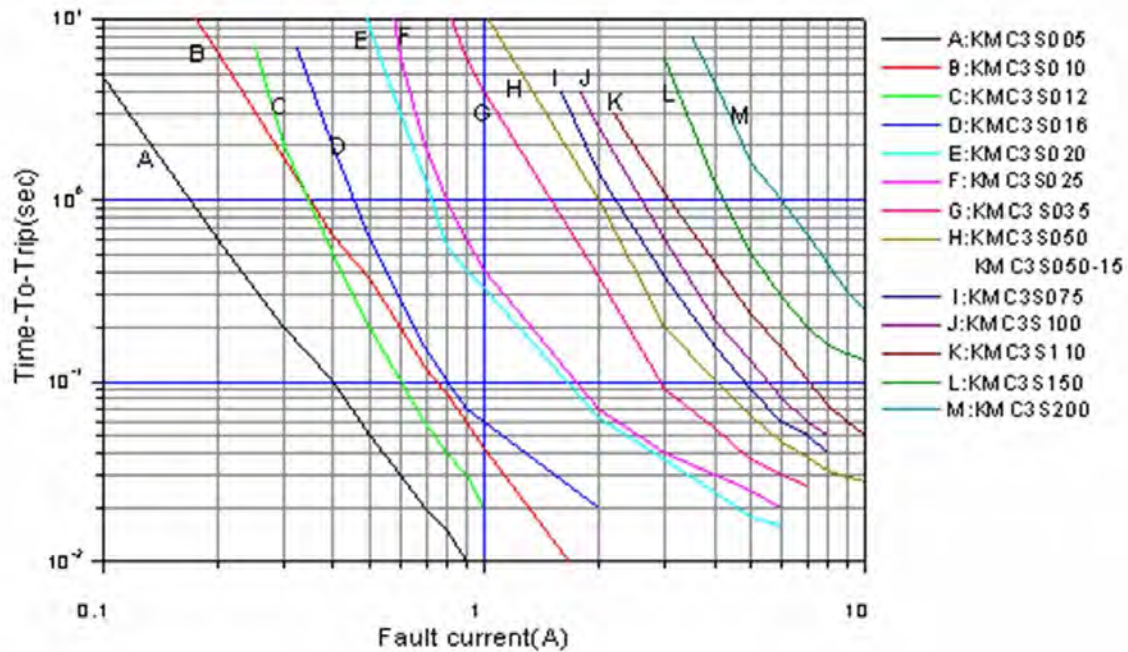
Polymer PTC Resettable Fuse : KMC Series

SMD Type

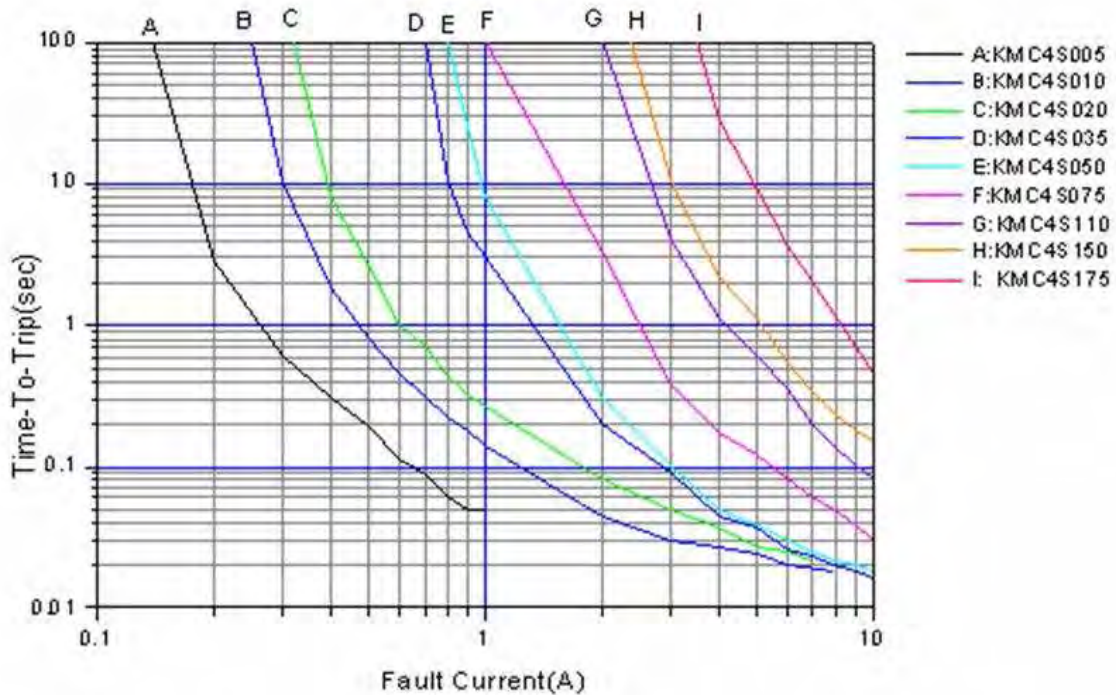


■ Typical Time to Trip Curve at 23°C

1206 Series



1210 Series



Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Typical Time to Trip Curve at 23°C

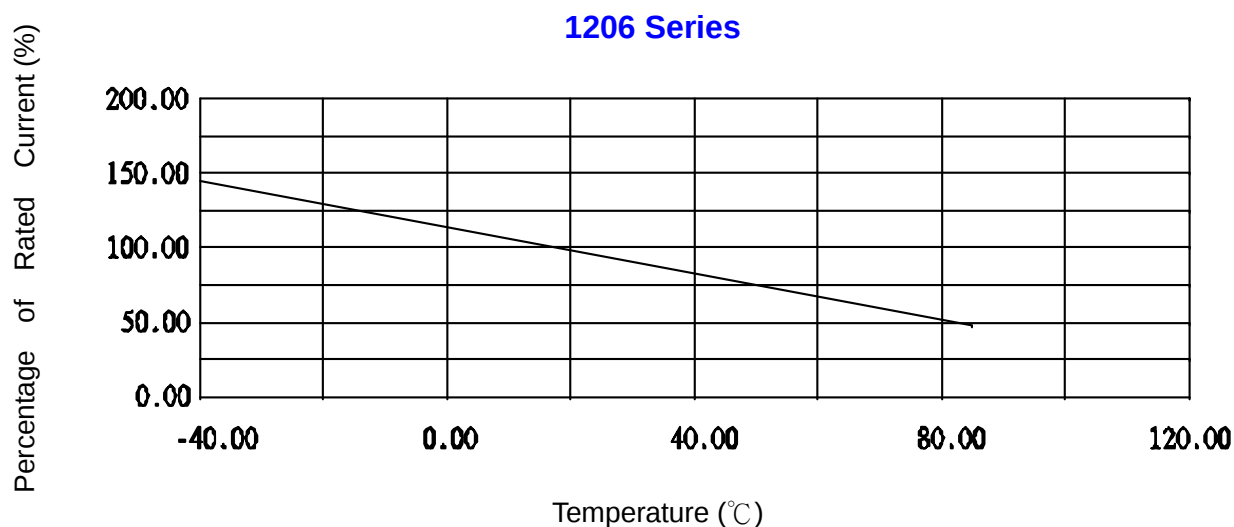


Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Thermal Derating Chart –Ihold / Itrip (Amps)



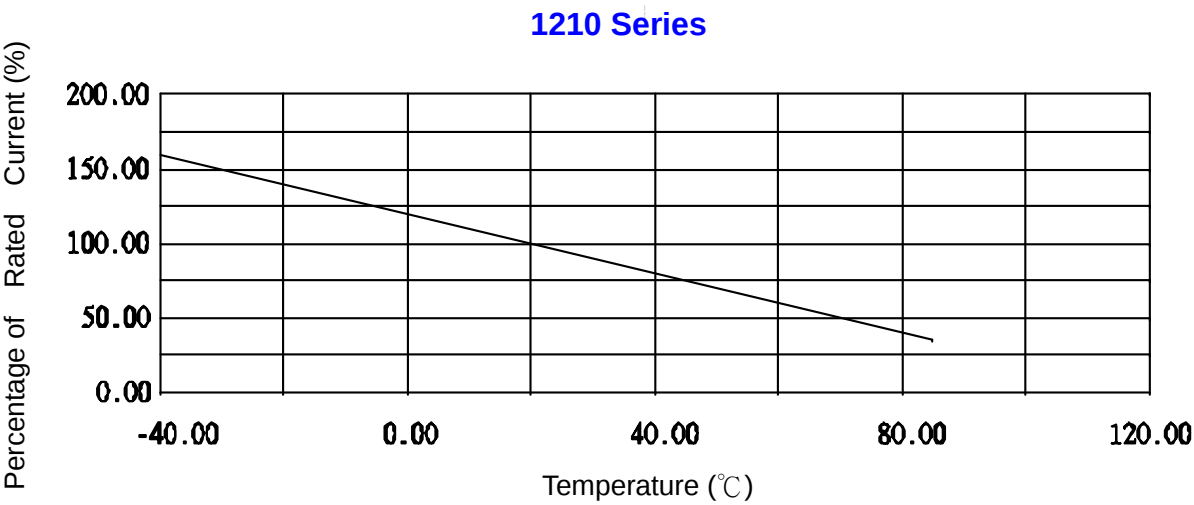
Model	Ambient Operation Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC3S005	0.0725	0.063	0.057	0.05	0.043	0.038	0.035	0.03	0.026
KMC3S010	0.145	0.33	0.115	0.10	0.085	0.075	0.07	0.06	0.055
KMC3S012	0.20	0.17	0.15	0.12	0.11	0.10	0.09	0.08	0.07
KMC3S016	0.21	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.09
KMC3S020	0.34	0.30	0.26	0.20	0.17	0.15	0.13	0.11	0.08
KMC3S025	0.37	0.33	0.29	0.25	0.22	0.20	0.17	0.15	0.12
KMC3S035	0.50	0.45	0.40	0.35	0.30	0.27	0.24	0.21	0.15
KMC3S050	0.71	0.64	0.57	0.50	0.42	0.39	0.35	0.31	0.25
KMC3S050-15	0.71	0.64	0.57	0.50	0.42	0.39	0.35	0.31	0.25
KMC3S075	1.14	1.01	0.88	0.75	0.65	0.59	0.54	0.49	0.41
KMC3S100	1.45	1.31	1.15	1.00	0.84	0.77	0.69	0.61	0.48
KMC3S110	1.64	1.46	1.30	1.06	0.92	0.83	0.80	0.65	0.52
KMC3S150	2.18	1.94	1.72	1.50	1.28	1.17	1.06	0.96	0.77
KMC3S200	3.56	3.08	2.60	2.00	1.79	1.64	1.50	1.36	1.14

Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Thermal Derating Chart –Ihold / Itrip (Amps)



Model	Ambient Operation Temperature								
	-40℃	-20℃	0℃	23℃	40℃	50℃	60℃	70℃	85℃
KMC4S005	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02
KMC4S010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
KMC4S020	0.29	0.26	0.22	0.20	0.16	0.14	0.13	0.11	0.08
KMC4S035	0.47	0.45	0.4	0.35	0.33	0.28	0.24	0.21	0.18
KMC4S050	0.76	0.67	0.58	0.50	0.43	0.40	0.36	0.32	0.28
KMC4S075	1.00	0.97	0.86	0.75	0.64	0.59	0.54	0.48	0.40
KMC4S110	1.69	1.48	1.29	1.10	0.88	0.76	0.65	0.57	0.43
KMC4S150	2.13	1.92	1.71	1.50	1.26	1.14	1.01	0.89	0.71
KMC4S175	2.80	2.45	2.10	1.70	1.55	1.45	1.35	1.25	1.10

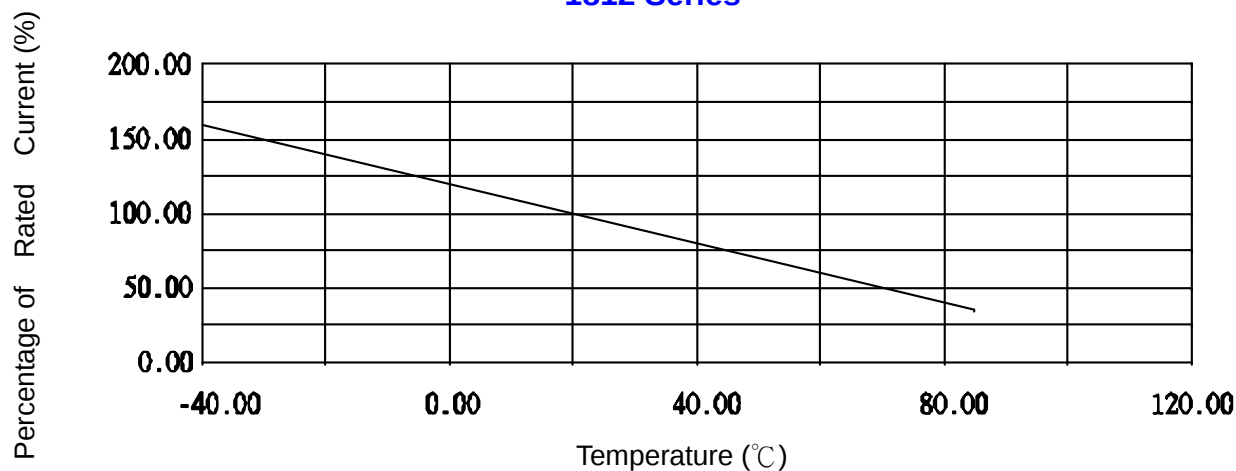
Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Thermal Derating Chart- Ihold/ Itrip(Amps)

1812 Series



Model	Ambient Operation Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC5S010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
KMC5S014	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
KMC5S020	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
KMC5S035	0.50	0.45	0.40	0.35	0.29	0.26	0.24	0.21	0.19
KMC5S050	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.29
KMC5S075	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
KMC5S075-24	1.06	0.95	0.84	0.75	0.60	0.55	0.50	0.45	0.37
KMC5S075-33	1.10	1.00	0.88	0.75	0.66	0.60	0.80	0.10	0.60
KMC5S110	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
KMC5S110-16	1.58	1.43	1.27	1.10	0.95	0.85	0.77	0.71	0.58
KMC5S110-24	1.55	1.40	1.25	1.10	0.93	0.83	0.73	0.63	0.50
KMC5S110-33	1.55	1.40	1.25	1.10	0.93	0.83	0.73	0.63	0.50
KMC5S125	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53
KMC5S125-16	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53
KMC5S150	2.30	2.03	1.76	1.50	1.25	1.10	1.00	0.80	0.76
KMC5S150-12	2.04	1.88	1.68	1.50	1.25	1.10	1.00	0.80	0.60
KMC5S150-24	2.05	1.87	1.67	1.50	1.25	1.08	0.95	0.77	0.60
KMC5S160	2.27	2.05	1.83	1.60	1.35	1.25	1.15	1.00	0.85
KMC5S200	3.08	2.71	2.35	2.00	1.80	1.60	1.50	1.07	0.80
KMC5S260	4.00	3.52	3.06	2.60	2.34	2.08	1.95	1.39	1.04
KMC5S300	4.15	3.76	3.46	3.00	2.55	2.28	2.01	1.61	1.33

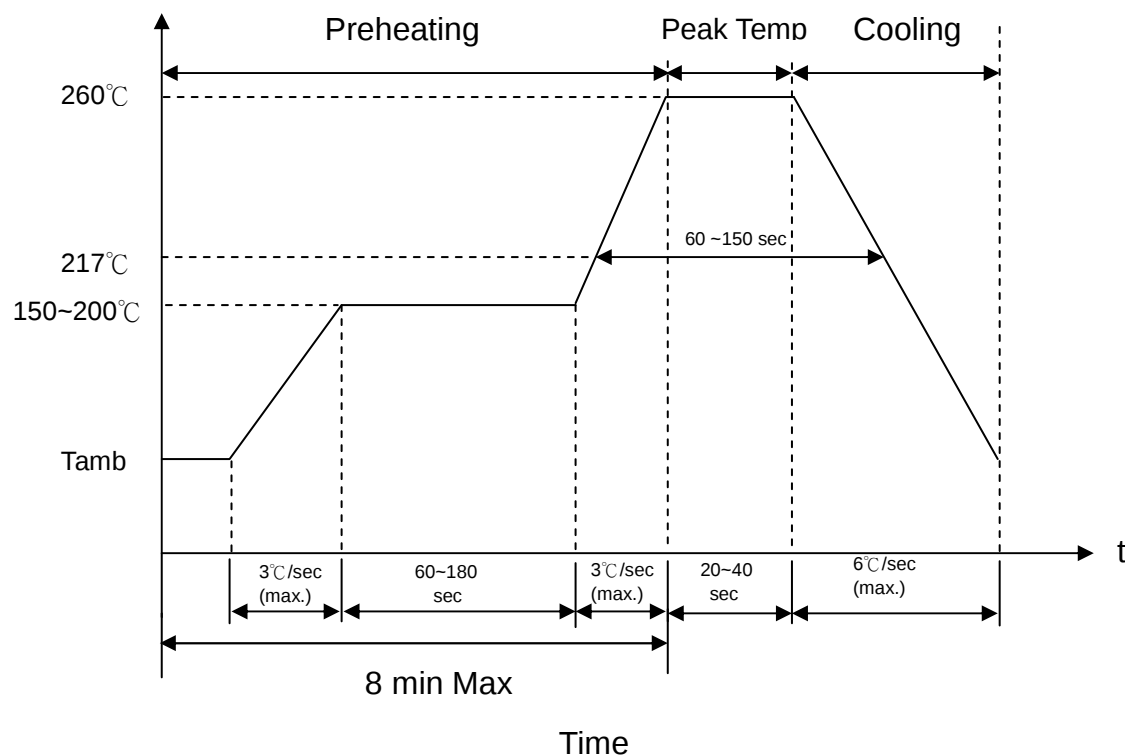
Polymer PTC Resettable Fuse : KMC Series

SMD Type



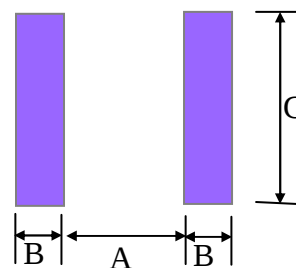
■ Recommended Soldering Condition

● IR-Reflow Soldering Profile



■ Recommended Soldering Pad Dimensions (Nominal)

Unit : mm			
SIZE	A	B	C
KMC3S	2.00	1.00	1.90
KMC4S	2.00	1.00	2.80
KMC5S	3.45	1.78	3.50



Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Reliability

Item	Standard	Test conditions/Methods	Specifications
Passive Aging	IEC60738-1	85±5℃ , 1000±24hrs	±10% typical resistance change
Humidity Aging	Specification Standard	85±5℃ , 80~85%RH, 100±5hrs	±5% typical resistance change
Rapid Change of Temperature	IEC60738-1	85±5/-40±5℃ , 20 cycles	-33% typical resistance change
Overload Endurance	UL1434	V _{max} ,120% I _{max} ,50 cycles + V _{max} ,300% I _{trip} ,6000 cycles	No arcing or burring
Trip Endurance	UL1434	V _{max} , I _{trip} ≤ I ≤ I _{max} , 1000±24hrs	No arcing or burring

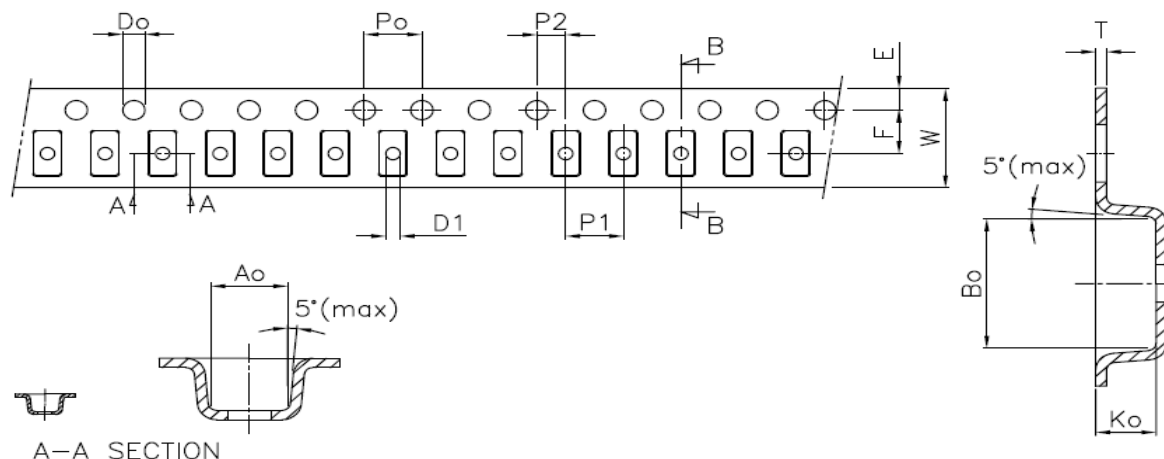
Polymer PTC Resettable Fuse : KMC Series

SMD Type



■ Package

● Taping Specification



1206 Type

For KMC3S005, KMC3S010, KMC3S050-15, KMC3S100, KMC3S110, KMC3S150, KMC3S200

Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	± 0.10	± 0.10	± 0.10	± 0.10	± 0.10	± 0.05	± 0.05	± 0.10	± 0.05	$\pm 0.10/\pm 0$	min	± 0.10	± 0.20
1206	1.95	3.55	1.35	4.0	4.0	2.0	0.25	1.75	3.5	1.50	1.0	8.10	40.0

For KMC3S012, KMC3S016, KMC3S020, KMC3S025, KMC3S035, KMC3S050, KMC3S075

Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	± 0.10	± 0.10	± 0.10	± 0.10	± 0.10	± 0.05	± 0.10	± 0.10	± 0.05	± 0.05	min	± 0.30	± 0.20
1206	1.85	3.45	0.74	4.0	4.0	2.0	0.25	1.75	3.5	1.55	1.0	8.0	40.0

1210 Type

Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	± 0.10	± 0.10	± 0.10	± 0.10	± 0.10	± 0.05	± 0.10	± 0.10	± 0.05	± 0.05	min	± 0.30	± 0.20
1210	2.82	3.50	1.30	4.00	4.00	2.00	0.20	1.75	3.5	1.55	1.0	8.00	40.0

Polymer PTC Resettable Fuse : KMC Series

SMD Type



1812 Type

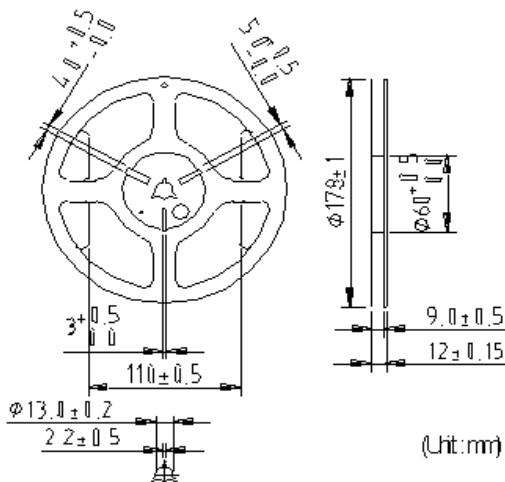
For KMC5S035, KMC5S050, KMC5S075, KMC5S110, KMC5S125, KMC5S150, KMC5S160, KMC5S200

Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	±0.10	±0.10	±0.06	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	±0.05	min	±0.30	±0.20
1812	3.58	4.93	0.87	4.00	8.00	2.00	0.25	1.75	5.50	1.55	1.50	12.00	40.0

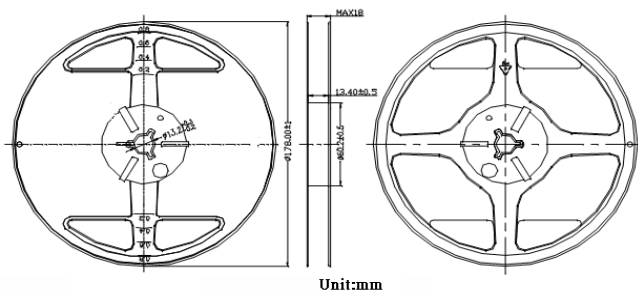
For KMC5S010, KMC5S014, KMC5S020, KMC5S075-24, KMC5S075-33, KMC5S110-16, KMC5S110-24, KMC5S110-33, KMC5S125-16, KMC5S150-12, KMC5S150-24, KMC5S260, KMC5S300

Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	±0.05	+0.15/-0	±0.30	±0.20
1812	3.56	4.94	1.70	4.00	8.00	2.00	0.25	1.75	5.50	1.55	1.50	12.00	40.0

● Quantity



Type	Quantity (pcs/reel)
1206 (For KMC3S012 · KMC3S016 · KMC3S020 · KMC3S025 · KMC3S035 · KMC3S050 · KMC3S075)	5000
1206 (others)	2500
1210	3000



Type	Quantity (pcs/reel)
1812 (For KMC5S035, KMC5S050, KMC5S075, KMC5S110, KMC5S125, KMC5S150, KMC5S160, KMC5S200)	2000
1812 (others)	1000

Polymer PTC Resettable Fuse : KMC Series



SMD Type

■ Storage Conditions of Products

- Storage Conditions :
 - 1.Storage Temperature : -10 °C ~ + 40 °C
 - 2.Relative humidity : $\leq 75\%RH$
 - 3.Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.
- Period of Storage : 1 year

■ Cross Reference

Size	TKS	Raychem	Polytronics	Bourns	Littelfuse
1206	KMC3S005	-----	-----	-----	-----
	KMC3S010	-----	-----	-----	-----
	KMC3S012	nanoSMDC012F	SMD1206P012TF	MF-NSMF012	1206L 012
	KMC3S016	nanoSMDC016F	SMD1206P016TF	-----	1206L 016
	KMC3S020	nanoSMDC020F	SMD1206P020TF/24	MF-NSMF020	1206L 020-C
	KMC3S025	-----	SMD1206P025TF	-----	1206L 025-C
	KMC3S035	nanoSMDC035F	SMD1206P035TF/16	MF-NSMF035	1206L 035/16
	KMC3S050	-----	SMD1206P050TF	-----	1206L 050-C
	KMC3S050-15	nanoSMDC050F/13.2	SMD1206P050TF/15	MF-NSMF050	1206L 050/15
	KMC3S075	nanoSMDC075F	SMD1206P075TF	MF-NSMF075	1206L 075-C
	KMC3S100	-----	-----	-----	1206L 100
	KMC3S110	nanoSMDC110F	SMD1206P110TF	MF-NSMF110	1206L 110
	KMC3S150	nanoSMDC150F	SMD1206P150TF	MF-NSMF150	1206L 150-C
	KMC3S200	nanoSMDC200F	SMD1206P200TF	MF-NSMF200	-----
1210	KMC4S005	microSMD005F	SMD1210P005TF	MF-USMF 005	1210L005
	KMC4S010	microSMD010F	SMD1210P010TF	MF-USMF 010	1210L010
	KMC4S020	-----	SMD1210P020TF	MF-USMF 020	1210L020
	KMC4S035	microSMD035F	SMD1210P035TF	MF-USMF 035	1210L035
	KMC4S050	microSMD050F	SMD1210P050TF	MF-USMF 050	1210L050
	KMC4S075	microSMD075F	SMD1210P075TF	MF-USMF 075	1210L075
	KMC4S110	microSMD110F	SMD1210P110TFT	MF-USMF 110	1210L110
	KMC4S150	microSMD150F	SMD1210P150TFT	MF-USMF 150	1210L150
	KMC4S175	-----	SMD1210P175TF	MF-USMF 175X	-----

Polymer PTC Resettable Fuse : KMC Series



SMD Type

Size	TKS	Raychem	Polytronics	Bourns	Littelfuse
1812	KMC5S010	-----	SMD1812P010TF	MF-MSMF 010	1812L 010
	KMC5S014	miniSMDC014F	SMD1812P014TF	MF-MSMF 014	1812L 014
	KMC5S020	miniSMDC020F	SMD1812P020TF	MF-MSMF 020	1812L 020
	KMC5S035	-----	-----	-----	-----
	KMC5S050	miniSMDC050F	SMD1812P050TF	MF-MSMF 050	1812L 050-C
	KMC5S075	miniSMDC075F	SMD1812P075TF	MF-MSMF 075	1812L 075-C
	KMC5S075-24	miniSMDC075F/24	SMD1812P075TF/24	MF-MSMF 075/24	1812L 075/24
	KMC5S075-33	-----	SMD1812P075TF/33	-----	1812L 075/33
	KMC5S110	miniSMDC110F	SMD1812P110TF	MF-MSMF 110	1812L 110-C
	KMC5S110-16	miniSMDC110F/16	SMD1812P110TF/16	MF-MSMF 110/16	1812L 110/16
	KMC5S110-24	miniSMDC110F/24	SMD1812P110TF/24	-----	-----
	KMC5S110-33	-----	SMD1812P110TF/33	-----	1812L 110/33
	KMC5S125	miniSMDC125F	SMD1812P125TF/6,4L	MF-MSMF 125	1812L 125/6
	KMC5S125-16	miniSMDC125F/16	SMD1812P125TF/16	-----	1812L 125-C
	KMC5S150	miniSMDC150F	SMD1812P150TF/8	MF-MSMF 150	1812L 150-C
	KMC5S150-12	miniSMDC150F/12	SMD1812P150TF/12	-----	1812L 150/12
	KMC5S150-24	miniSMDC150F/24	SMD1812P150TF/24	MF-MSMF 150/24X	1812L 150/24
	KMC5S160	miniSMDC160F	SMD1812P160TF/8(4L)	MF-MSMF 160	1812L 160-C
	KMC5S200	miniSMDC200F	SMD1812P200TFT	MF-MSMF 200	1812L 200-C
	KMC5S260	miniSMDC260F	SMD1812P260TFT	MF-MSMF 260	1812L 260-C
	KMC5S300	-----	SMD1812P300TF	-----	-----

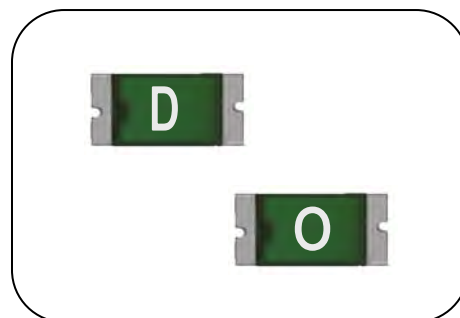
Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type



■ Features

1. RoHS & Halogen-free compliant
2. EIA size: 0603, 0805
3. Hold current ratings from 0.1 to 0.75A
4. Small footprint
5. Fast time to trip
6. Operating & storage temperature range : -40~+85°C
7. Agency Approval: UL / cUL / TUV



■ Recommended Applications

1. PC, Motherboard, NB, Tablet
2. Consumer Device

■ Part Number Code

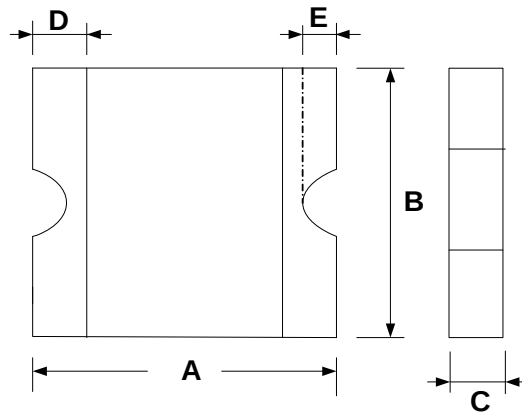
K		M		C		2		S		0		5		0		R		Y							
1		2		3		4		5		6		7		8		9		10		11		12		13	
Product Code KThinking Polymer PTC Resettable Fuse		Type MC SMD Type		Dimension 1 06032 0805		Structure S Structure		I hold 010 0.1A035 0.35A050 0.5A		Packing R Tape & Reel		Optional Suffix YRoHS & HF compliant													

Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type



■ Structure & Dimensions



(Unit: mm)

Part No.	A		B		C		D		E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)
KMC1S010	1.4	1.8	0.6	1.0	0.3	0.6	0.15	0.50	--	0.40
KMC1S020					0.3	0.6				
KMC1S025					0.3	0.6				
KMC1S035					0.5	1.0				
KMC2S010	2.0	2.2	1.2	1.5	0.4	1.00	0.15	0.55	0.05	0.45
KMC2S020					0.4	1.00				
KMC2S035					0.3	0.75				
KMC2S050					0.3	1.25				
KMC2S075					0.5	1.25				

■ Electrical Characteristics at 23°C

Part No.	Marking	V _{max}	I _{max}	I _{hold}	I _{trip}	P _d (Max.)	Maximum Time to Trip		Resistance		Safety Approvals	
		(V _{dc})	(A)	(A)	(A)	(W)	Current (A)	Time (Sec.)	Initial R _i (Min.)	Post trip R ₁ (Max.)	UL/cUL	TUV
									(Ω)	(Ω)		
KMC1S010	1	15	40	0.1	0.3	0.5	0.5	1	0.9	6.0	✓	✓
KMC1S020	2	9	40	0.2	0.5	0.5	1	0.6	0.55	3.5	✓	✓
KMC1S025	5	9	40	0.25	0.55	0.5	8	0.08	0.5	3.0	✓	✓
KMC1S035	7	6	40	0.35	0.75	0.5	8	0.1	0.2	1.0	✓	✓
KMC2S010	D	15	100	0.1	0.30	0.5	0.5	1.5	1.0	6.0	✓	✓
KMC2S020	L	9	100	0.2	0.50	0.5	8	0.02	0.65	3.5	✓	✓
KMC2S035	T	6	100	0.35	0.75	0.5	8	0.1	0.25	1.2	✓	✓
KMC2S050	O	6	100	0.5	1.00	0.5	8	0.1	0.15	0.85	✓	✓
KMC2S075	X	6	100	0.75	1.50	0.5	8	0.2	0.09	0.35	✓	✓

Note : UL&cUL File No: E138827

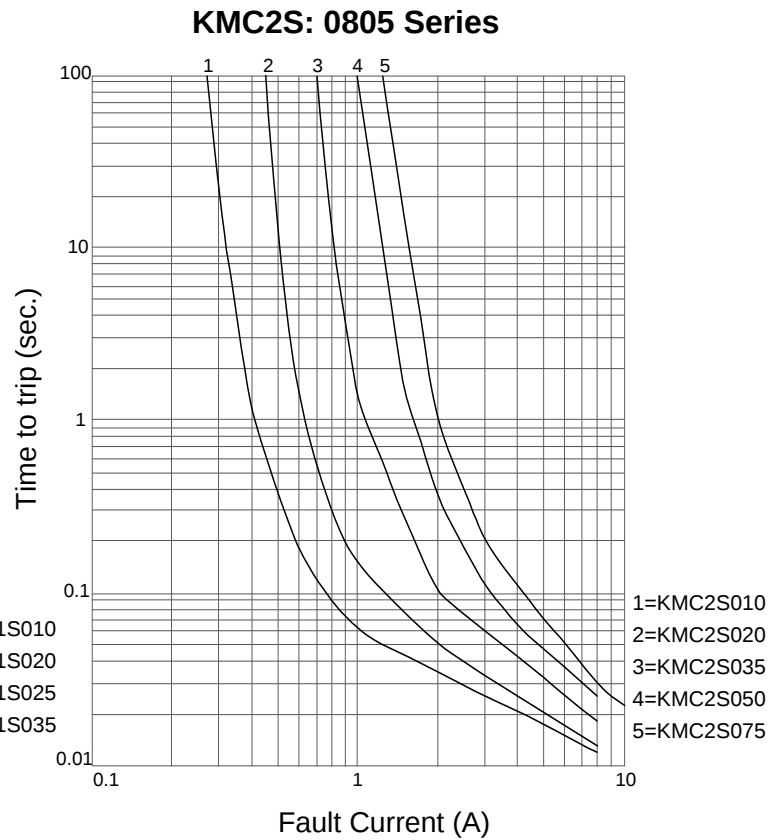
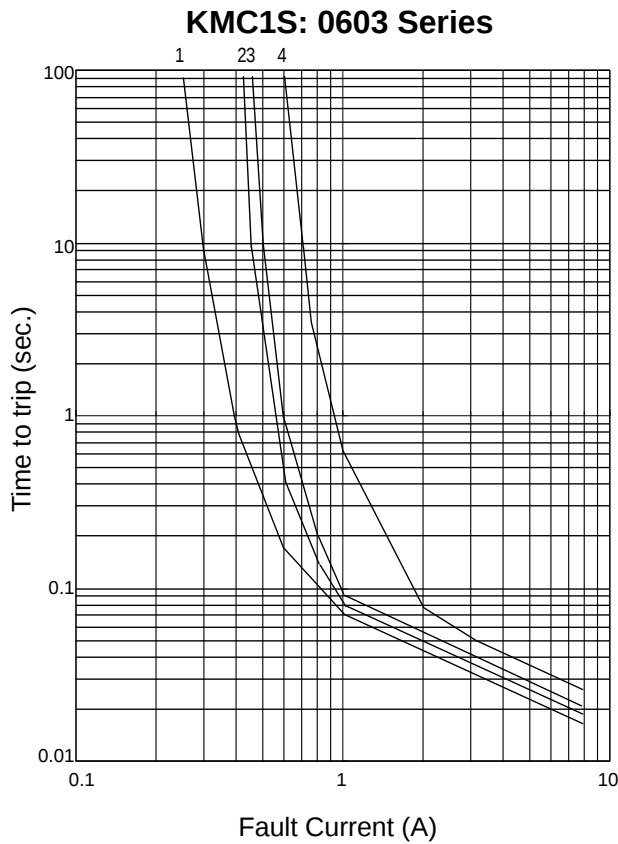
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Polymer PTC Resettable Fuse: KMC Series

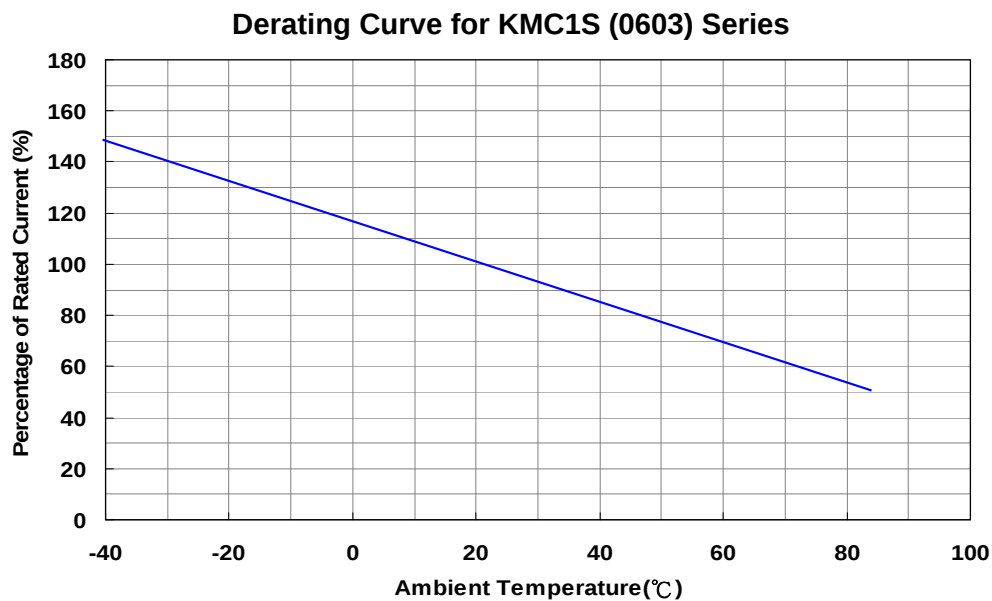
SMD 0603/0805 Type



■ Typical Time to Trip Curve at 23°C



■ KMC1S (0603) Series Ihold & Itrip Thermal Derating Curve



Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type



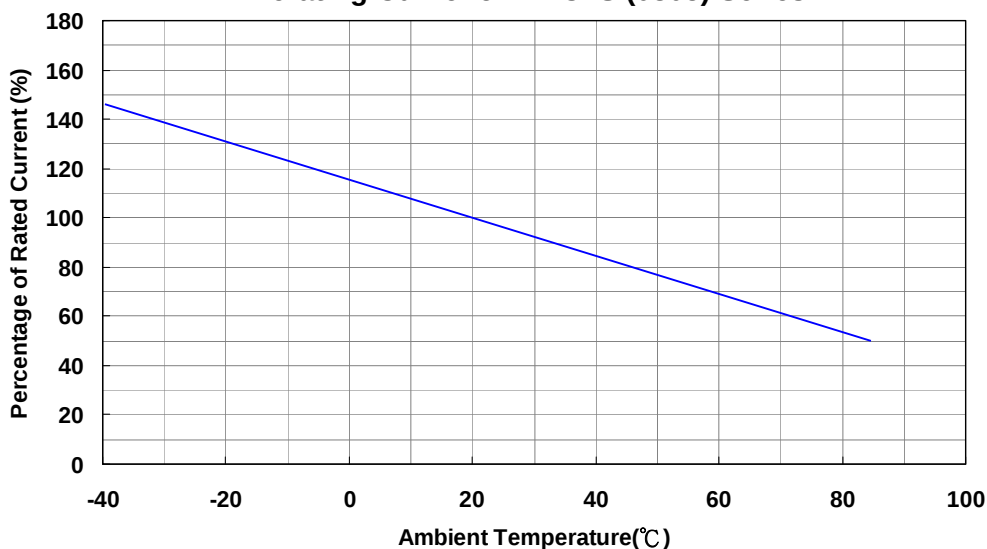
KMC1S (0603) Series Ihold Thermal Derating Chart

(Unit: A)

Part No.	Ambient Operation Temperature								
	-40℃	-20℃	0℃	23℃	40℃	50℃	60℃	70℃	85℃
KMC1S010	0.13	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
KMC1S020	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
KMC1S025	0.32	0.29	0.27	0.25	0.21	0.18	0.16	0.14	0.10
KMC1S035	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14

■ KMC2S (0805) Series Ihold & Itrip Thermal Derating Curve

Derating Curve for KMC2S (0805) Series



KMC2S (0805) Series Ihold Thermal Derating Chart

(Unit: A)

Part No.	Ambient Operation Temperature								
	-40℃	-20℃	0℃	23℃	40℃	50℃	60℃	70℃	85℃
KMC2S010	0.14	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
KMC2S020	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
KMC2S035	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
KMC2S050	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
KMC2S075	1.00	0.90	0.79	0.75	0.63	0.57	0.53	0.41	0.34

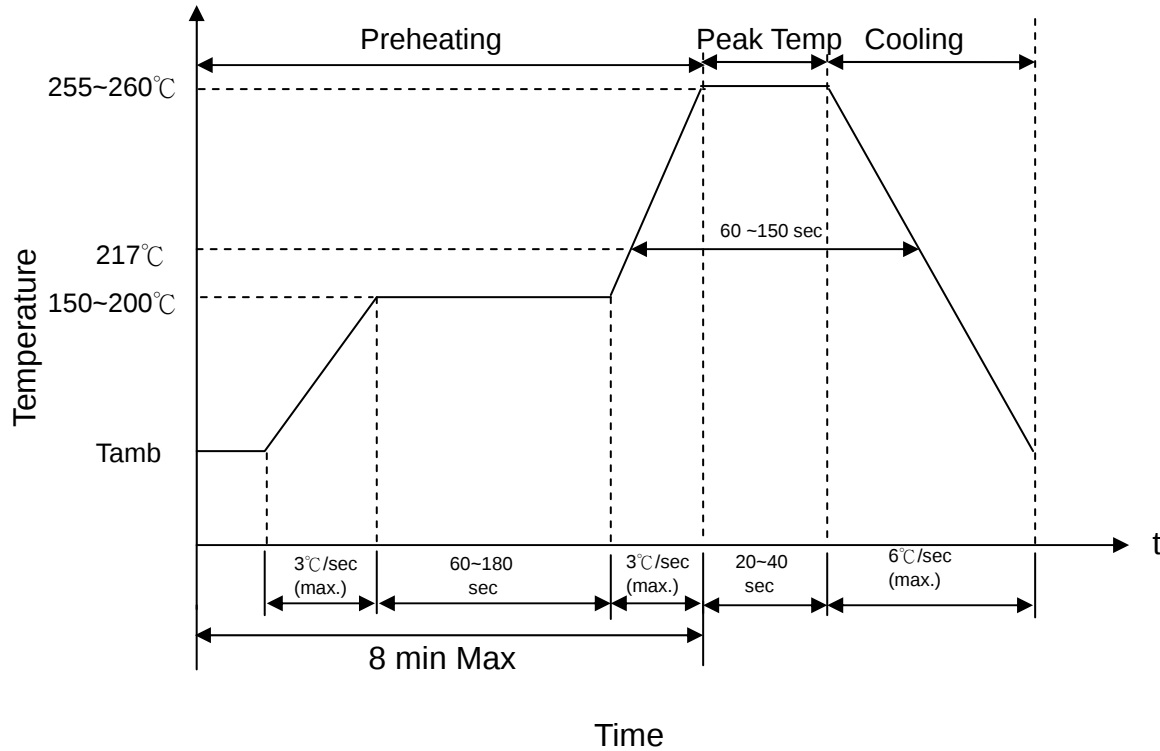
Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type



■ Recommended Soldering Condition

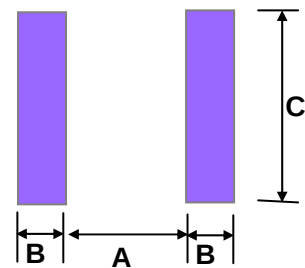
● IR-Reflow Soldering Profile



■ Recommended Soldering Pad Dimensions (Nominal)

(Unit:mm)

Series	Size	A	B	C
KMC1S	0603	0.8	1.0	1.0
KMC2S	0805	1.2	1.0	1.5



Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type

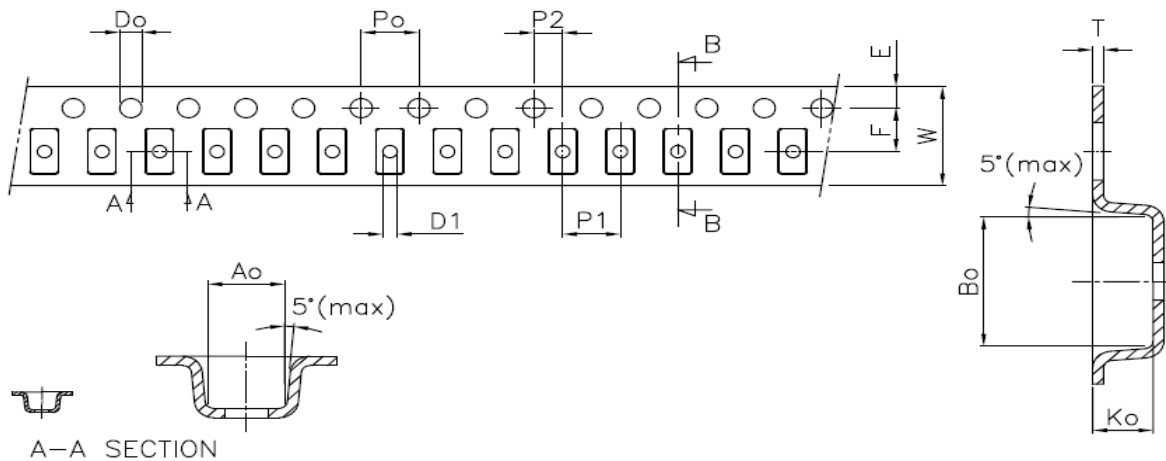


■ Reliability

Item	Standard	Test Condition / Methods	Criteria
Passive Aging	IEC 60738-1	85±5°C, 1000±24hrs	±10% typical resistance change
Humidity Aging	Specification Standard	85±5°C, 80~85%RH, 100±5hrs	±5% typical resistance change
Rapid Change of Temperature	IEC 60738-1	85±5/-40±5°C, 20 cycles, Duration:30min	-33% typical resistance change
Overload and Endurance Test	UL 1434	Vmax,120% I _{max} ,50 cycles Vmax,300% I _{trip} ,6000 cycles	No arcing or burring
Aging Test	UL 1434	Vmax, I _{trip} ≤ I ≤ I _{max} , 1000±24hrs	No arcing or burring
Solderability	IEC 60068-2-58	245 ± 5 °C , 3 ± 0.3 sec	At least 95% of terminal electrode is covered by new solder.
Resistance to Soldering Heat	IEC 60068-2-58	260 ± 5 °C , 10 ± 1 sec	R _f <R _{1max} No visible damage

■ Package

● Taping Specification



◆ KMC1S Series: SMD 0603 Type

(Unit:mm)

Index Size	A ₀	B ₀	K ₀	P ₀	P ₁	P ₂	T	E	F	D ₀	D ₁	W	10P ₀
0603	±0.05	±0.05	±0.05	±0.10	±0.10	±0.05	±0.05	±0.10	±0.05	±0.10/-0	Min.	±0.10	±0.20

Polymer PTC Resettable Fuse: KMC Series

SMD 0603/0805 Type

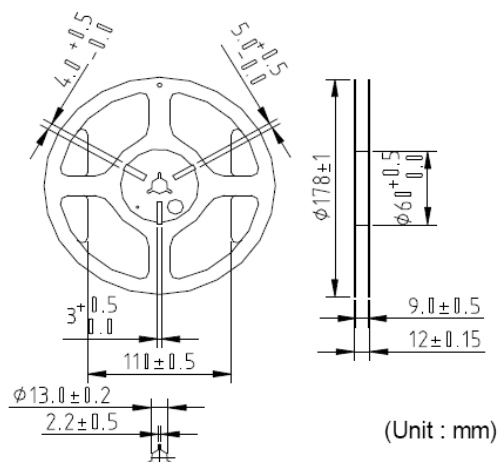


◆ KMC2S Series: SMD 0805 Type

(Unit:mm)

Index Size	A ₀	B ₀	K ₀	P ₀	P ₁	P ₂	T	E	F	D ₀	D ₁	W	10P ₀
0805	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.05	±0.10	±0.05	±0.10/-0	Min.	±0.10	±0.20
	1.6	2.3	0.9	4.0	4.0	2.0	0.25	1.75	3.5	1.5	1.0	8.1	40.0

■ Quantity



Size	Quantity (pcs/reel)
0603	6,000
0805	4,000

■ Warehouse Storage Conditions of Products

- Storage Conditions:
 1. Storage Temperature: -10 °C ~ + 40 °C
 2. Relative humidity: ≤ 75%RH
 3. Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.
- Period of Storage: 1 year

Polymer PTC Resettable Fuse: KRG Series

6V/16V Lead Type



■ Features

1. RoHS & HF compliant
2. Radial leaded devices
3. Broadest range of resettable devices available in the industry
4. Current ratings from 0.75A to 15A
5. Maximum voltage is 6V or 16V
6. Operating & storage temperature range: -40 ~ +85°C
7. Agency recognition: UL/cUL/TUV



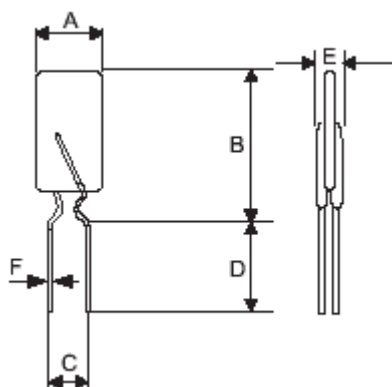
■ Recommended Applications

1. Motors, fans, and blowers
2. Keyboards / mice
3. Transformers
4. Industrial controls

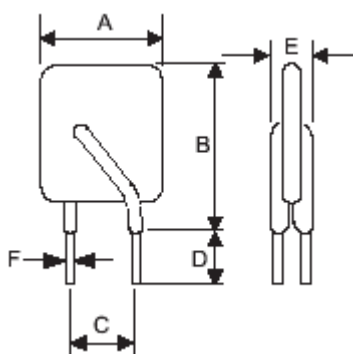
■ Part Number Code

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		I hold		Appearance		Packaging		Optional Suffix		
K	THINKING PPTC Thermistor	R	Radial	G	General	006	6V	0075	0.75A	S	Straight lead	B	Bulk	Y	RoHS & HF Compliant	
						016	16V	0090	0.9A	I	Inner kink lead	A	Taping & Ammo			
								0014	0.14A			R	Taping & Reel			
								0135	1.35A							
								0170	1.7A							
								0600	6A							
								1000	10A							
								1200	12A							

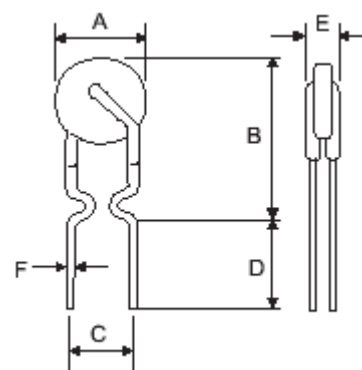
■ Structures and Dimensions



Style1
(Inner Kink)



Style2
(Straight Lead)



Style3
(Inner Kink)

Marking: Device is marked with Vmax and Ihold

Polymer PTC Resettable Fuse: KRG Series

6V/16V Lead Type



(Unit: mm)

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	3.1	0.8±0.02	1,2
KRG0160400	8.9	12.8	14.8	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0160500	10.4	14.3	16.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0160600	10.7	17.1	19.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0160700	11.2	19.7	22.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0160800	12.7	20.9	23.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0160900	14.0	21.9	24.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0161000	16.5	25.2	28.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0161100	17.5	26.0	29.0	5.0±0.8	7.6	3.1	0.8±0.02	1,2
KRG0161200	17.5	28.0	31.0	10.0±0.8	7.6	3.1	1.0±0.02	1,2
KRG0161300	21.6	29.2	32.0	10.0±0.8	7.6	3.1	1.0±0.02	1,2
KRG0161400	23.5	27.9	30.0	10.0±0.8	7.6	3.1	1.0±0.02	1,2
KRG0161500	25.1	29.0	32.0	10.0±0.8	7.6	3.1	1.0±0.02	1,2

■ Electrical Characteristics (23°C)

Part No.	Vmax.	Imax.	Ihold @ 23°C	Itrip @ 23°C	Pd (Typ.)	Max. Time to Trip		Resistance (Ω)			Safety Approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec)	Initial (Ri)		Post trip (R1)	UL/cUL	TUV
								Min.	Max.	Max.		
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	10.0	0.030	0.051	0.090		✓
KRG0160250	16	40	2.50	5.00	1.20	8.00	40.0	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	10.0	0.002	0.005	0.007	✓	✓

Note: UL&cUL File No. E138827

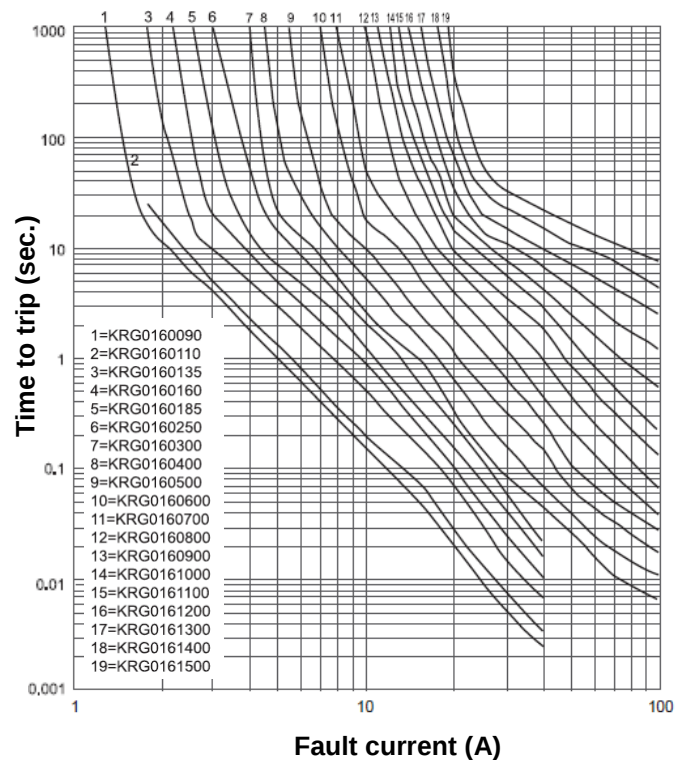
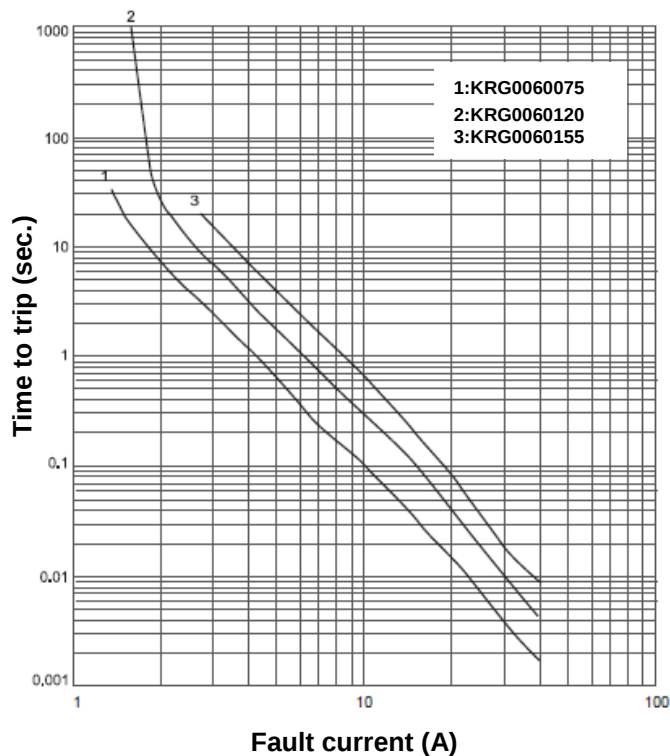
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Polymer PTC Resettable Fuse: KRG Series

6V/16V Lead Type



Typical Time to Trip Curves at 23°C



Reliability

Item	Standard	Test Conditions/Methods	Criteria
Passive Aging	IEC60738-1	85±5°C, 1000±24hrs	±5% typical resistance change
Humidity Aging	Specification Standard	85±5°C, 80~85%RH, 1000±24hrs	±5% typical resistance change
Rapid Change of Temperature	IEC60738-1	85±5/-40±5°C, 10 cycles	±5% typical resistance change
Overload Endurance	UL 1434	V _{max} , 120% I _{max} , 50 cycles V _{max} , 300% I _{trip} , 6000 cycles	No arcing or burring
Trip Endurance	UL 1434	V _{max} , I _{trip} ≤ I ≤ I _{max} , 1000±24hrs	No arcing or burring

Polymer PTC Resettable Fuse: KRG Series

6V/16V Lead Type



■ Quantity

● Bulk Packing

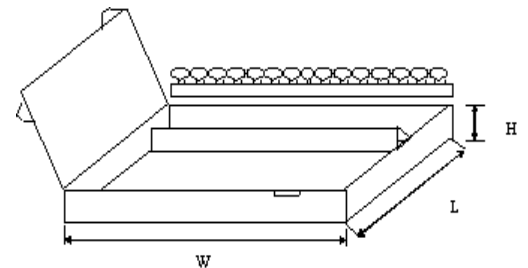
Series	Quantity (pcs/bag)
KRG0060075, KRG0060120, KRG0060155	1,000
KRG016 (0090~0160)	1,000
KRG016 (0185~0900)	500
KRG016 (1000~1500)	250

● 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

● 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	348	185	50
KRG0160090~KRG0160600	348	185	50
KRG0160700~KRG0161500	348	185	73

■ Warehouse Storage Conditions of Products

● Storage Conditions:

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

● Period of Storage: 1 year

Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



■ Features

1. RoHS compliant
2. Radial leaded devices
3. Broadest range of resettable devices available in the industry
4. Current ratings from 0.9 to 9A
5. Maximum voltage is 30V
6. Operating temperature range: -40 ~ +85°C
7. Agency Recognition: UL /cUL/TUV



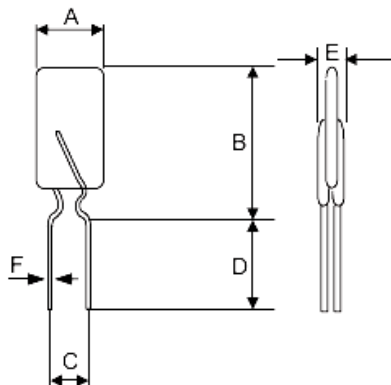
■ Recommended Applications

1. Motors, fans and blowers
2. Keyboard / mouse
3. Transformers
4. Industrial controls
5. Automotive electronics

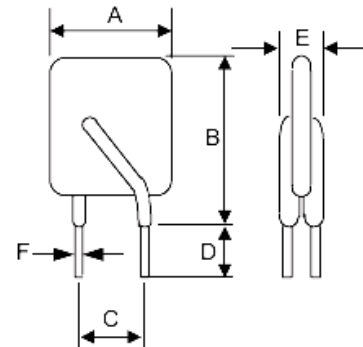
■ Part Number Code

K	R	G	0	3	0	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		I hold		Appearance		Packaging		Optional Suffix		
K	THINKING PPTC Thermistor	R	Radial	G	General	016	16V	0090	0.9A	S	Straight lead	B	Bulk	Y	RoHS Compliant	
				T	Telecom	030	30V	0014	0.14A	I	Inner kink lead	R	Taping & Reel			
						060	60V	0135	1.35A	F	Y kink lead					
						Note : for telecom with Vmax. interrupt		0170	1.7A							
								0600	6A							
								1000	10A							
						250	250V	1200	12A							
						600	600V									

■ Structure and Dimensions



Inner kink lead (I type)



Straight lead (S type)

Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



(Unit: mm)

Part No.	A	B		C	D	E	F
	Max.	S type	I type	Typ.	Typ.	Max.	Typ.
KRG0300090	7.4	12.2	12.2	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300110	7.4	14.2	14.2	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300135	8.9	13.5	13.5	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300160	8.9	15.2	15.2	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300185	10.2	15.7	15.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300250	11.4	18.3	20.5	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0300300	11.4	17.3	21.8	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300400	14.0	20.1	24.6	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300500	14.0	24.9	26.6	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300600	16.5	24.9	29.4	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300700	19.1	26.7	31.2	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300800	21.6	29.2	33.7	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0300900	24.1	29.7	34.2	10.0±0.8	11.0±0.8	3.0	0.8±0.02

■ Electrical Characteristics(23°C)

Part No.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	Pd (Typ.)	Maximum time to trip		Resistance (Ω)			Safety approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Initial (R _i)		Post trip (R ₁)	UL/cUL	TUV
								Min.	Max.	Max		
KRG0300090	30	40	0.90	1.8	0.6	4.50	5.90	0.070	0.120	0.22	✓	✓
KRG0300110	30	40	1.10	2.2	0.7	5.50	6.60	0.050	0.100	0.17	✓	✓
KRG0300135	30	40	1.35	2.7	0.8	6.75	7.30	0.040	0.080	0.13	✓	✓
KRG0300160	30	40	1.60	3.2	0.9	8.00	8.00	0.030	0.070	0.11	✓	✓
KRG0300185	30	40	1.85	3.7	1.0	9.25	8.70	0.030	0.060	0.09	✓	✓
KRG0300250	30	40	2.50	5.0	1.2	12.50	10.30	0.020	0.040	0.07	✓	✓
KRG0300300	30	40	3.00	6.0	2.0	15.00	10.80	0.020	0.050	0.08	✓	✓
KRG0300400	30	40	4.00	8.0	2.5	20.00	12.70	0.010	0.030	0.05	✓	✓
KRG0300500	30	40	5.00	10.0	3.0	25.00	14.50	0.010	0.030	0.05	✓	✓
KRG0300600	30	40	6.00	12.0	3.5	30.00	16.00	0.005	0.020	0.04	✓	✓
KRG0300700	30	40	7.00	14.0	3.8	35.00	17.50	0.005	0.020	0.03	✓	✓
KRG0300800	30	40	8.00	16.0	4.0	40.00	18.80	0.005	0.013	0.02	✓	✓
KRG0300900	30	40	9.00	18.0	4.2	45.00	20.00	0.005	0.010	0.02	✓	✓

Note: UL&cUL File No. E138827

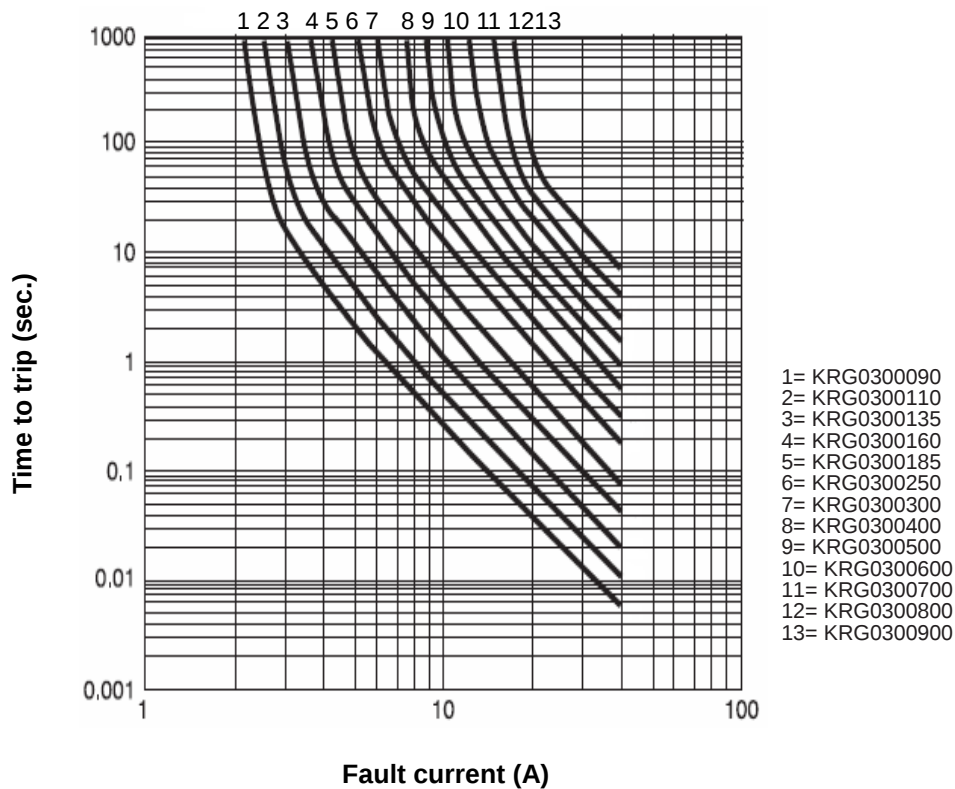
TUV File No. R50066618

Polymer PTC Resettable Fuse: KRG Series

30V Lead Type

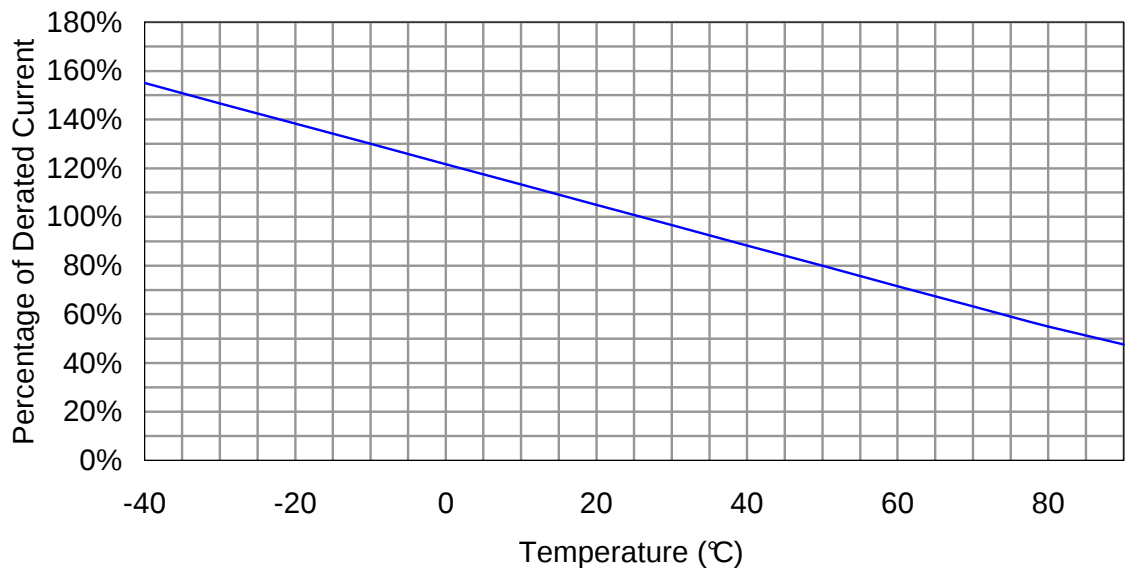


■ Typical Time to Trip Curves at 23°C



■ Thermal Derating Curve

Derating Curves for KRG 030 Series



Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



■ Reliability

Item	Standard	Test condition/methods	Criteria
Passive Aging	IEC60738-1	85±5°C, 1000±24hrs	±5% typical resistance change
Humidity storage	Specification Standard	85±5°C, 80~85%RH, 1000±24hrs	±5% typical resistance change
Rapid Change of Temperature	IEC60738-1	85±5/-40±5°C, 10 cycles	±5% typical resistance change
Overload Endurance	UL 1434	Vmax, 120% I _{max} , 50 cycles Vmax, 300% I _{trip} , 6000 cycles	No arcing or burring
Trip endurance	UL 1434	Vmax, I _{trip} ≤ I ≤ I _{max} , 1000±24hrs	No arcing or burring

Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



■ Packaging

Devices taped using EIA468-B/IEC286-2 standards. See table below and Fig. 1~3 for details.

Dimension description	IEC Mark	Dimension (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.7	±0.3
Ordinate to adjacent component lead KRG0300090~KRG0300300	P ₁	3.6	±1.0
Ordinate to adjacent component lead KRG0300400	P ₁	3.45	±1.0
Ordinate to adjacent component lead KRG0300500~KRG0300900	P ₁	7.3	±1.0
Device pitch KRG0300090~KRG0300300	P	12.7	±1.0
Device pitch KRG0300400~KRG0300900	P	25.4	±1.0
Lead spacing	C	See "Structure and Dimensions"	--
Carrier tape width	W	18	±1.0
Top distance between tape edges	W ₀	3.0	Max
Hold-down tape width	W ₁	12	±1.0
Sprocket hole position	W ₂	9.0	+0.75/-0.5
Abscissa to top KRG0300090~KRG0300300	H ₁	32.2	Max.
Abscissa to top KRG0300400~KRG0300900		47.5	
Abscissa to plane (straight lead)	H	18.0	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.0	±0.5
Sprocket hole diameter	D ₀	4	±0.2
Lead protrusion	L ₁	1	Max.
Tape thickness	t	0.9	Max.
Body lateral deviation	Δh	0	±1.0
Body tape plane deviation	Δp	0	±1.3
Reel width	W ₃	56	Max.
Reel diameter		340	±10
Arbor hole diameter	n ₀	31	±1
Core diameter	n	80	Min.

Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



● Taping Specification

Fig.1

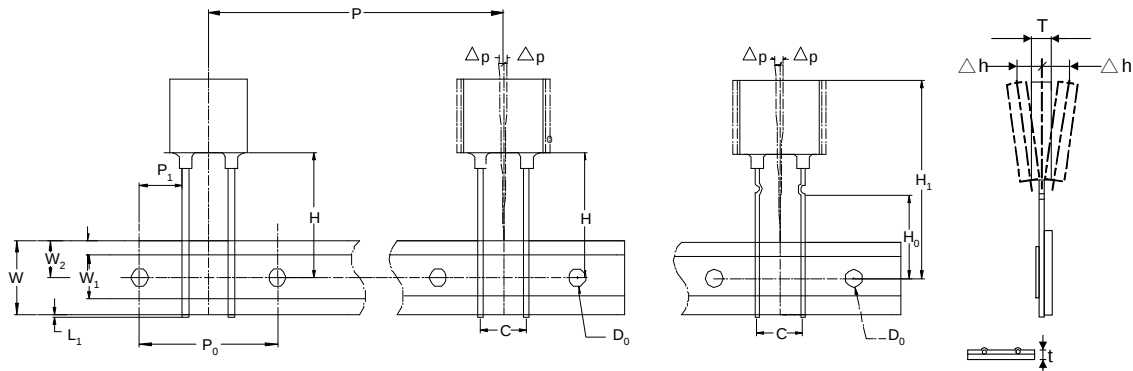
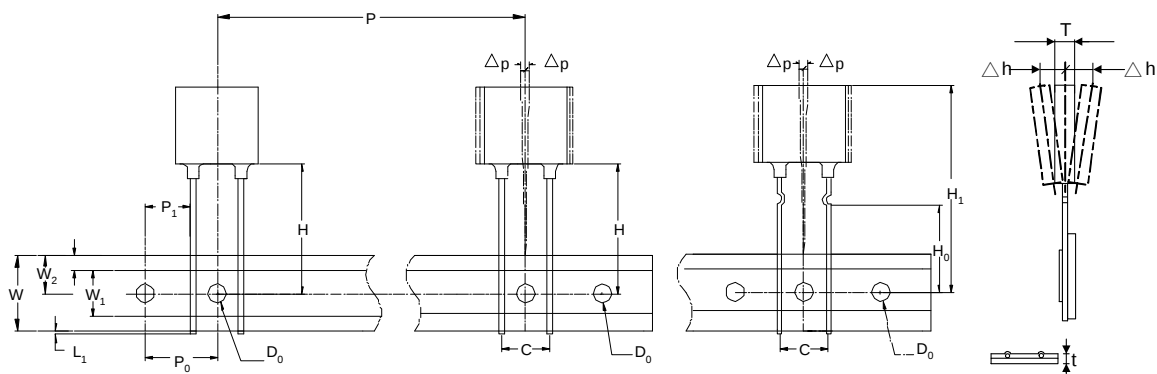


Fig.2

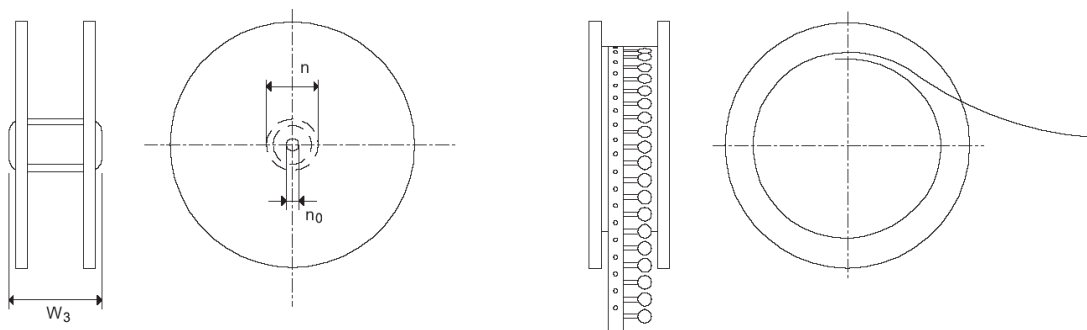


Note:

1. For KRG0300090-KRG0300400, please refer to Fig. 1.
2. For KRG0300500-KRG0300900, please refer to Fig 2.

● Reel Specification

Fig.3



Polymer PTC Resettable Fuse: KRG Series

30V Lead Type



■ Quantity

Bulk packing

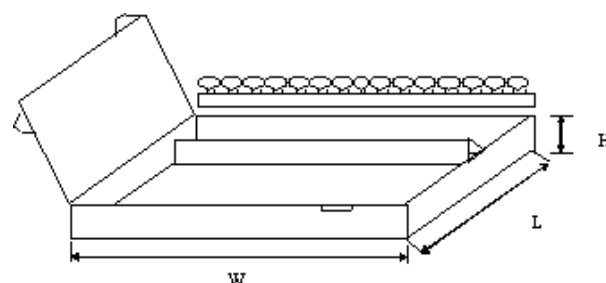
Series	Quantity (PCS/Bag)
KRG030 (0090~0135)	1000
KRG030 (0160~0600)	500
KRG030 (0700~0900)	250

Reel packing

Series	Quantity (PCS/Reel)
KRG030 (0090~0160)	3000
KRG030 (0185~0300)	2000
KRG030 (0400~0900)	1000

Ammo packing

Series	Quantity (PCS/Box)
KRG030 (0090~0300)	1500
KRG030 (0400~0700)	1000
KRG030 (0800~0900)	500



Unit: mm

W	L	H
348	185	73

■ Storage Conditions of Products

- Storage Conditions :
 - Storage Temperature : $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
 - Relative Humidity : $\leq 75\% \text{RH}$
 - Keep away from corrosive atmosphere and sunlight.
- Period of Storage : 1 year

Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



■ Features

1. RoHS compliant
2. Radial leaded devices
3. Broadest range of resettable devices available in the industry
4. Current ratings from 0.1 to 3.75A
5. Maximum voltage is 60V
6. Operating temperature range : -40 ~ +85°C
7. Agency Recognition :UL /cUL/TUV



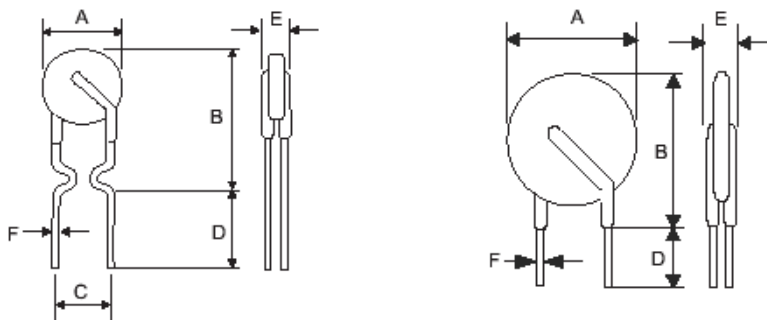
■ Recommended Applications

1. Motors, fans and blowers
2. Keyboard / mouse
3. Transformers
4. Industrial controls
5. Automotive electronics

■ Part Number Code

K	R	G	0	6	0	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		I hold		Appearance		Packaging		Optional Suffix	
K	THINKING PPTC Thermistor	R	Radial	G	General	016	16V	0008	0.08A	S	Straight lead	B	Bulk	Y	RoHS Compliant
				T	Telecom	030	30V	0090	0.9A	I	Inner Kink	R	Taping & Reel		
						060	60V	0014	0.14A	F	Y Kink				
						Note : for telecom with Vmax. interrupt		0135	1.35A						
								0170	1.7A						
								0600	6A						
								1000	10A						
						250	250V	1200	12A						
						600	600V								

■ Structure and Dimensions



Marking: Device is marked Vmax. operation , I hold

Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



Part no	A	B	C	D	E	F
	Max.	Max.	Typ.	Typ.	Max.	Typ.
KRG0600010	7.4	12.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600017	7.4	12.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600020	7.4	12.2	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600025	7.4	12.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600030	7.4	13.0	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600040	7.6	13.5	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600050	7.6	13.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600065	9.7	14.5	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600075	10.4	15.2	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600090	11.7	15.7	5.0±0.8	10.5±0.5	3.0	0.5±0.02
KRG0600110	13.0	18.0	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600135	14.5	19.6	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600160	16.3	21.3	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600185	17.8	22.9	5.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600250	21.3	26.4	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600300	24.9	30.0	10.0±0.8	11.0±0.8	3.0	0.8±0.02
KRG0600375	28.4	33.5	10.0±0.8	11.0±0.8	3.0	0.8±0.02

■ Electrical Characteristics(23°C)

Part No.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	P _d (Typ.)	Maximum Time to Trip		Resistance (Ω)			Safety Approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Initial (R _i)		Post trip (R ₁)	UL/cUL	TUV
								Min.	Max.	Max		
KRG0600010	60	40	0.10	0.20	0.38	0.50	4.0	2.500	4.500	7.50	✓	✓
KRG0600017	60	40	0.17	0.34	0.48	0.85	3.0	3.300	5.210	8.00	✓	✓
KRG0600020	60	40	0.20	0.40	0.41	1.00	2.2	1.830	2.750	4.40	✓	✓
KRG0600025	60	40	0.25	0.50	0.45	1.25	2.5	1.250	1.950	3.00	✓	✓
KRG0600030	60	40	0.30	0.60	0.49	1.50	3.0	0.880	1.330	2.10	✓	✓
KRG0600040	60	40	0.40	0.80	0.56	2.00	3.8	0.550	0.860	1.29	✓	✓
KRG0600050	60	40	0.50	1.00	0.77	2.50	4.0	0.500	0.770	1.17	✓	✓
KRG0600065	60	40	0.65	1.30	0.88	3.25	5.3	0.310	0.480	0.72	✓	✓
KRG0600075	60	40	0.75	1.50	0.92	3.75	6.3	0.250	0.400	0.60	✓	✓
KRG0600090	60	40	0.90	1.80	0.99	4.50	7.2	0.200	0.310	0.47	✓	✓
KRG0600110	60	40	1.10	2.20	1.50	5.50	8.2	0.150	0.250	0.38	✓	✓
KRG0600135	60	40	1.35	2.70	1.70	6.75	9.6	0.120	0.190	0.30	✓	✓
KRG0600160	60	40	1.60	3.20	1.90	8.00	11.4	0.090	0.140	0.22	✓	✓
KRG0600185	60	40	1.85	3.70	2.10	9.25	12.6	0.080	0.120	0.19	✓	✓
KRG0600250	60	40	2.50	5.00	2.50	12.50	15.6	0.050	0.080	0.13	✓	✓
KRG0600300	60	40	3.00	6.00	2.80	15.00	19.8	0.040	0.060	0.10	✓	✓
KRG0600375	60	40	3.75	7.50	3.20	18.75	24.0	0.030	0.050	0.08	✓	✓

Note 1: UL&cUL File No. E138827

TUV File No. R50066618

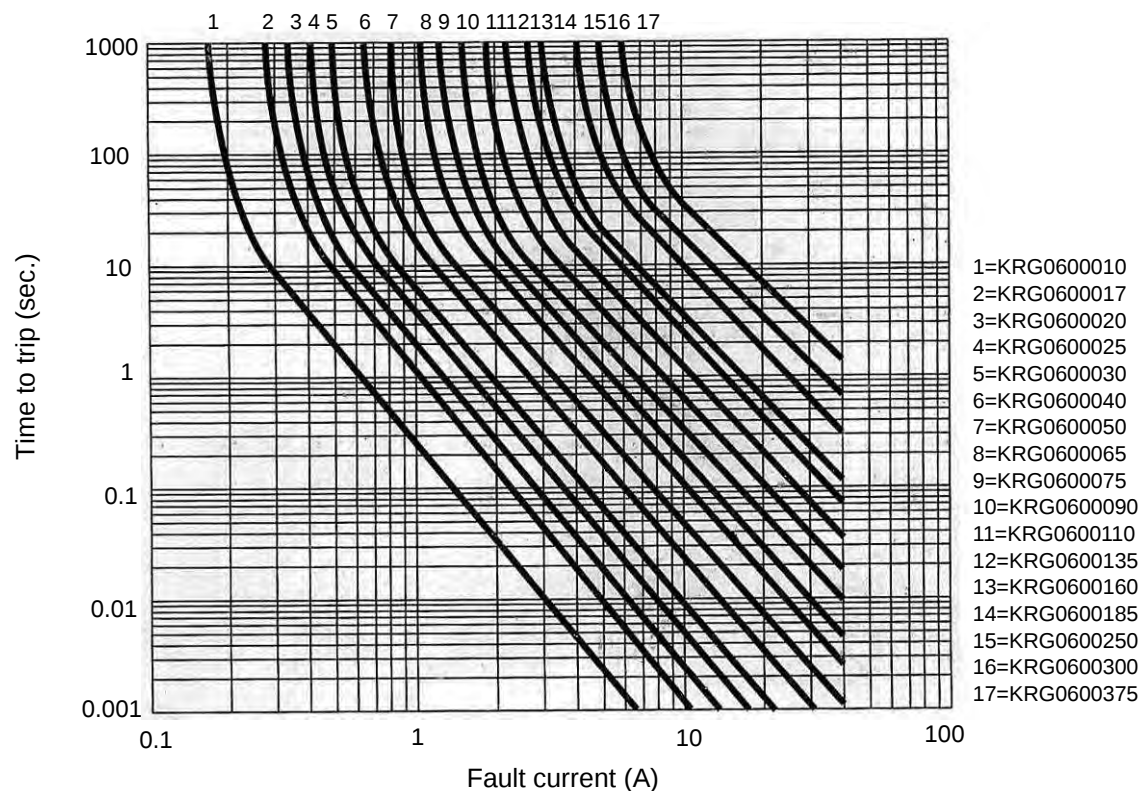
Note 2: Other Vmax rating are available upon request.

Polymer PTC Resettable Fuse: KRG Series

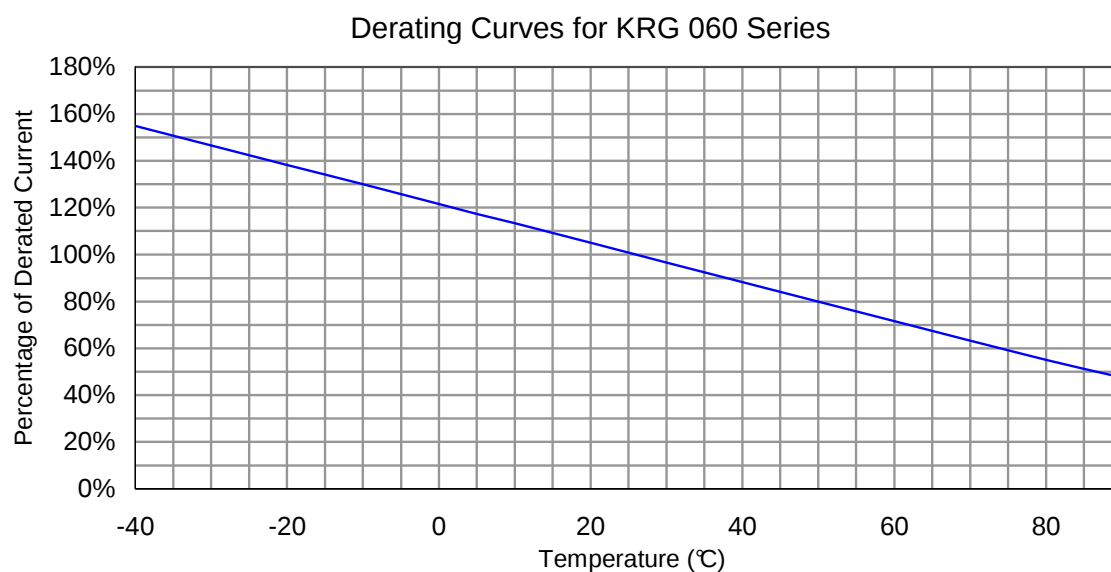
60V Lead Type



■ Typical Time to Trip Curves at 23°C



■ Thermal Derating Curve



Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



■ Reliability

Item	Standard	Test Condition/methods	Criteria
Passive Aging	IEC60738-1	85±5°C , 1000±24hrs	±5% typical resistance change
Humidity storage	Specification Standard	85±5°C , 80~85%RH, 1000±24hrs	±5% typical resistance change
Rapid Change of Temperature	IEC60738-1	85±5/-40±5°C , 10 cycles	±5% typical resistance change
Overload Endurance	UL 1434	Vmax,120% I _{max} ,50 cycles Vmax,300% I _{trip} ,6000 cycles	No arcing or burring
Trip Endurance	UL 1434	Vmax, I _{trip} ≤ I ≤ I _{max} , 1000±24hrs	No arcing or burring

Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



■ Packaging

Devices taped using EIA468-B/IEC286-2 standards. See table below and Fig. 1~3 for details.

Dimension description	IEC Mark	Dimension (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.7	±0.3
Ordinate to adjacent component lead KRG0600010~KRG0600090	P ₁	3.6	±1.0
Ordinate to adjacent component lead KRG0600110~KRG0600185	P ₁	3.45	±1.0
Ordinate to adjacent component lead KRG0600250~KRG0600300	P ₁	7.3	±1.0
Device pitch KRG0600010~KRG0600090	P	12.7	±1.0
Device pitch KRG0600110~KRG0600300	P	25.4	±1.0
Device pitch KRG0600375	P	38.1	±1.0
Lead spacing	C	See " Structure and Dimensions"	--
Carrier tape width	W	18	±1.0
Top distance between tape edges	W ₀	3.0	Max
Hold-down tape width	W ₁	12	±1.0
Sprocket hole position	W ₂	9.0	+0.75/-0.5
Abscissa to top KRG0600010~KRG0600090	H ₁	32.2	Max.
Abscissa to top KRG0600110~ KRG0600300		47.5	
Abscissa to plane (straight lead)	H	18.0	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.0	±0.5
Sprocket hole diameter	D ₀	4	±0.2
Lead protrusion	L ₁	1	Max.
Tape thickness	t	0.9	Max.
Body lateral deviation	Δh	0	±1.0
Body tape plane deviation	Δp	0	±1.3
Reel width	W ₃	56	Max.
Reel diameter		340	±10
Arbor hole diameter	n ₀	31	±1
Core diameter	n	80	Min.

Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



● Taping Specification

Fig.1

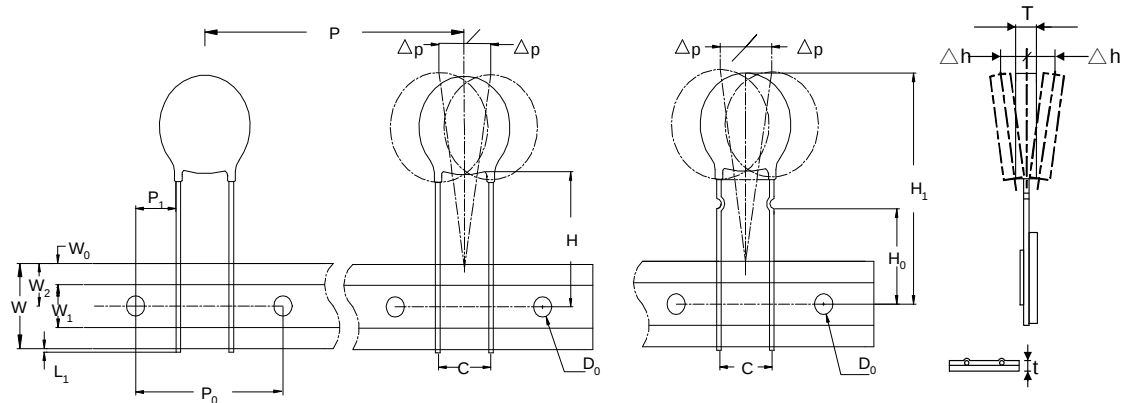
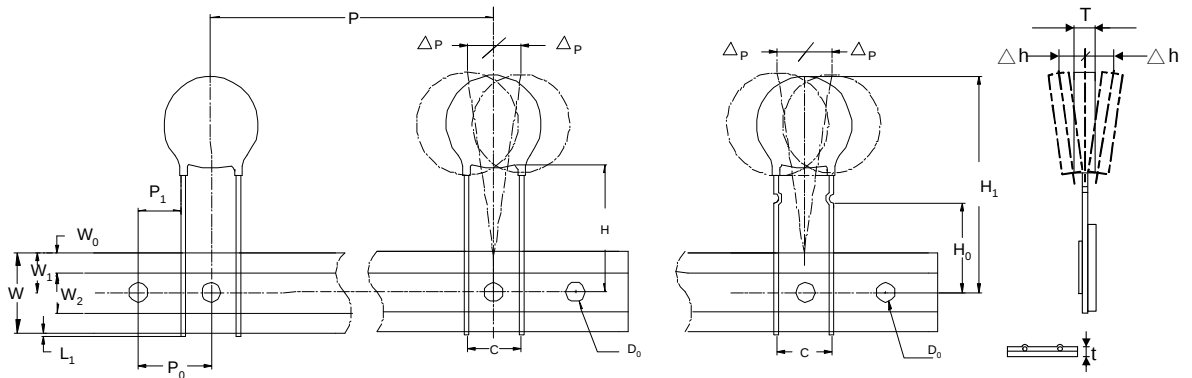


Fig.2

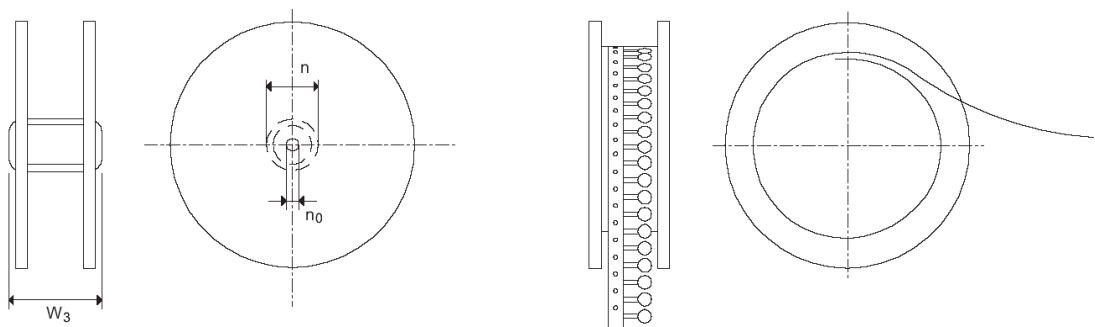


Note:

1. For KRG0600010-KRG0600185, please refer to Fig. 1.
2. For KRG0600250-KRG0600375, please refer to Fig. 2.

● Reel Specification

Fig.3



Polymer PTC Resettable Fuse: KRG Series

60V Lead Type



■ Quantity

● Bulk packing

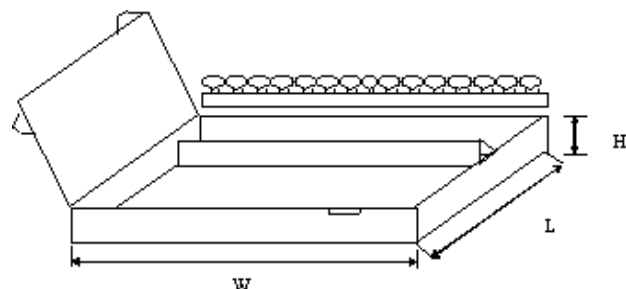
Series	Quantity (PCS/Bag)
KRG060 (0010~0025)	1000
KRG060 (0030~0185)	500
KRG060 (0250~0375)	250

● Reel packing

Series	Quantity (PCS/Reel)
KRG060 (0010, 0020~0040)	3000
KRG0600017	2500
KRG060 (0050~0090)	2000
KRG060 (0110~0185)	1500
KRG060 (0250~0375)	1000

● Ammo packing

Series	Quantity (PCS/Box)
KRG060 (0010~0040)	2000
KRG060 (0050~0090)	1500
KRG060 (0110~0375)	1000



Unit: mm

W	L	H
348	185	73

■ 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. Keep away from corrosive atmosphere and sunlight.
- Period of Storage : 1 year

Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



■ Features

1. RoHS compliant
2. Radial leaded devices
3. Current ratings from 0.10A ~ 3.75A
4. Maximum operating voltage: 120 V_{AC}
5. Operating temperature range : -40 ~ +85°C
6. Agency Approval: UL/cUL/TUV



■ Recommended Applications

1. Motors, fans and blowers
2. Power supplies
3. Transformers
4. Industrial controllers

■ Part Number Code

K	R	L	1	2	0	0	0	1	0	S	B	Y			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product Code		Form Factor		Usage		Max. Operating Voltage		Ihold		Appearance		Packaging		Optional Suffix	
K	THINKING PPTC Thermistor	R	Radial	L	Line Voltage	120	120V	0010	0.10A	S	Straight lead	R	Reel	Y	RoHS Compliant
								0090	0.9A	I	Inner kink lead	B	Bulk		
								0100	1.00A						
								0135	1.35A						
								0200	2A						
								0375	3.75A						

Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



■ Structure and Dimensions

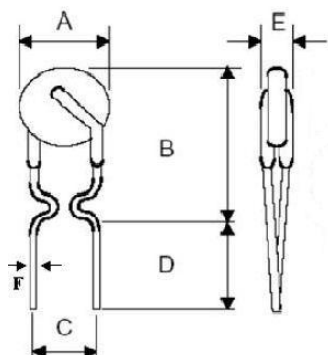


Figure 1

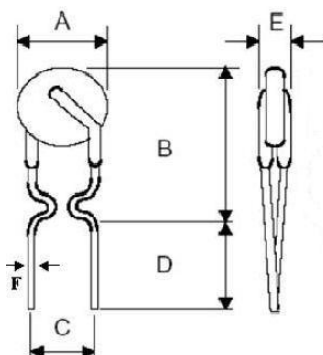


Figure 2

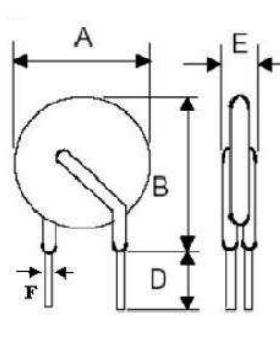


Figure 3

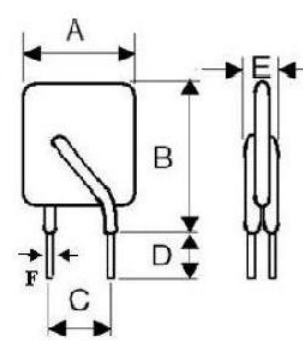


Figure 4

(Unit: mm)

Part No.	A	B	C	D	E	F	Figure
	Max.	Max.	Typ.	Min.	Max.	Typ.	
KRL1200010	7.9	13.0	5.1	7.6	3.8	0.51	1
KRL1200017	7.9	13.0	5.1	7.6	3.8	0.51	1
KRL1200020	7.9	13.0	5.1	7.6	3.8	0.65	2
KRL1200025	7.9	13.0	5.1	7.6	3.8	0.65	2
KRL1200030	7.9	13.0	5.1	7.6	3.8	0.65	2
KRL1200040	8.2	14.2	5.1	7.6	3.8	0.65	2
KRL1200050	9.2	14.9	5.1	7.6	3.8	0.65	2
KRL1200065	9.7	14.9	5.1	7.6	3.8	0.65	2
KRL1200070	10.6	15.5	5.1	7.6	3.8	0.65	2
KRL1200075	10.9	17.0	5.1	7.6	4.1	0.81	4
KRL1200090	11.9	15.9	5.1	7.6	3.8	0.65	2
KRL1200100	11.5	20.1	5.1	7.6	4.1	0.81	4
KRL1200110	13.3	18.3	5.1	7.6	4.1	0.81	3
KRL1200125	14.0	21.7	5.1	7.6	4.1	0.81	4
KRL1200130	15.5	20.6	5.1	7.6	4.1	0.81	3
KRL1200135	16.3	21.7	5.1	7.6	4.1	0.81	4
KRL1200160	17.5	22.5	5.1	7.6	4.1	0.81	3
KRL1200185	19.9	24.9	5.1	7.6	4.1	0.81	3
KRL1200200	23.5	27.9	10.2	7.6	4.1	0.81	4
KRL1200250	22.5	27.5	10.2	7.6	4.1	0.81	3
KRL1200300	25.5	30.0	10.2	7.6	4.1	0.81	3
KRL1200375	29.5	34.0	10.2	7.6	4.1	0.81	3

Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



■ Electrical Characteristics(@23°C)

Part No.	Vmax.	I _{max} .	I _{hold}	I _{trip}	Pd (Typ.)	Max. Time to Trip		Resistance		Agency Approval	
						Current	Time	Initial (R _i Min.)	Post trip (R ₁ Max.)	UL/cUL	TUV
	(V _{AC})	(A)	(A)	(A)	(W)	(A)	(Sec.)	(Ω)	(Ω)		
KRL1200010	120	2.0	0.10	0.20	0.84	0.50	10.0	3.00	7.50	√	√
KRL1200017	120	2.0	0.17	0.34	0.84	0.85	10.0	2.00	7.00	√	√
KRL1200020	120	2.0	0.20	0.40	1.08	1.00	9.0	1.83	4.40	√	√
KRL1200025	120	3.0	0.25	0.50	1.08	1.25	7.5	1.25	3.00	√	√
KRL1200030	120	3.0	0.30	0.60	1.44	1.50	8.5	0.88	2.10	√	√
KRL1200040	120	3.0	0.40	0.80	1.44	2.00	6.5	0.55	1.29	√	√
KRL1200050	120	3.0	0.50	1.00	1.56	2.50	6.0	0.50	1.17	√	√
KRL1200065	120	5.0	0.65	1.30	1.68	3.25	5.7	0.31	0.72	√	√
KRL1200070	120	5.0	0.75	1.50	1.80	3.75	6.3	0.25	0.60	√	√
KRL1200075	120	7.5	0.75	1.50	2.64	3.75	15.0	0.25	0.69	√	√
KRL1200090	120	5.0	0.90	1.80	1.80	4.50	7.20	0.20	0.47	√	√
KRL1200100	120	10.0	1.00	2.00	2.64	5.00	15.0	0.18	0.47	√	√
KRL1200110	120	8.0	1.10	2.20	2.28	5.50	8.2	0.15	0.38	√	√
KRL1200125	120	12.5	1.25	2.50	2.88	6.25	20.0	0.11	0.33	√	√
KRL1200130	120	10.0	1.35	2.70	2.64	6.75	9.6	0.12	0.30	√	√
KRL1200135	120	13.5	1.35	2.70	3.12	6.75	20.0	0.11	0.30	√	√
KRL1200160	120	12.0	1.60	3.20	3.12	8.00	11.4	0.09	0.22	√	√
KRL1200185	120	12.0	1.85	3.70	3.36	9.25	12.6	0.08	0.19	√	√
KRL1200200	120	20.0	2.00	4.20	4.32	10.00	36.0	0.08	0.21	√	√
KRL1200250	120	15.0	2.50	5.00	4.44	12.50	15.6	0.05	0.13	√	√
KRL1200300	120	17.0	3.00	6.00	4.56	15.00	19.8	0.04	0.10	√	√
KRL1200375	120	20.0	3.75	7.50	4.80	18.75	24.0	0.03	0.08	√	√

Note: UL&cUL File No. E138827

TUV File No. R50166228

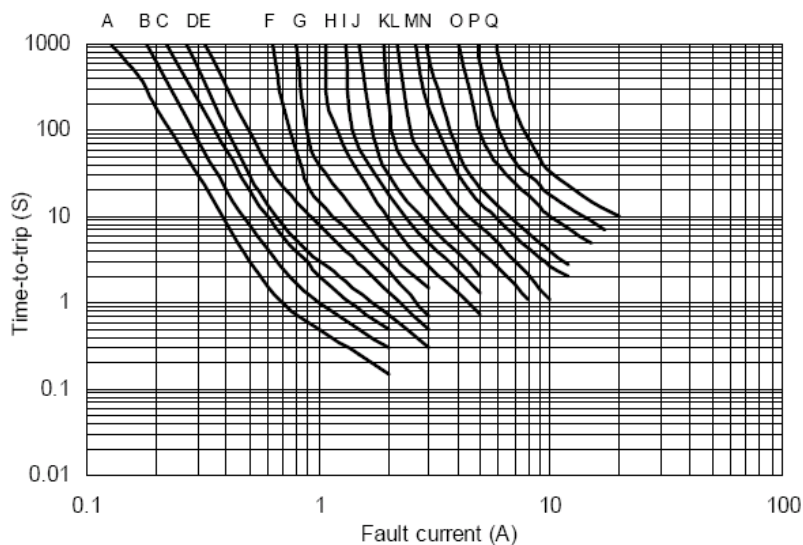
Polymer PTC Resettable Fuse: KRL Series

120V Lead Type

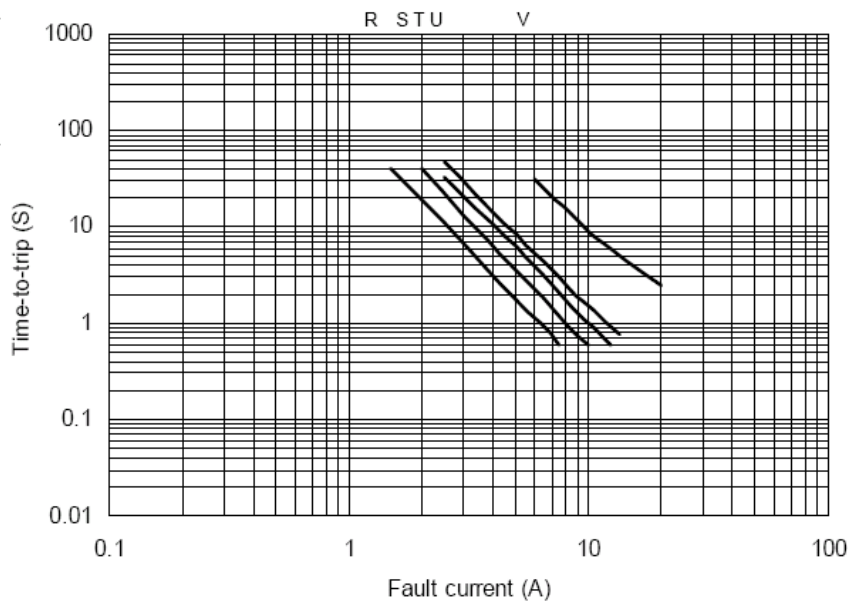


■ Typical Time to Trip Curves at 23°C

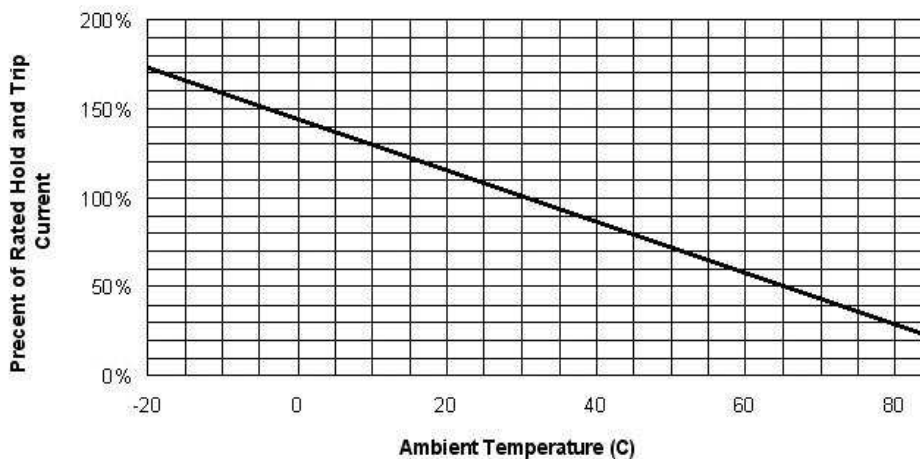
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 B= KRL1200017
 C= KRL1200020
 D= KRL1200025
 E= KRL1200030
 F= KRL1200040
 G= KRL1200050
 H= KRL1200065
 I= KRL1200070
 J= KRL1200090
 K= KRL1200110
 L= KRL1200130
 M= KRL1200160
 N= KRL1200185
 O= KRL1200250
 P= KRL1200300
 Q= KRL1200375



R= KRL1200075
 S= KRL1200100
 T= KRL1200125
 U= KRL1200135
 V= KRL1200200



■ Derating Curve



Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



■ Packaging

● Tape & Reel Specification

See table below and Fig. 1~5 for details

Description	EIA Mark	Dimensions (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.7	±0.3
Ordinate to adjacent component lead KRL1200010-KRL1200100	P ₁	3.6	±1.0
Ordinate to adjacent component lead KRL1200110-KRL1200185		3.45	
Ordinate to adjacent component lead KRL1200200-KRL1200300		7.3	
Device pitch KRL1200010-KRL1200100	P	12.7	±1.0
Device pitch KRL1200110-KRL1200250		25.4	
Device pitch KRL1200300~KRL1200375		38.1	
Carrier tape width	W	18.0	±1.0
Top distance between tape edges	W ₀	3.0	Max
Hold-down tape width	W ₁	12.0	±1.0
Lead spacing	C	See “ Structure and Dimensions ”	--
Abscissa to top KRL1200010 to KRL1200070	H ₁	32.2	max
Abscissa to top KRL1200075 to KRL1200375		47.5	
Abscissa to plane (straight lead)	H	18.0	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.0	±0.5
Sprocket hole position	W ₂	9	+0.75/-0.5
Sprocket hole diameter	D ₀	4.0	±0.2
Lead protrusion	L ₁	1.0	Max.
Tape thickness	t	0.9	Max.
Body tape plane deviation	△p	0	±1.3
Body lateral deviation	△h	0	±1.0
Reel width	W ₃	56	Max.
Reel diameter		340	±10.0
Arbor hold diameter	n ₀	31	±1
Core diameter	n	80	Min.

Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



● Taping Specification

Figure 1.

KRL1200010 to KRL1200070, KRL1200090, KRL1200110, KRL1200130, KRL1200160, KRL1200185

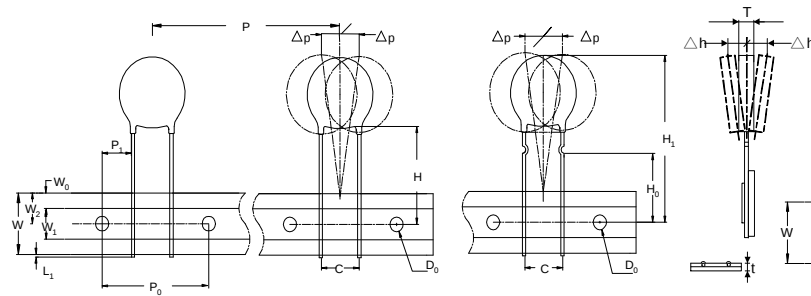


Figure 2.

KRL1200075, KRL1200100, KRL1200125, KRL1200135

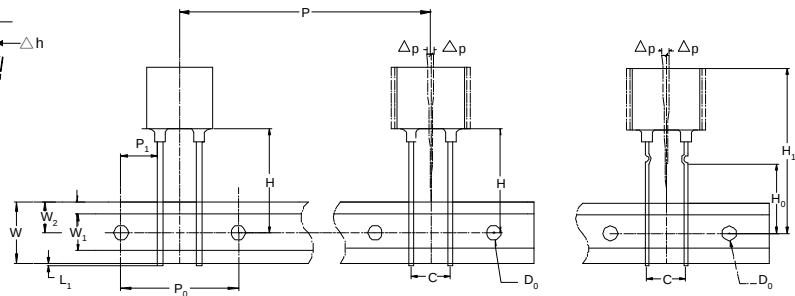


Figure 3.

KRL1200200

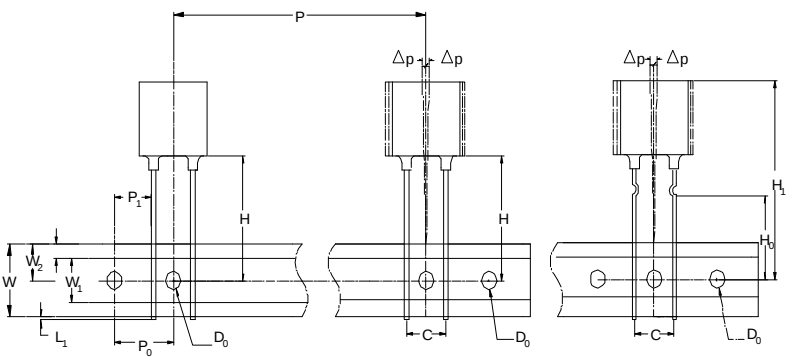
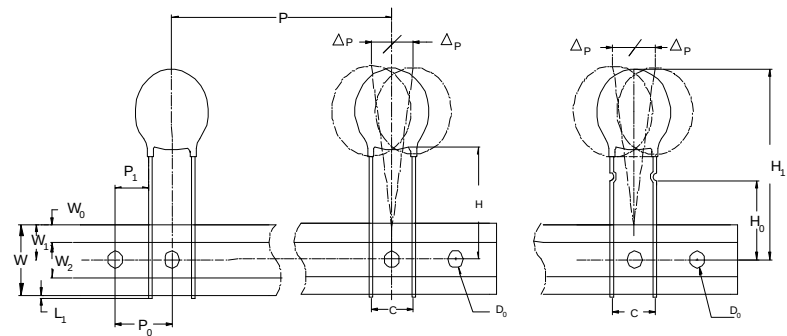


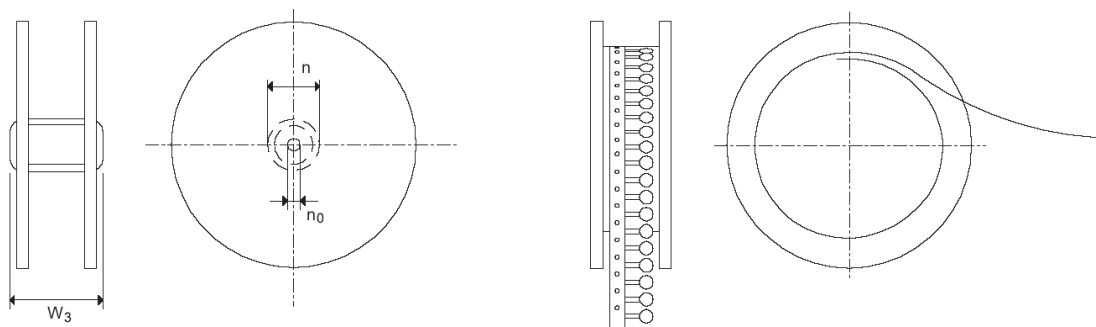
Figure 4.

KRL1200250, KRL1200300, KRL1200375



● Reel Specification

Figure 5.



Polymer PTC Resettable Fuse: KRL Series

120V Lead Type



■ Quantity

● Bulk Packing

Part No.	Pcs/ Bag
KRL1200010-KRL1200050	500
KRL1200065-KRL1200110	300
KRL1200125- KRL1200160	200
KRL1200185- KRL1200375	100

● Reel Packing

Part No.	Pcs/ Reel
KRL1200010-KRL1200050	2000
KRL1200065-KRL1200375	1500

■ Storage Conditions of Products

● Storage Conditions :

1. Storage Temperature: -10°C~+40°C
2. Relative Humidity: $\leq 75\%RH$
3. Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.

● Period of Storage: 1 year

1. RoHS compliant
2. Radial leaded devices
3. Current ratings from 0.05A ~ 0.55A
4. Maximum operating voltage: 240 V_{AC}
5. Operating temperature range : -40 ~ +85°C
6. Agency Approval: UL/cUL/TUV



1. Motors, fans and blowers
2. Power supplies
3. Transformers
4. Industrial controllers

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

Product Code	
K	THINKING PPTC Thermistor

Form Factor	
R	Radial

Usage	
L	Line Voltage

Max. Operating Voltage	
240	240V

Ihold	
0005	0.05A
0008	0.08A
0016	0.16A
0025	0.25A
0033	0.33A
0040	0.40A
0055	0.55A

Appearance	
S	Straight lead
I	Inner kink lead

Packaging	
R	Reel
B	Bulk

Optional Suffix	
Y	RoHS Compliant

Polymer PTC Resettable Fuse: KRL Series

240V Lead Type



■ Structure and Dimensions

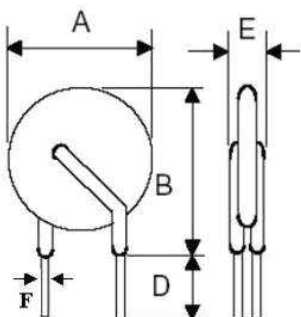


Figure 1

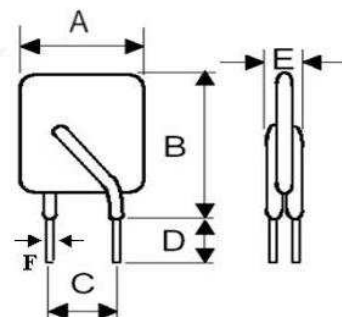


Figure 2

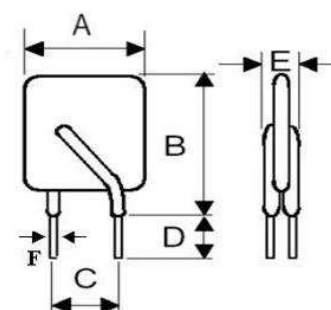


Figure 3

(Unit: mm)

Part No.	A	B	C	D	E	F	Figure
	Max.	Max.	Typ.	Min.	Max.	Typ.	
KRL2400005	8.3	10.7	5.1	7.6	3.8	0.51	1
KRL2400008	8.3	10.7	5.1	7.6	3.8	0.51	1
KRL2400012	8.3	10.7	5.1	7.6	3.8	0.51	1
KRL2400016	9.9	12.5	5.1	7.6	3.8	0.51	1
KRL2400025	9.6	17.4	5.1	7.6	3.8	0.65	2
KRL2400033	11.4	16.5	5.1	7.6	3.8	0.65	2
KRL2400040	11.5	19.5	5.1	7.6	3.8	0.65	2
KRL2400055	14.0	21.7	5.1	7.6	4.1	0.81	3

■ Electrical Characteristics(@23°C)

Part No.	Vmax.	I _{max} .	I _{hold}	I _{trip}	P _d (Typ.)	Max. Time to Trip		Resistance		Agency Approval	
						Current	Time	Initial (R _i Min.)	Post trip (R ₁ Max.)	UL/cUL	TUV
	(V _{AC})	(A)	(A)	(A)	(W)	(A)	(Sec.)	(Ω)	(Ω)		
KRL2400005	240	1.0	0.05	0.12	0.7	0.25	15.00	18.50	65.00	√	√
KRL2400008	240	1.2	0.08	0.19	0.8	0.40	15.00	7.40	26.00	√	√
KRL2400012	240	1.2	0.12	0.30	1.0	0.60	15.00	3.00	12.00	√	√
KRL2400016	240	2.0	0.16	0.37	1.4	0.80	15.00	2.50	7.80	√	√
KRL2400025	240	3.5	0.25	0.56	1.5	1.25	18.50	1.30	3.80	√	√
KRL2400033	240	4.5	0.33	0.74	1.7	1.65	18.50	0.83	2.60	√	√
KRL2400040	240	5.5	0.40	0.90	2.0	2.00	24.00	0.60	1.90	√	√
KRL2400055	240	7.0	0.55	1.25	3.4	2.75	26.00	0.45	1.45	√	√

Note: UL&cUL file no. E138827

TUV file no. R50166038

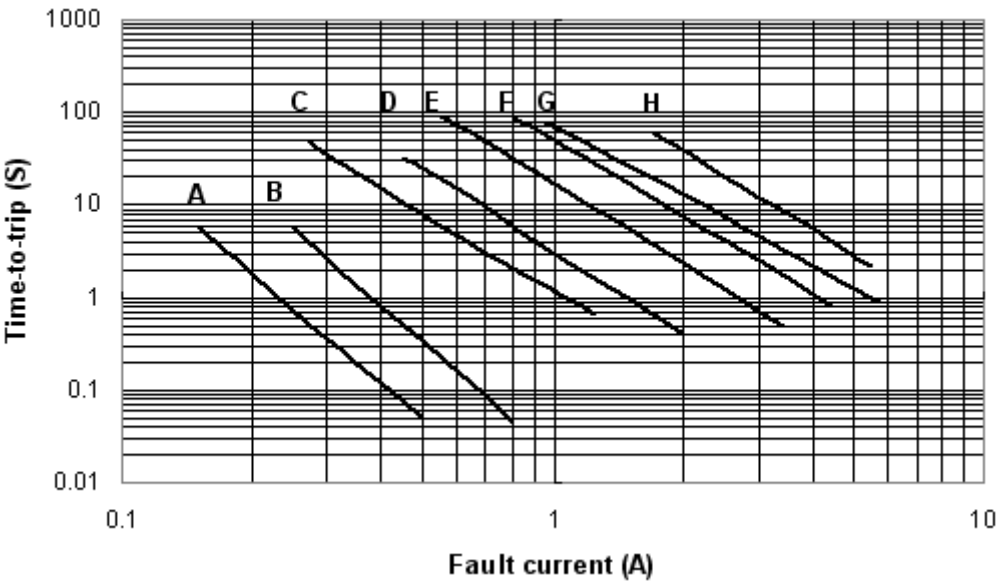
Polymer PTC Resettable Fuse: KRL Series

240V Lead Type

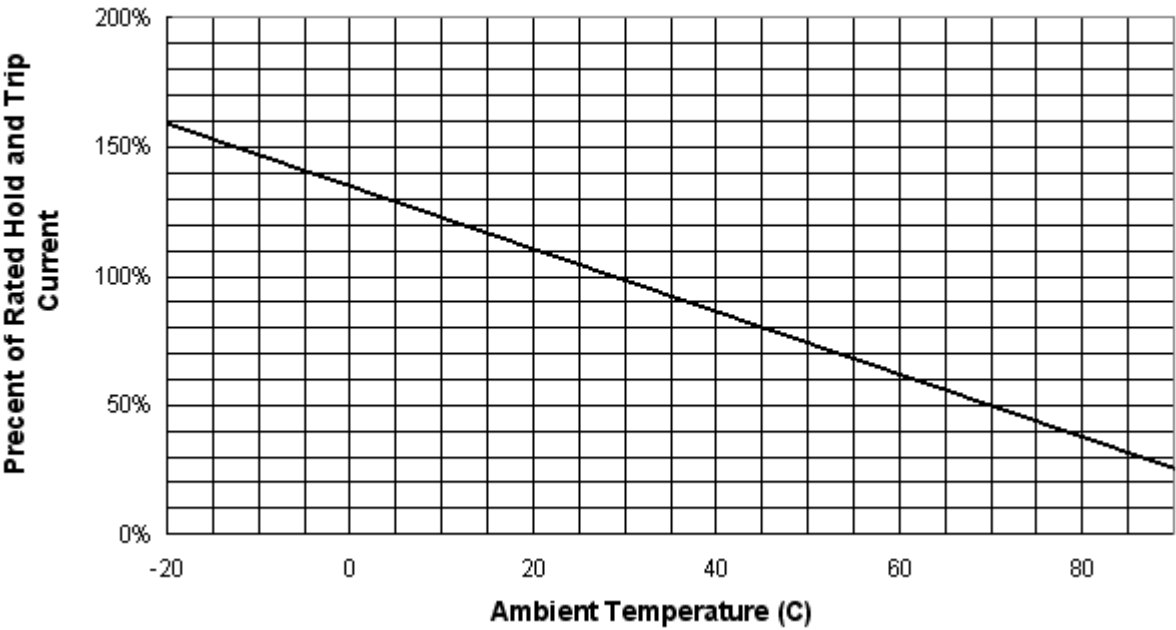


Typical Time to Trip Curves at 23°C

- A= KRL2400005
- B= KRL2400008
- C= KRL2400012
- D= KRL2400016
- E= KRL2400025
- F= KRL2400033
- G= KRL2400040
- H= KRL2400055



Derating Curve



Polymer PTC Resettable Fuse: KRL Series

240V Lead Type



■ Packaging

● Tape & Reel Specification

See table below and Fig. 1~3 for details

Description	EIA Mark	Dimensions (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.7	±0.3
Ordinate to adjacent component lead KRL2400005-KRL2400040	P ₁	3.6	±1.0
Ordinate to adjacent component lead KRL2400055		3.45	
Device pitch KRL2400005-KRL2400040	P	12.7	±1.0
Device pitch KRL2400055		25.4	
Carrier tape width	W	18.0	±1.0
Top distance between tape edges	W ₀	3.0	Max
Hold-down tape width	W ₁	12.0	±1.0
Lead spacing	C	See "Structure and Dimensions"	--
Abscissa to top KRL2400005-KRL2400016	H ₁	32.2	max
Abscissa to top KRL2400025-KRL2400055		47.5	
Abscissa to plane (straight lead)	H	18.0	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.0	±0.5
Sprocket hole position	W ₂	9	+0.75/-0.5
Sprocket hole diameter	D ₀	4.0	±0.2
Lead protrusion	L ₁	1.0	Max
Tape thickness	t	0.9	Max
Body tape plane deviation	Δp	0	±1.3
Body lateral deviation	Δh	0	±1.0
Reel width	W3	56	Max.
Reel diameter		340	±10.0
Arbor hold diameter	n0	31	±1
Core diameter	n	80	Min.

● Taping Specification

Figure 1.

KRL2400005-KRL2400016

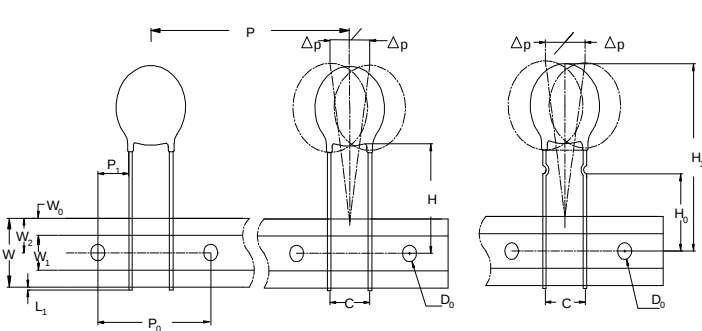
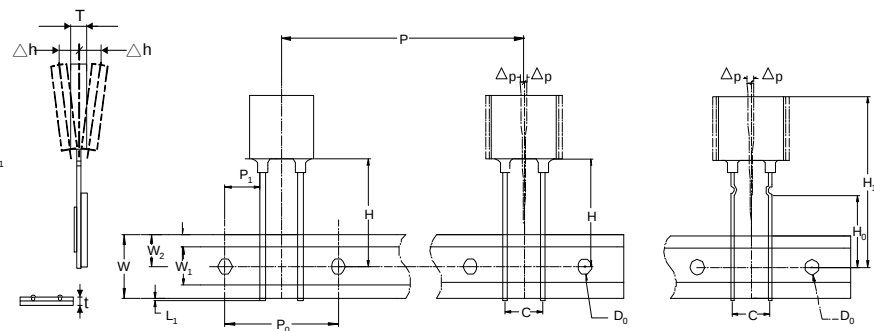


Figure 2.

KRL2400025-KRL2400055



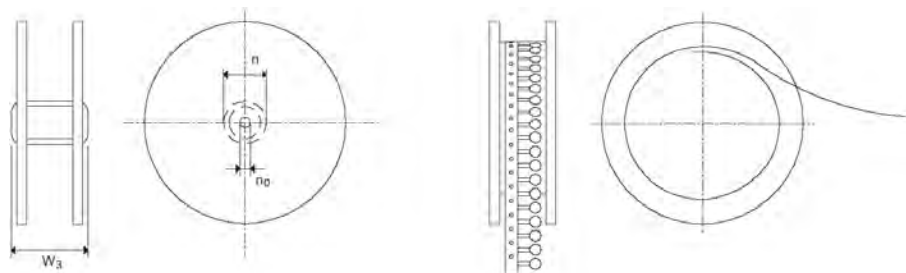
Polymer PTC Resettable Fuse: KRL Series

240V Lead Type



● Reel Specification

Figure 3.



■ Quantity

● Bulk Packing

Part No.	Pcs/ Bag
KRL2400005- KRL2400016	500
KRL2400025	300
KRL2400033- KRL2400055	200

● Reel Packing

Part No.	Pcs/ Reel
KRL2400005- KRL2400016	2000
KRL2400025-KRL2400040	1500
KRL2400055	1000

■ 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

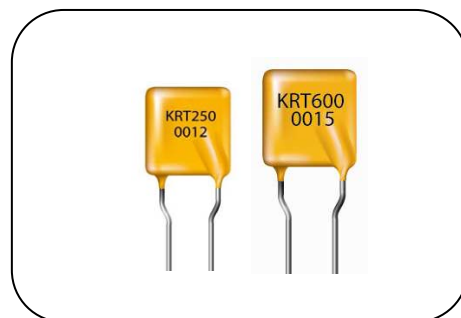
Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



■ Features

1. RoHS & Halogen-Free (HF) compliant
2. Hold current ratings from 0.08 A to 0.18A
3. High operating voltage rating :100Vdc/250Vdc
4. Resettable for over-current protection
5. Operating & storage temperature ranges: -40°C ~ +85°C
6. Agency recognition: UL / cUL / TUV



■ Recommended Applications

1. Telecommunication
2. Network equipment
3. Set-top box

■ Part Number Code

K	R	T	2	5	0	0	0	1	2	F	B	Y				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Product Type		Form Factor		Usage		Interrupt Voltage		I hold		Appearance		Packaging		Optional Suffix		
K	THINKING Polymer PTC Resettable Fuse	R	Radial	T	Telecom	250	250V	0008	0.08A	F	Y Kink lead	B	Bulk	Y	RoHS & HF Compliant	
						600	600V	0012	0.12A			A	Ammo Taping	YU	RoHS & HF & uncoated	
								0018	0.18A			R	Reel Taping	YR	RoHS & HF & round type	
														YUR	RoHS & HF & uncoated & round type	
														YT	RoHS & HF & fast trip	
														YUT	RoHS & HF & uncoated & fast trip	

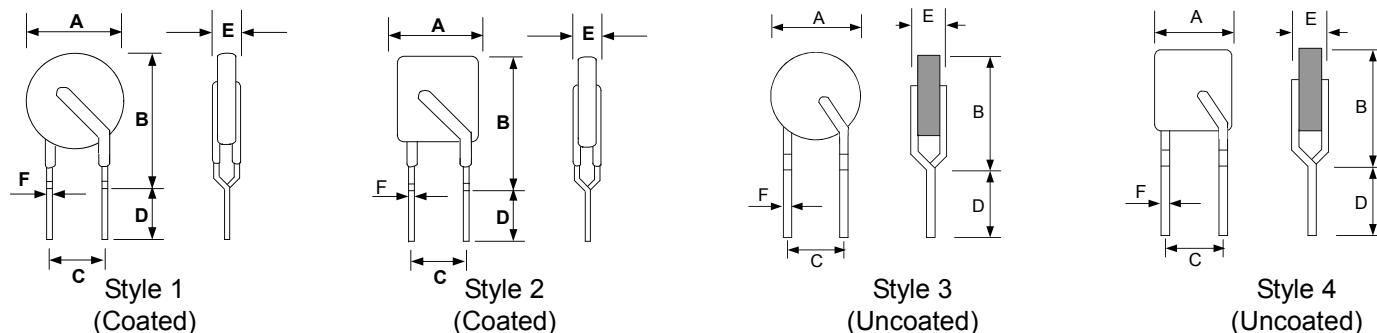
Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



■ Structure and Dimensions

KRT250 Series

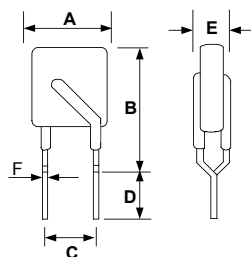


Marking: Coated device is marked with product type, max. interrupt voltage, and I hold.

(Unit: mm)

Part No.	A	B	C	D	E	F	Figure
	Max.	Max.	Typ.	Min.	Max.	Typ.	
KRT2500008	5.8	9.6	5.0±0.8	4.7	4.6	0.6±0.02	1
KRT2500008-U	5.1	9.1	5.0±0.8	4.7	3.8	0.6±0.02	3
KRT2500008-T	5.8	9.9	5.0±0.8	4.7	4.6	0.6±0.02	1
KRT2500011	6.8	9.9	5.0±0.8	4.7	4.6	0.6±0.02	1
KRT2500011-U	5.9	9.4	5.0±0.8	4.7	3.8	0.6±0.02	3
KRT2500012	6.5	11.0	5.0±0.8	4.7	4.6	0.6±0.02	2
KRT2500012-U	6.0	10.0	5.0±0.8	4.7	3.8	0.6±0.02	4
KRT2500012-UT	6.0	10.0	5.0±0.8	4.7	3.8	0.6±0.02	4
KRT2500012-T	6.5	11.0	5.0±0.8	4.7	4.6	0.6±0.02	2
KRT2500015	6.5	11.0	5.0±0.8	4.7	4.6	0.6±0.02	2
KRT2500015-U	6.0	10.0	5.0±0.8	4.7	3.8	0.6±0.02	4
KRT2500015-T	6.5	11.0	5.0±0.8	4.7	4.6	0.6±0.02	2
KRT2500018	11.0	12.6	5.0±0.8	4.7	4.6	0.6±0.02	2
KRT2500018-U	10.4	12.6	5.0±0.8	4.7	3.8	0.6±0.02	4
KRT2500018R	11.0	12.0	5.0±0.8	4.7	3.8	0.6±0.02	1
KRT2500018UR	9.8	12.0	5.0±0.8	4.7	3.5	0.6±0.02	3

KRT600 Series



Style 1

(Unit: mm)

Part No.	A	B	C	D	E	F	Figure
	Max.	Max.	Typ.	Min.	Max.		
KRT6000015	9.0	12.5	5.0±0.8	4.7	4.6	0.6±0.02	1
KRT6000016	16.0	12.6	5.0±0.8	4.7	6.0	0.6±0.02	1

Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



Electrical Characteristics at 23°C

KRT250 Series

Part No.	V _{max.}	V _{interrupt}	I _{max.}	I _{hold}	I _{trip}	P _d (Typ.)	Maximum Time to Trip		Resistance		Safety Approvals		
							Current	Time	Initial Ri	Post Trip R1			
	(V _{dc})	(V _{ac})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Min. (Ω)	Max. (Ω)	UL/cUL	TUV	CQC
KRT2500008	100	250	3.00	0.08	0.16	1.00	0.35	4.00	14.00	33.00	✓	✓	✓
KRT2500008-U	100	250	3.00	0.08	0.16	1.00	0.35	4.00	14.00	33.00	✓	✓	✓
KRT2500008-T	100	250	3.00	0.08	0.16	1.00	0.35	2.50	15.00	33.00	✓	✓	✓
KRT2500011	100	250	3.00	0.11	0.22	1.00	1.00	2.00	5.00	16.00	✓	✓	✓
KRT2500011-U	100	250	3.00	0.11	0.22	1.00	1.00	2.00	5.00	16.00	✓	✓	✓
KRT2500012	100	250	3.00	0.12	0.24	1.00	1.00	2.00	4.00	16.00	✓	✓	✓
KRT2500012-U	100	250	3.00	0.12	0.24	1.00	1.00	2.00	6.00	16.00	✓	✓	✓
KRT2500012-UT	100	250	3.00	0.12	0.24	1.00	1.00	0.70(typ.) 1.5(max.)	7.00	16.00	✓	✓	✓
KRT2500012-T	100	250	3.00	0.12	0.24	1.00	1.00	0.70(typ.) 1.2(max.)	7.00	16.00	✓	✓	✓
KRT2500015	100	250	3.00	0.145	0.29	1.00	1.00	2.50	3.00	14.00	✓	✓	✓
KRT2500015-U	100	250	3.00	0.145	0.29	1.00	1.00	2.50	3.50	14.00	✓	✓	✓
KRT2500015-T	100	250	3.00	0.145	0.29	1.00	1.00	1.50	5.40	14.00	✓	✓	✓
KRT2500018	100	250	10.00	0.18	0.65	1.50	1.50	11.00	0.80	4.00	✓	✓	✓
KRT2500018-U	100	250	10.00	0.18	0.65	1.50	1.50	10.00	0.80	4.00	✓	✓	✓
KRT2500018R	100	250	10.00	0.18	0.65	1.50	3.00	2.00	0.80	4.00	✓	✓	✓
KRT2500018UR	100	250	10.00	0.18	0.65	1.50	3.00	2.00	0.80	4.00	✓	✓	✓

KRT 600 series

Part No.	V _{max.}	V _{interrupt}	I _{max.}	I _{hold}	I _{trip}	P _d (Typ.)	Maximum Time to Trip		Resistance		Safety Approvals		
							Current	Time	Initial Ri	Post Trip R1			
	(V _{dc})	(V _{ac})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Min. (Ω)	Max. (Ω)	UL/cUL	TUV	CQC
KRT6000015	250	600	3.00	0.15	0.30	1.00	1.00	4.00	6.00	17.00	✓	✓	✓
KRT6000016	250	600	3.00	0.16	0.32	1.70	1.00	7.50	4.00	18.00	✓	✓	✓

Note: UL&cUL File No: E138827

TUV File No: R50161442, J50218395

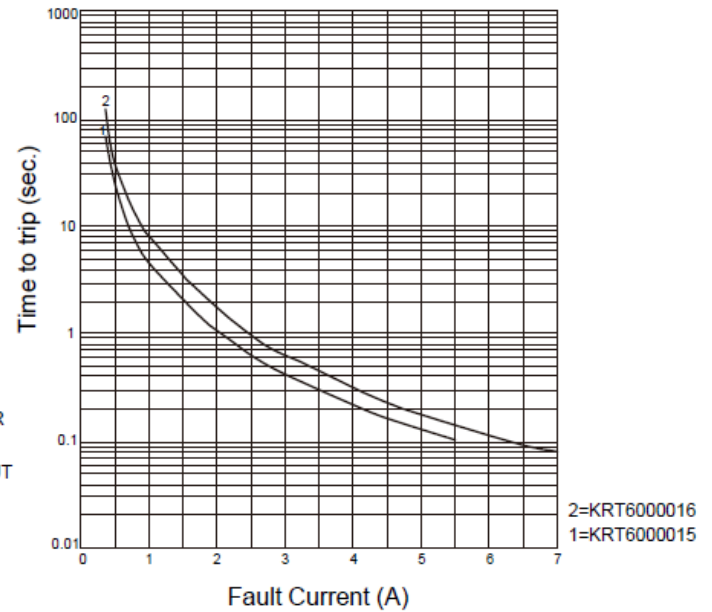
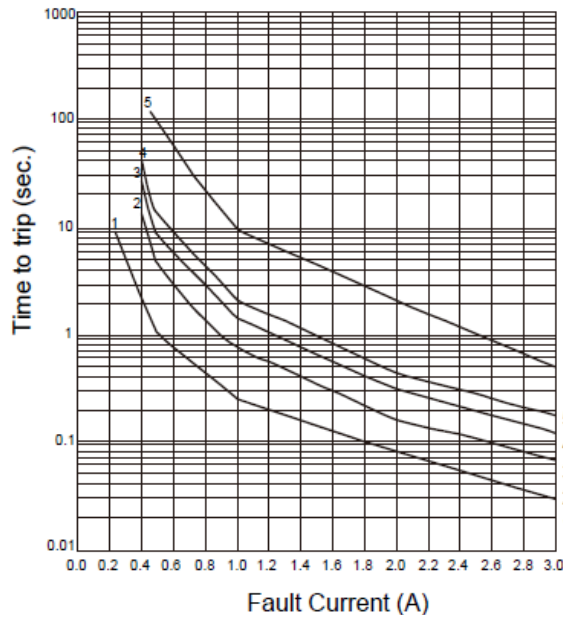
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Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications

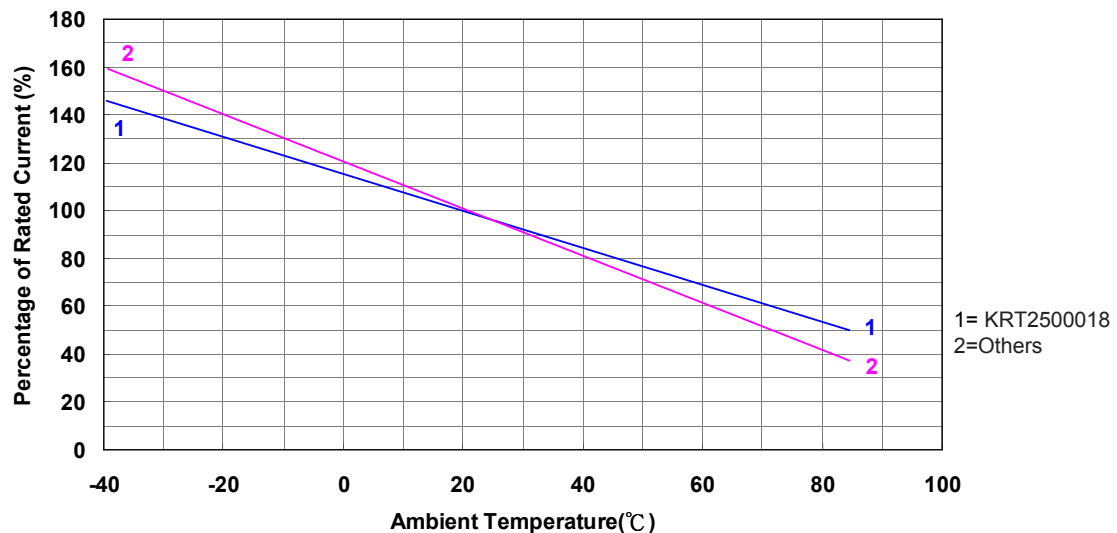


Typical Time to Trip Curves at 23°C



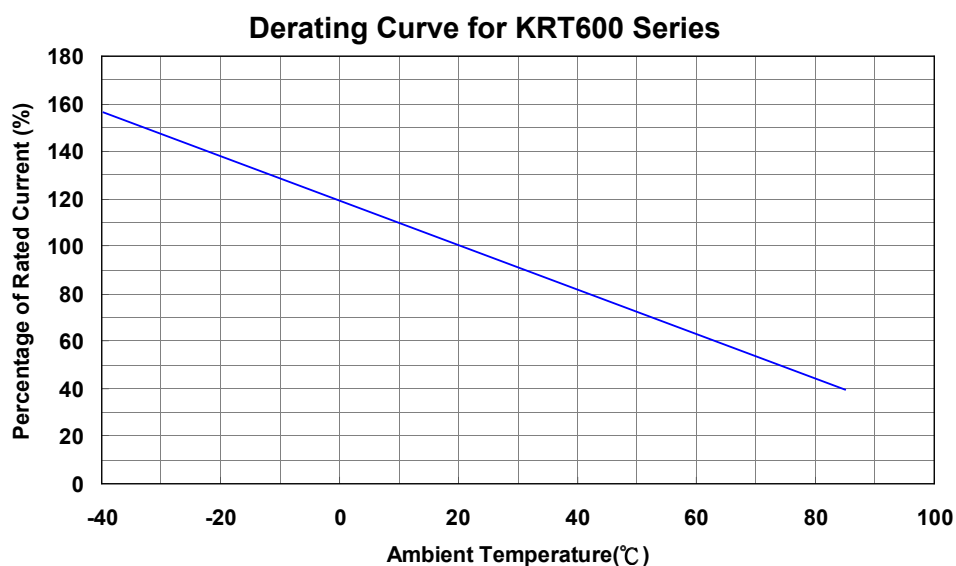
Ihold & Itrip Thermal Derating Curve

Derating Curve for KRT250 Series



Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



■ 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
KRT2500008	0.128	0.112	0.096	0.08	0.064	0.056	0.0488	0.0416	0.032
KRT2500008-U	0.128	0.112	0.096	0.08	0.064	0.056	0.0488	0.0416	0.032
KRT2500008-T	0.128	0.112	0.096	0.08	0.064	0.056	0.0488	0.0416	0.032
KRT2500011	0.176	0.154	0.132	0.11	0.088	0.077	0.0671	0.0572	0.044
KRT2500011-U	0.176	0.154	0.132	0.11	0.088	0.077	0.0671	0.0572	0.044
KRT2500012	0.192	0.168	0.144	0.12	0.096	0.084	0.0732	0.0624	0.048
KRT2500012-U	0.192	0.168	0.144	0.12	0.096	0.084	0.0732	0.0624	0.048
KRT2500012-UT	0.192	0.168	0.144	0.12	0.096	0.084	0.0732	0.0624	0.048
KRT2500012-T	0.192	0.168	0.144	0.12	0.096	0.084	0.0732	0.0624	0.048
KRT2500015	0.240	0.210	0.180	0.15	0.120	0.105	0.0915	0.0780	0.060
KRT2500015-U	0.240	0.210	0.180	0.15	0.120	0.105	0.0915	0.0780	0.060
KRT2500015-T	0.240	0.210	0.180	0.15	0.120	0.105	0.0915	0.0780	0.060
KRT2500018	0.288	0.252	0.216	0.18	0.144	0.126	0.1098	0.0936	0.072
KRT2500018-U	0.288	0.252	0.216	0.18	0.144	0.126	0.1098	0.0936	0.072
KRT2500018R	0.261	0.234	0.212	0.18	0.158	0.144	0.1260	0.1170	0.094
KRT2500018UR	0.261	0.234	0.212	0.18	0.158	0.144	0.1260	0.1170	0.094
KRT6000015	0.240	0.210	0.180	0.15	0.120	0.105	0.0915	0.0780	0.060
KRT6000016	0.256	0.224	0.192	0.16	0.128	0.112	0.0976	0.0832	0.064

Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



■ Reliability

Item	Standard	Test Conditions / 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	IEC60068-2-78	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 and Endurance Test	UL 1434	Vmax, 120% Imax, 50 cycles Vmax, 300% Itrip, 6000 cycles	No visible damage
Aging Test	UL 1434	Vmax, Itrip ≤ I ≤ Imax, 1000±24hrs	No visible damage

■ Packaging

Devices are taped according to IEC 60286-2 standard. See table below and Figure1 to Figure 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	P ₁	3.85	±0.7
Device pitch KRT2500008-KRT2500018 , KRT6000015	P	12.70	±1.0
Device pitch KRT6000016		25.40	
Lead spacing	F	5.00	±0.8
Lead diameter	d	0.60	±0.02
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	±1.0
Sprocket hole position	W ₁	9.00	+0.75/-0.5
Abscissa to top	H ₁	32.20	Max.
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	56.00	Max.
Reel diameter		340.00	±10
Arbor hole diameter	n ₀	31.00	±1
Core diameter	n	80.00	Min.

Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



● Taping Specification

Fig. 1 For KRT2500008, KRT2500011, KRT2500018R, KRT2500018UR

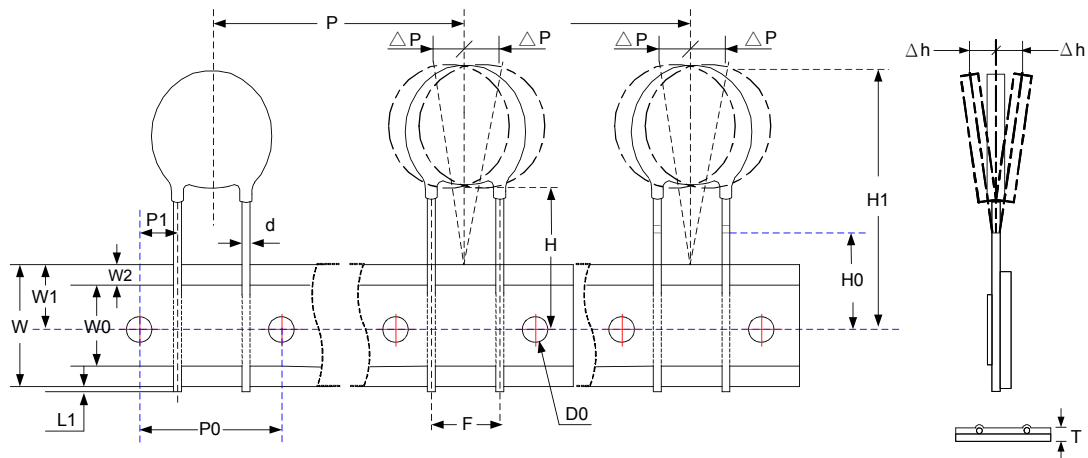
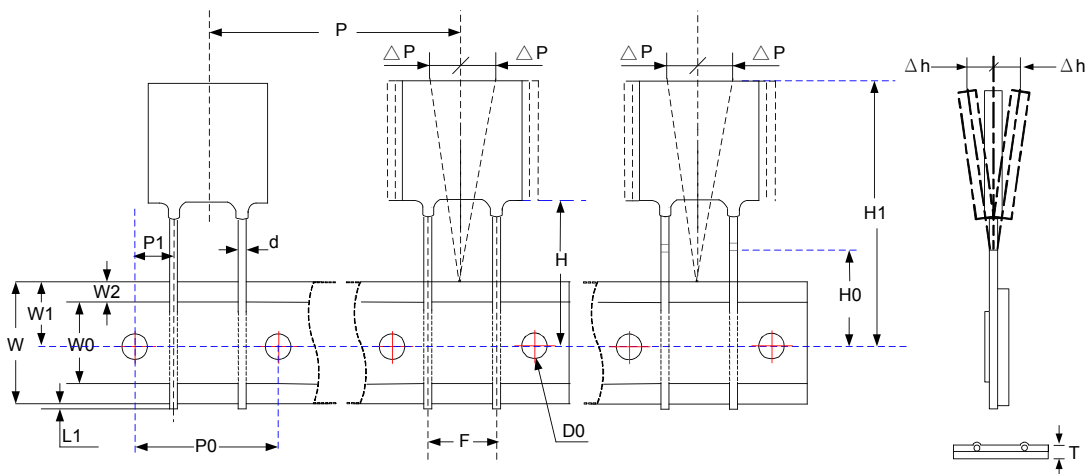
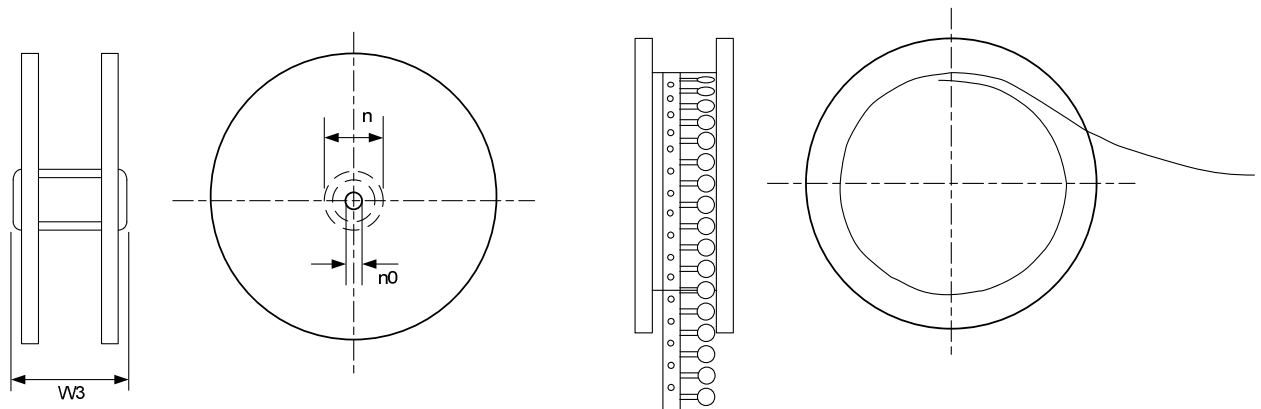


Fig. 2 For KRT2500012 ~ KRT2500018, KRT6000015, KRT6000016



● Reel Specification

Fig. 3



Polymer PTC Resettable Fuse: KRT Series

Radial Lead Type For Telecom Applications



■ Quantity

● Bulk Packing

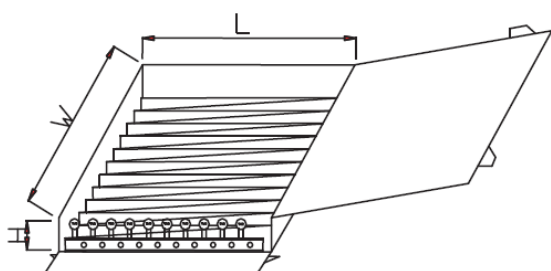
Series	Quantity (pcs/bag)
KRT2500008 ~ 0015	300
KRT2500018	200
KRT600 series	100

● Reel Packing

Series	Quantity (pcs/reel)
KRT2500008 ~ 0015	1,500
KRT2500018, KRT6000015	1,200
KRT6000016	600

● Ammo Packing

Series	Quantity (pcs/box)
KRT250 series	500
KRT600 series	500



(Unit: mm)

Series	W	L	H
KRT250/KRT600	348	185	73

■ 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. Keep away from corrosive atmosphere and sunlight.

● Period of Storage : 1 year

Polymer PTC Resettable Fuse: KSH Series



Strap Type

■ Features

1. RoHS compliant
2. Broadest range of resettable devices available in the industry
3. Current ratings from 1.7 to 14.1A
4. Maximum voltage : 15V , 20V
5. Operating temperature range : -40 ~ +85°C
6. Agency Recognition :UL /cUL/TUV



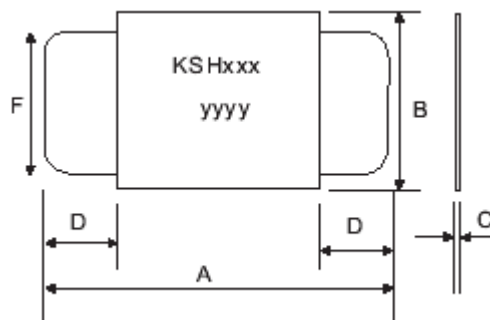
■ Recommended Applications

1. Rechargeable battery packs

■ Part No. Code

K	S	H	0	1	5	0	1	7	0	N	B	Y			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product code		Form factor		Usage		Vmax. operation		I hold		Shape of lead		Packaging		Internal Control Code	
K	THINKING PPTC Thermistor	S	Strap	M	Metal hydride device	015	15V	0008	0.08A	S	Slitted lead on single side	B	Bulk	Y	ROHS Control
				L	Lithium ion device	020	20V	0090	0.9A	D	Slitted lead on dual side	R	Taping & Reel		
				V	Very low temp. device			0014	0.14A	N	Noslitted lead				
				H	High power device			0135	1.35A						
								0170	1.7A						
								0600	6A						
								1000	10A						
								1200	12A						

■ Dimensions



Marking: xxx=Vmax. operation, yyyy=I hold

Polymer PTC Resettable Fuse: KSH Series

Strap Type



(Unit:mm)

Part no.	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KSH0150170	19.0	21.0	3.8	4.0	0.5	0.9	5.3	6.5	2.9	3.1
KSH0150190	19.9	22.1	4.9	5.5	0.6	1.0	5.5	7.5	3.9	4.1
KSH0150260	20.9	23.1	4.9	5.5	0.6	1.0	4.1	5.5	3.9	4.1
KSH0150310	26.8	28.2	6.9	7.1	0.6	1.0	2.5	12.0	4.9	5.1
KSH0150380	24.0	26.0	6.9	7.5	0.6	1.0	4.1	5.5	4.9	5.1
KSH0200450	24.0	26.0	9.9	10.5	0.6	1.0	5.3	6.7	5.9	6.6
KSH0200550	35.0	37.0	6.9	7.5	0.6	1.0	5.3	6.7	4.9	5.1
KSH0200600	24.0	26.0	13.9	14.5	0.6	1.0	4.1	5.5	5.9	6.6
KSH0200730	27.1	29.1	13.9	14.5	0.6	1.0	4.1	5.5	5.9	6.6
KSH0200880	62.8	65.2	7.9	8.5	0.6	1.0	10.0	12.0	5.9	6.1
KSH0200900	45.4	47.6	7.9	8.5	0.9	1.3	4.6	6.2	5.9	6.1
KSH0201300	61.5	66.5	9.4	10.0	0.9	1.3	5.0	7.5	5.9	6.1
KSH0201410	58.0	60.0	13.4	14.0	0.9	1.3	4.2	5.8	5.9	6.1

■ Characteristics(23°C)

Part no	Vmax.	Imax.	Ihold @ 23°C	Itrip @ 23°C	Pd (Typ.)	Maximum time to trip		Resistance (Ω)			Safety approvals	
								Initial (Ri)		Post trip (R1)		
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Max.	Max.	Max.	UL/cUL	TUV
KSH0150170	15	100	1.70	3.40	0.8	8.5	5.0	0.044	0.078	0.114		
KSH0150190	15	100	1.90	3.90	0.8	9.50	5.0	0.039	0.072	0.102	√	√
KSH0150260	15	100	2.60	5.80	1.0	13.00	5.0	0.020	0.042	0.063	√	√
KSH0150310	15	100	3.10	6.50	1.2	15.5	4.5	0.017	0.031	0.056	√	√
KSH0150380	15	100	3.80	8.30	1.2	19.00	5.0	0.013	0.026	0.037	√	√
KSH0200450	20	100	4.50	8.90	1.4	22.50	5.0	0.011	0.020	0.028	√	√
KSH0200550	20	100	5.50	10.5	2.0	27.50	5.0	0.009	0.016	0.022	√	√
KSH0200600	20	100	6.00	11.7	1.7	30.00	5.0	0.007	0.014	0.019	√	√
KSH0200730	20	100	7.30	14.1	1.9	30.00	5.0	0.006	0.012	0.015	√	√
KSH0200880	20	100	8.80	16.0	2.0	44.0	5.0	0.007	0.0105	0.015		
KSH0200900	20	100	9.00	16.7	3.0	45.0	5.0	0.006	0.010	0.014		
KSH0201300	20	100	13.0	21.2	2.2	50.0	10.0	0.004	0.007	0.009		
KSH0201410	20	100	14.1	26.2	2.2	70.0	5.0	0.003	0.005	0.007		

Note : UL&cUL File No. E138827

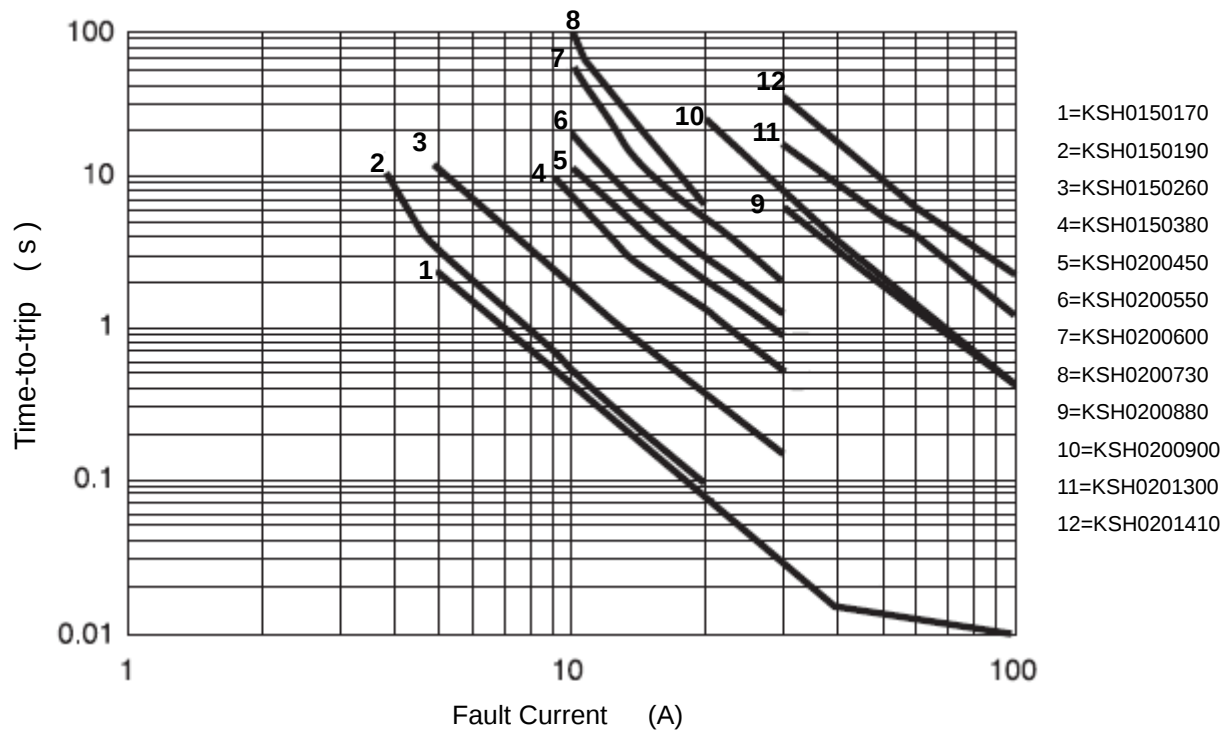
TUV File No. R50066599

Polymer PTC Resettable Fuse: KSH Series

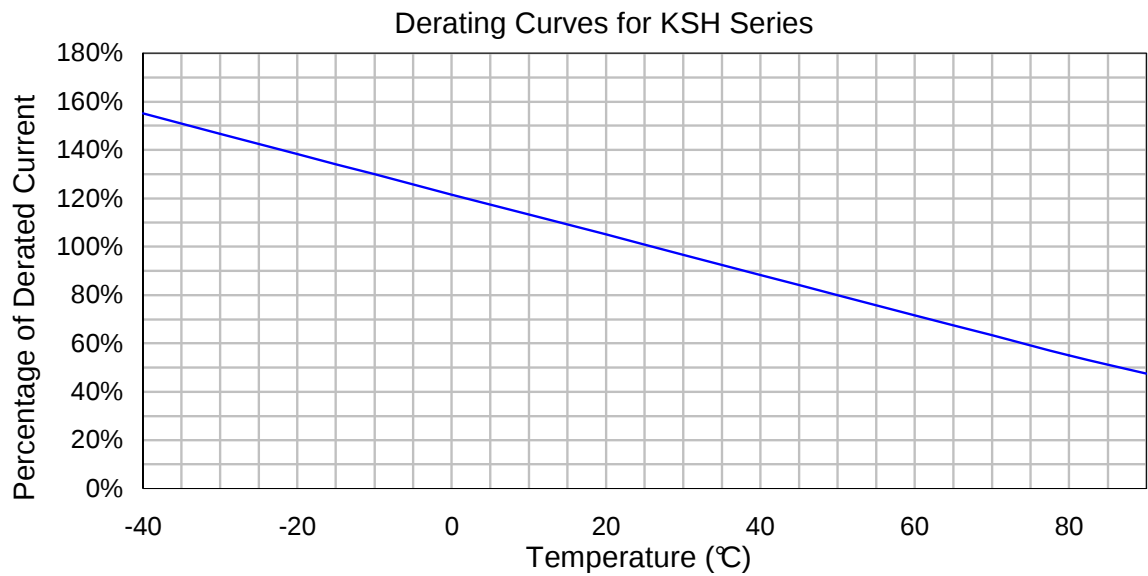
Strap Type



■ Typical time to trip curve at 23°C



■ Thermal derating curve



Polymer PTC Resettable Fuse: KSH Series

Strap Type



■ Reliability test

Item	Test condition/methods	Criteria
Passive aging	70°C, 1000hrs	±10% typical resistance change
Humidity storage	40°C, 95%RH, 1344hrs Mil-Std 202, method 103 condition D	±5% typical resistance change
Cycle life	50 cycles at a 120% maximum current (Imax) and maximum voltage (Vmax). UL 1434	Normal Appearance
Trip endurance	Vmax, Imax, 48Hrs	Normal Appearance
Steady-state operating life	Vmax, Iss, 1000hrs Mil-Std 750, method 1026	Normal Appearance

■ Packaging

● Bulk packing

Series	Quantity (PCS/Bag)
KSH (0170~0260)	1000
KSH (0310~1410)	500

● Ammo packing

Series	Quantity (PCS/Box)
KSH (0170~0260)	10000
KSH (0310~1410)	5000

● Carton packing

Series	Quantity (PCS/Box)
KSH (0170~0260)	60000
KSH (0310~1410)	30000

■ Storage condition of products

(I) Storage Conditions :

1. Storage Temperature : -10°C ~ +40°C
2. Relative humidity : ≤ 75%RH
3. Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.

(II) Period of Storage : 1 year

Polymer PTC Resettable Fuse: KSL Series



Strap Type

■ Features

1. RoHS compliant
2. Broadest range of resettable devices available in the industry
3. Current ratings from 0.7 to 3.4A
4. Maximum voltage : 15V and 24V
5. Operating temperature range : -40 ~ +85°C
6. Agency Recognition :UL /cUL/TUV



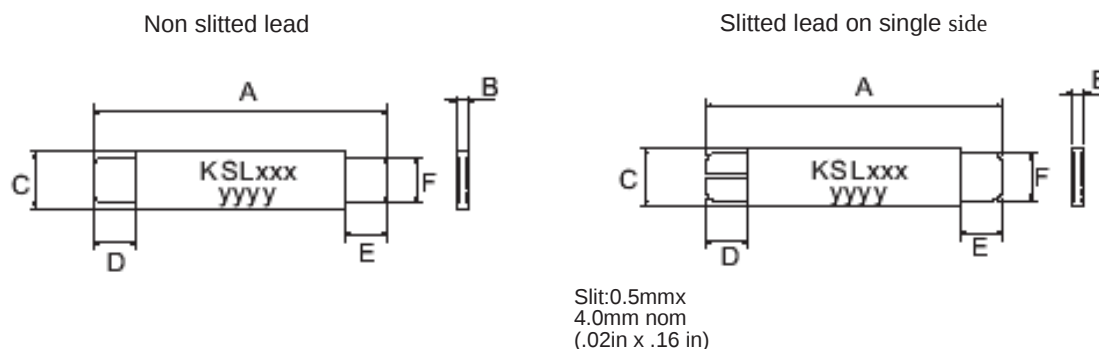
■ Recommended Applications

1. Rechargeable battery packs

■ Part No. Code

K	S	L	0	1	5	0	0	7	0	N	B	Y			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product code K THINKING PPTC Thermistor		Form factor S Strap		Usage M Metal hydride device L Lithium ion device V Very low temp. device H High power device		Vmax. operation 015 15V 024 24V		I hold 0008 0.08A 0090 0.9A 0014 0.14A 0135 1.35A 0170 1.7A 0600 6A 1000 10A 1200 12A		Shape of lead S Slitted lead on single side D Slitted lead on dual side N Noslitted lead		Packaging B Bulk R Taping & Reel		Internal Control Code Y ROHS Control	

■ Dimensions



Marking: xxx=Vmax. operation, yyyy=I hold

Polymer PTC Resettable Fuse: KSL Series



Strap Type

(Unit: mm)

Part no.	A		B		C		D		E		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KSL0150070	19.9	22.1	0.7	1.2	4.9	5.2	5.5	7.5	5.5	7.5	3.9	4.1
KSL0150070S	19.9	22.1	0.7	1.2	4.9	5.2	5.5	7.5	5.5	7.5	3.9	4.1
KSL0240100	20.9	23.1	0.6	1.0	4.9	5.2	4.1	5.5	4.1	5.5	3.9	4.1
KSL0240100S	20.9	23.1	0.6	1.0	4.9	5.2	4.1	5.5	4.1	5.5	3.9	4.1
KSL0240180	24.0	26.0	0.6	1.0	4.9	5.2	4.1	5.5	4.1	5.5	3.9	4.1
KSL0240180S	24.0	26.0	0.6	1.0	4.9	5.2	4.1	5.5	4.1	5.5	3.9	4.1
KSL0240190	21.3	23.4	0.5	1.1	10.2	11.0	5.0	7.6	5.0	7.6	4.8	5.4
KSL0240260	24.0	26.0	0.6	1.0	10.8	11.9	5.0	7.0	5.0	7.0	5.9	6.1
KSL0240300	28.4	31.8	0.5	1.1	13.0	13.5	6.3	8.9	6.3	8.9	6.0	6.6
KSL0240310	24.0	26.0	0.6	1.0	14.8	15.9	5.0	7.0	5.0	7.0	5.9	6.1
KSL0240340	24.0	26.0	0.6	1.0	14.8	15.9	4.0	5.0	4.0	5.0	5.9	6.1

■ Characteristics(23°C)

Part no.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	P _d (Max.)	Maximum time to trip		Resistance (Ω)			Safety approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Initial (R _i)		Post trip (R ₁)	UL/cUL	TUV
								Min.	Max.	Max.		
KSL0150070	15	100	0.7	1.5	1.1	3.5	5.0	0.100	0.200	0.340	√	√
KSL0150070S	15	100	0.7	1.5	1.1	3.5	5.0	0.100	0.200	0.340	√	√
KSL0240100	24	100	1.0	2.5	1.5	5.0	7.0	0.070	0.130	0.260	√	√
KSL0240100S	24	100	1.0	2.5	1.5	5.0	7.0	0.070	0.130	0.260	√	√
KSL0240180	24	100	1.8	3.8	2.0	9.0	2.9	0.040	0.068	0.120	√	√
KSL0240180S	24	100	1.8	3.8	2.0	9.0	2.9	0.040	0.068	0.120	√	√
KSL0240190	24	100	1.9	4.2	1.9	10.0	3.0	0.030	0.057	0.100	√	√
KSL0240260	24	100	2.6	5.2	2.3	13.0	5.0	0.025	0.042	0.076	√	√
KSL0240300	24	100	3.0	6.3	2.0	15.0	4.0	0.015	0.031	0.055	√	√
KSL0240310	24	100	3.1	6.0	2.5	15.5	5.0	0.018	0.030	0.055	√	√
KSL0240340	24	100	3.4	6.8	2.7	17.0	5.0	0.016	0.027	0.050	√	√

Note 1: S= Slitted lead on single side

Note2 : UL&cUL File No. E138827

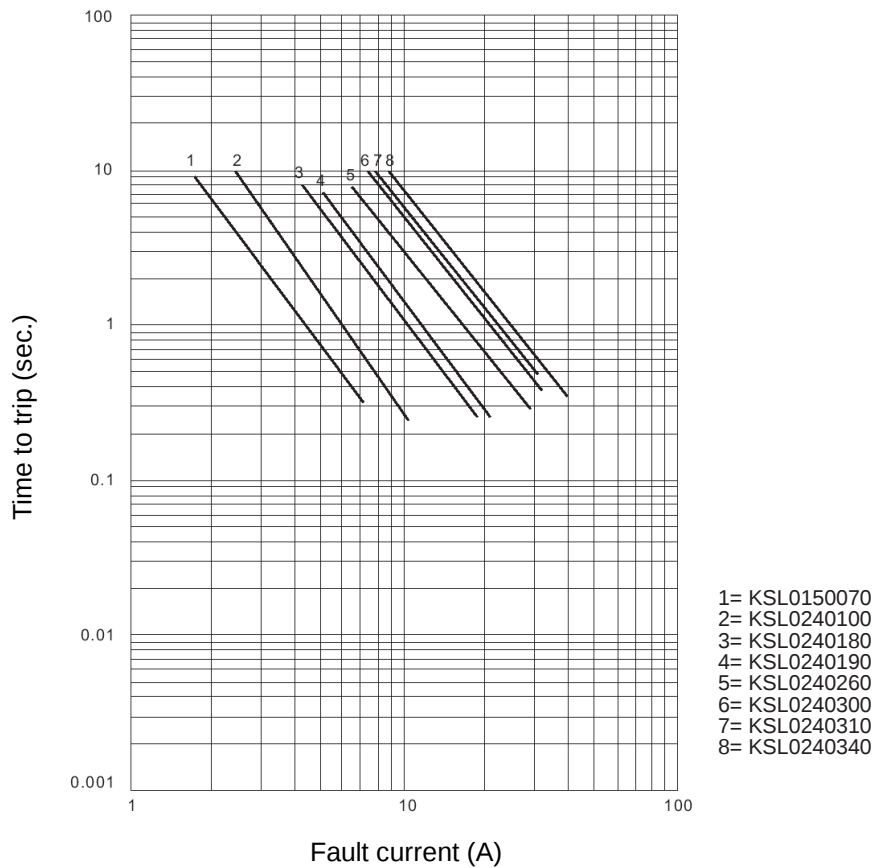
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Polymer PTC Resettable Fuse: KSL Series

Strap Type

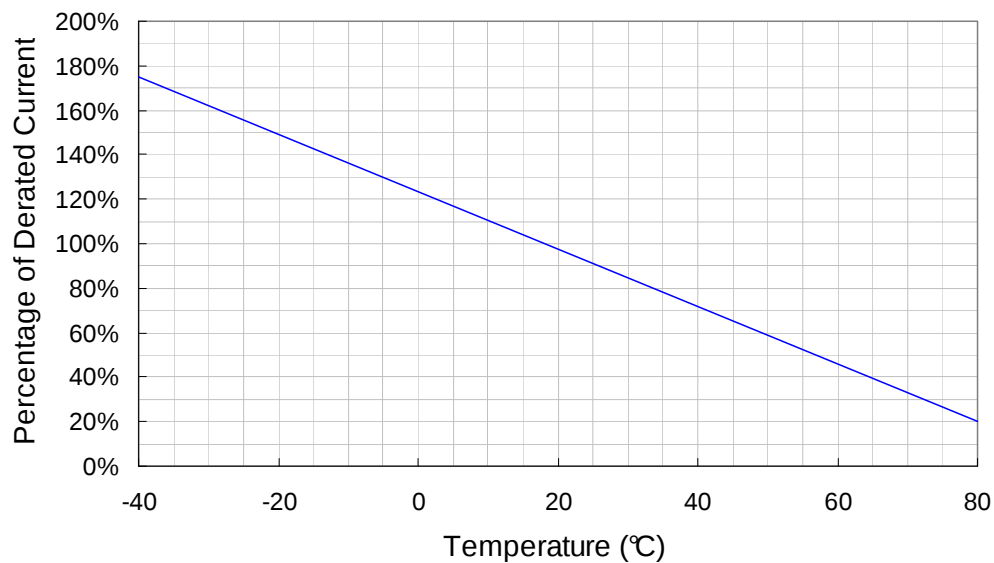


■ Typical time to trip curve at 23°C



■ Thermal derating curve

Derating Curves for KSL Series



Polymer PTC Resettable Fuse: KSL Series

Strap Type



■ Reliability test

Item	Test condition/methods	Criteria
Passive aging	70°C, 1000hrs	±10% typical resistance change
Humidity storage	40°C, 95%RH, 1344hrs Mil-Std 202, method 103 condition D	±5% typical resistance change
Cycle life	50 cycles at a 120% maximum current (Imax) and maximum voltage (Vmax). UL 1434	Normal Appearance
Trip endurance	Vmax, Imax, 48Hrs	Normal Appearance
Steady-state operating life	Vmax, Iss, 1000hrs Mil-Std 750, method 1026	Normal Appearance

■ Packaging

● Bulk packing

Series	Quantity (PCS/Bag)
KSL	1000

● Ammo packing

Series	Quantity (PCS/Box)
KSL	10000

● Carton packing

Series	Quantity (PCS/Box)
KSL	60000

■ Storage condition of products

(I) Storage Conditions :

1. Storage Temperature: -10°C ~ +40°C
2. Relative Humidity: ≤ 75%RH
3. Thermistors must be kept away from sunlight and stored in a non-corrosive atmosphere.

(II) Period of Storage: 1 year

Polymer PTC Resettable Fuse: KSM Series



Strap Type

■ Features

1. RoHS compliant
2. Broadest range of resettable devices available in the industry
3. Current ratings from 1.2 to 4.2A
4. Maximum voltage: 15V, 24V
5. Operating temperature range: -40 ~ +85°C
6. Agency Recognition: UL /cUL/TUV



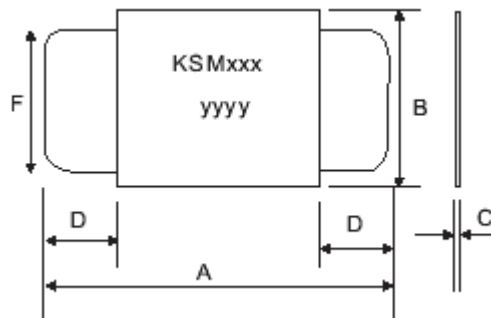
■ Recommended Applications

1. Rechargeable battery packs

■ Part No. Code

K	S	M	0	1	5	0	1	2	0	N	B	Y			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product code K THINKING PPTC Thermistor		Form factor S Strap		Usage M Metal hydride device L Lithium ion device V Very low temp. device H High power device		Vmax. operation 015 15V 024 24V		I hold 0008 0.08A 0090 0.9A 0014 0.14A 0135 1.35A 0170 1.7A 0600 6A 1000 10A 1200 12A		Shape of lead S Slitted lead on single side D Slitted lead on dual side N Noslitted lead		Packaging B Bulk R Taping & Reel		Internal Control Code Y ROHS Control	

■ Dimensions



Marking: xxx=Vmax. operation, yyyy=I hold

Polymer PTC Resettable Fuse: KSM Series



Strap Type

(Unit: mm)

Part no.	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KSM0150120	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
KSM0150175	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
KSM0240200	21.3	23.4	10.2	11.0	0.6	1.0	5.0	7.6	4.8	5.4
KSM0240350	28.4	31.8	13.0	13.5	0.6	1.0	6.3	8.9	6.0	6.6
KSM0240420	30.6	32.4	12.9	13.6	0.6	1.0	5.0	7.5	6.0	6.7

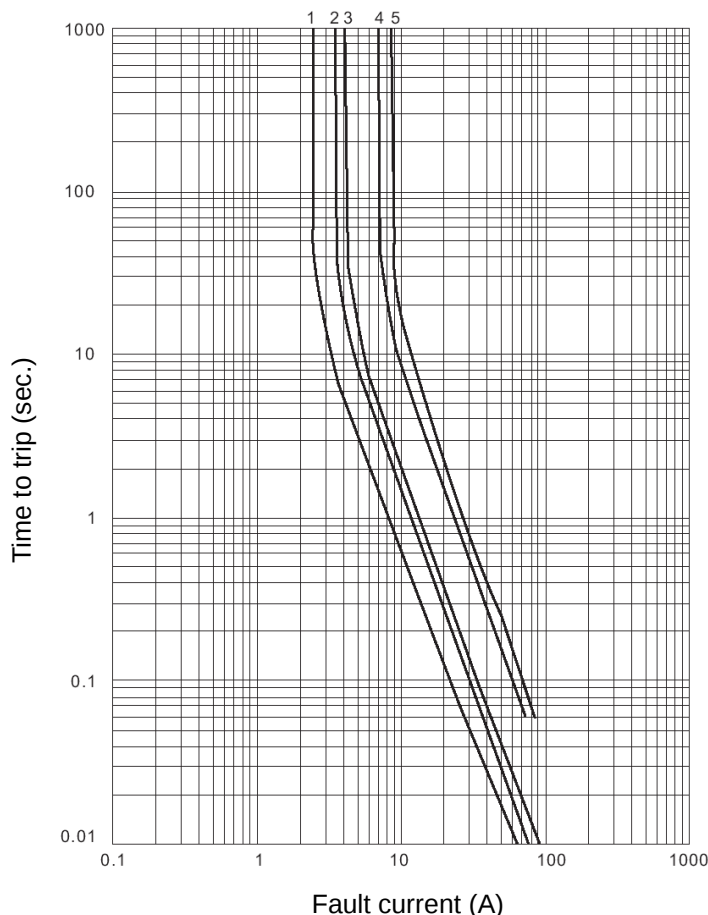
■ Characteristics(23°C)

Part no.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	P _d (Max.)	Maximum time to trip		Resistance (Ω)			Safety approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Initial (R _i)		Post trip (R ₁)	UL/cUL	TUV
								Min.	Max.	Max.		
KSM0150120	15	100	1.20	2.70	1.20	6.00	5.0	0.085	0.160	0.220	√	√
KSM0150175	15	100	1.75	3.80	1.50	9.00	4.0	0.050	0.090	0.120	√	√
KSM0240200	24	100	2.00	4.40	1.90	10.00	4.0	0.030	0.060	0.100	√	√
KSM0240350	24	100	3.50	6.30	2.50	20.00	3.0	0.017	0.031	0.050	√	√
KSM0240420	24	100	4.20	7.60	2.90	20.00	6.0	0.012	0.024	0.040	√	√

Note : UL&cUL File No. E138827

TUV File No. R50066599

■ Typical time to trip curve at 23°C



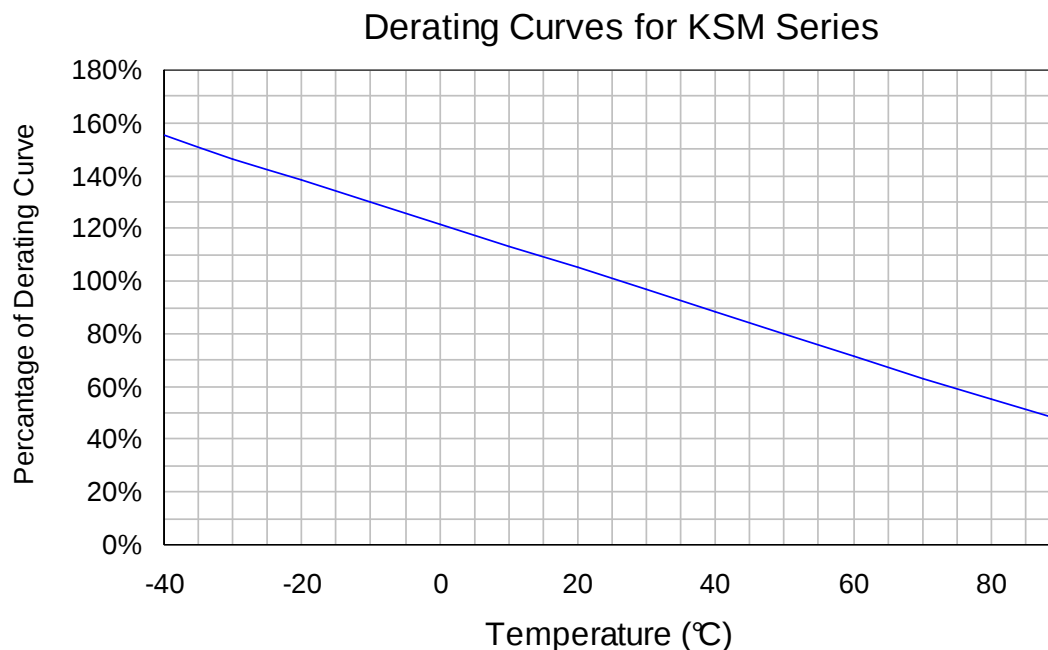
1= KSM0150120
2= KSM0240175
3= KSM0240200
4= KSM0240350
5= KSM0240420

Polymer PTC Resettable Fuse: KSM Series

Strap Type



■ Thermal derating curve



■ Reliability test

Item	Test condition/methods	Criteria
Passive aging	70°C, 1000hrs	±10% typical resistance change
Humidity storage	40°C, 95%RH, 1344hrs Mil-Std 202, method 103 condition D	±5% typical resistance change
Cycle life	50 cycles at a 120% maximum current (I _{max}) and maximum voltage (V _{max}). UL 1434	Normal Appearance
Trip endurance	V _{max} , I _{max} , 48Hrs	Normal Appearance
Steady-state operating life	V _{max} , I _{ss} , 1000hrs Mil-Std 750, method 1026	Normal Appearance

Polymer PTC Resettable Fuse: KSM Series

Strap Type



■ Packaging

Bulk packing

Series	Quantity (PCS/Bag)
KSM (0120~0175)	1000
KSM (0200~0420)	500

Ammo packing

Series	Quantity (PCS/Box)
KSM (0120~0175)	10000
KSM (0200~0420)	5000

Carton packing

Series	Quantity (PCS/Box)
KSM (0120~0175)	60000
KSM (0200~0420)	30000

■ Storage condition of products

(I) Storage Conditions :

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

(II) Period of Storage : 1 year

Polymer PTC Resettable Fuse: KSV Series



Strap Type

■ Features

1. RoHS compliant
2. Low resistance, low trip temperature
3. Current ratings from 1.7 to 2.4A
4. Maximum voltage :12V and 16V
5. Operating temperature range :
KSV012 : -40 ~ +75°C
KSV016 : -40 ~ +85°C
6. Agency Recognition :UL /cUL/TUV



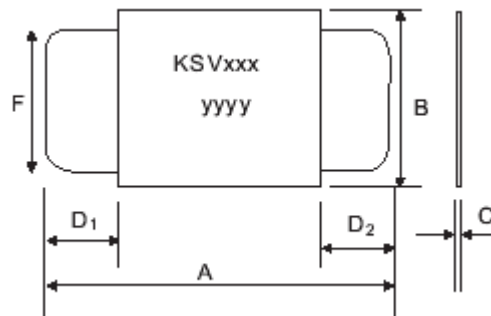
■ Recommended Applications

1. Rechargeable battery packs

■ Part No. Code

K	S	V	0	1	6	0	1	7	0	N	B	Y			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product code		Form factor		Usage		Vmax. operation		I hold		Shape of lead		Packaging		Internal Control Code	
K	THINKING PPTC Thermistor	S	Strap	M	Metal hydride device	012	12V	0008	0.08A	S	Slitted lead on single side	B	Bulk	Y	ROHS Control
				L	Lithium ion device	016	16V	0090	0.9A	D	Slitted lead on dual side	R	Taping & Reel		
				V	Very low temp. device			0135	1.35A	N	Noslitted lead				
				H	High power device			0170	1.7A						
								0600	6A						
								1000	10A						
								1200	12A						

■ Dimensions



Marking: xxx=Vmax. operation, yyy=I hold

Polymer PTC Resettable Fuse: KSV Series



Strap Type

(Unit: mm)

Part no.	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	D1	C2	Min.	Max.
KSV0120170	20.8	23.2	3.5	3.9	0.6	1.0	4.5~6.5		2.4	2.6
KSV0120175	23.0	24.5	2.9	3.3	0.6	1.0	3.8~5.4	4.7~7.2	2.4	2.6
KSV0120230	20.9	23.1	4.9	5.3	0.6	1.0	4.1~5.8		3.9	4.1
KSV0160170	15.4	17.5	7.0	7.4	0.5	0.8	4.0~6.2		3.9	4.1
KSV0160170X	20.8	22.9	4.9	5.3	0.5	0.8	6.0~8.6		3.9	4.1
KSV0160175	25.8	28.0	3.5	3.9	0.6	0.8	5.0~7.0	9.0~11.0	2.4	2.6
KSV0160175X	31.2	33.4	3.5	3.9	0.6	0.8	7.0~10.0	11.0~14.0	2.4	2.6
KSV0160200	20.9	23.1	4.1	4.5	0.6	0.8	3.0~4.8		2.9	3.1
KSV0160210	20.9	23.1	4.9	5.3	0.6	0.8	4.1~5.8		3.9	4.1
KSV0160240	23.8	26.2	4.9	5.3	0.6	0.8	3.5~5.7		3.9	4.1

Note: X=Special spec. for dimension controlling number

■ Characteristics(23°C)

Part no.	Vmax.	I _{max} .	I _{hold} @ 23°C	I _{trip} @ 23°C	P _d (Typ.)	Maximum time to trip		Resistance (Ω)			Safety approvals	
	(V _{dc})	(A)	(A)	(A)	(W)	(A)	(Sec.)	Initial (R _i)		Post trip (R ₁)	UL/cUL	TUV
								Min.	Max.	Max.		
KSV0120170	12	100	1.70	4.10	1.40	8.50	5.0	0.018	0.032	0.04	✓	✓
KSV0120175	12	100	1.75	4.20	1.40	8.75	5.0	0.017	0.035	0.062	✓	✓
KSV0120230	12	100	2.30	5.00	1.40	10.0	5.0	0.012	0.018	0.036	✓	✓
KSV0160170	16	100	1.70	3.40	1.40	8.50	3.0	0.030	0.052	0.105	✓	✓
KSV0160170X	16	100	1.70	3.40	1.40	8.50	5.0	0.030	0.052	0.105	✓	✓
KSV0160175	16	100	1.75	3.60	1.40	8.75	5.0	0.029	0.051	0.102	✓	✓
KSV0160175X	16	100	1.75	3.60	1.40	8.75	5.0	0.029	0.051	0.102	✓	✓
KSV0160200	16	100	2.00	4.70	1.50	10.00	5.0	0.022	0.039	0.078	✓	✓
KSV0160210	16	100	2.10	4.70	1.50	10.00	5.0	0.018	0.030	0.060	✓	✓
KSV0160240	16	100	2.40	5.90	1.60	12.00	5.0	0.014	0.026	0.052	✓	✓

Note 1: X=Special spec. for dimension controlling number

Note 2: UL&cUL File No. E138827

TUV File No. R50066599

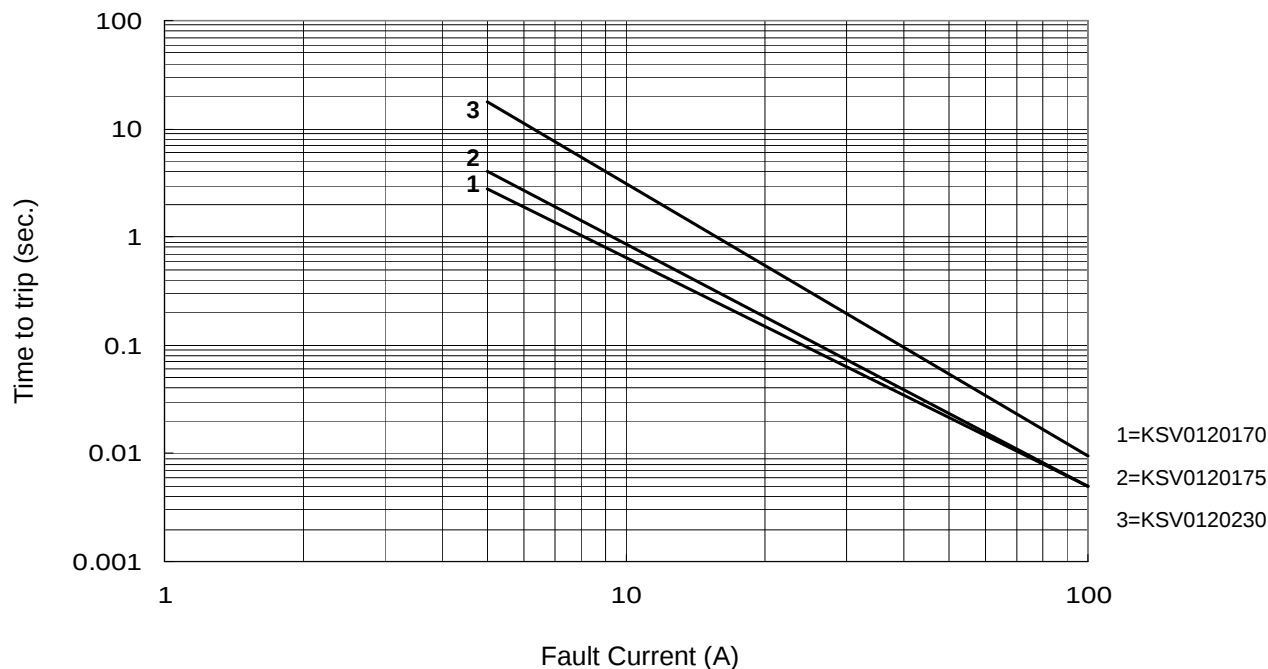
Polymer PTC Resettable Fuse: KSV Series

Strap Type

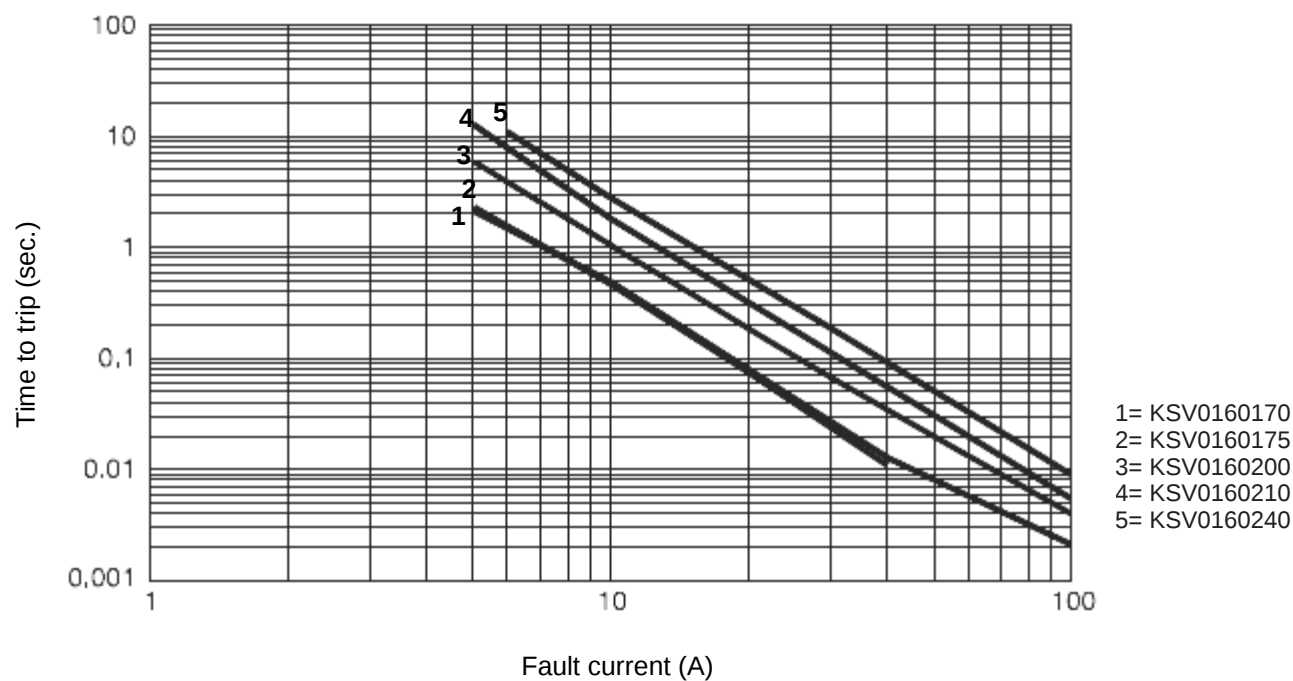


■ Typical time to trip curve at 23°C

● KSV012 Series



● KSV016 Series

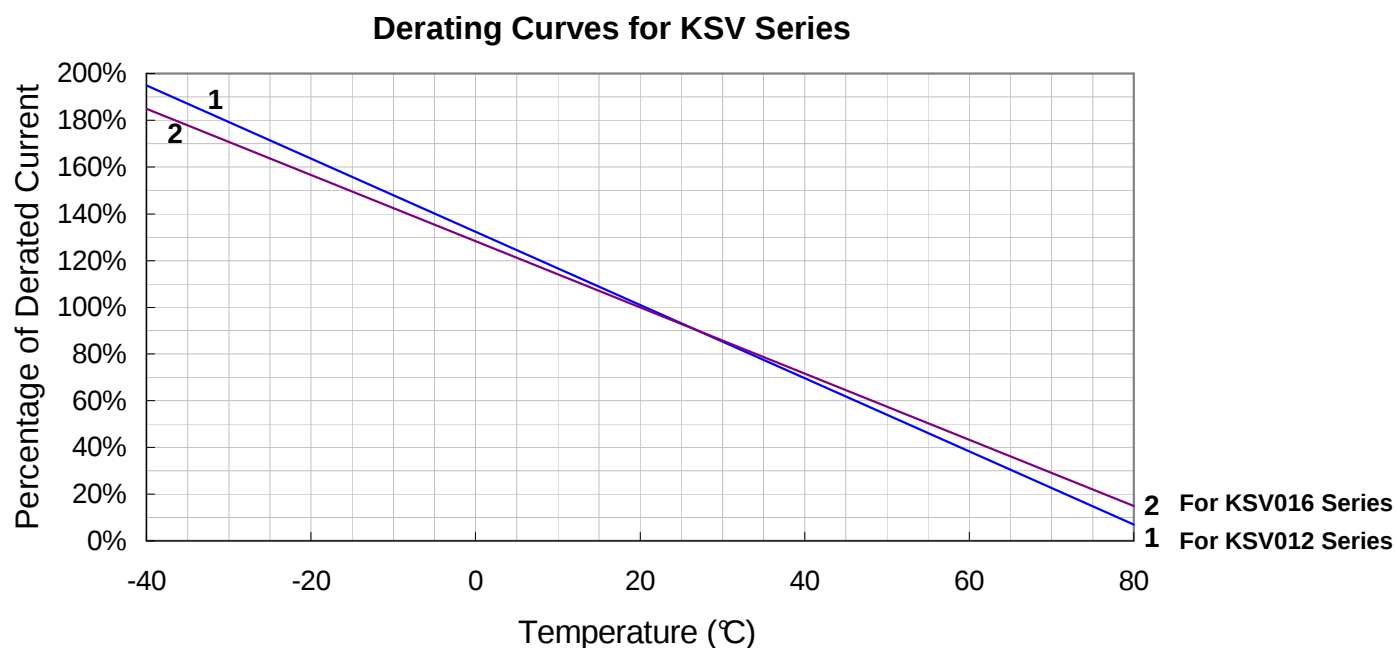


Polymer PTC Resettable Fuse: KSV Series

Strap Type



■ Thermal derating curve



■ Reliability test

Item	Test condition/methods	Criteria
Passive aging	60°C, 1000hrs	±20% typical resistance change for KSV012 ±10% typical resistance change for KSV016
Humidity storage	60°C, 95%RH, 1000hrs for KSV012 40°C, 95%RH, 1344hrs for KSV016	±30% typical resistance change for KSV012 ±5% typical resistance change for KSV016
Thermal shock	85/-40°C, 10 cycles	±10% typical resistance change
Cycle life	50 cycles at a 120% maximum current (Imax) and maximum voltage (Vmax). UL 1434	Normal Appearance
Trip endurance	Vmax, Imax, 48Hrs	Normal Appearance
Steady-state operating life	Vmax, Iss, 1000hrs Mil-Std 750, method 1026	Normal Appearance

Polymer PTC Resettable Fuse: KSV Series

Strap Type



■ Packaging

● Bulk packing

Series	Quantity (PCS/Bag)
KSV	1000

● Ammo packing

Series	Quantity (PCS/Box)
KSV	10000

● Carton packing

Series	Quantity (PCS/Box)
KSV	60000

■ Storage condition of products

(I) Storage Conditions :

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

(II) Period of Storage : 1 year