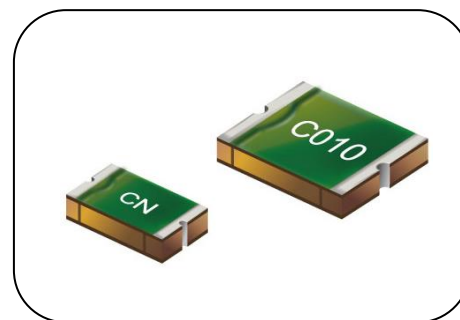


Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ Feature

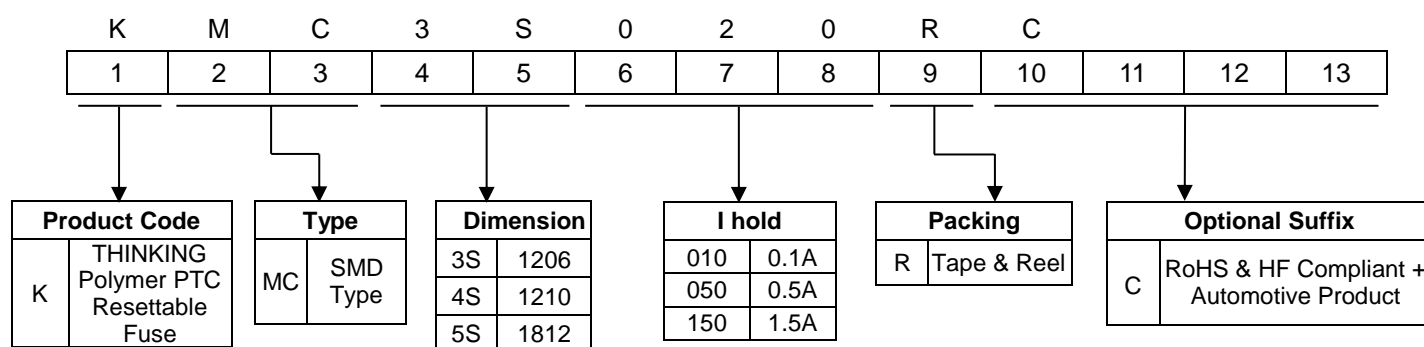
1. RoHS & Halogen-Free (HF) compliant
2. EIA size: 1206, 1210, 1812
3. Hold current ratings from 0.05A to 1.25A
4. Vmax.: 16V ~60V
5. Small footprint
6. Fast time to trip
7. Operating & storage temperature range: -40~+85°C
8. Agency approval: UL/cUL/TUV
9. AEC-Q200 compliant



■ Recommended Applications

1. Motor control unit of power window
2. Controller of automotive seat motor
3. Sunroof control unit
4. Wiper controller
5. Automotive dashboard
6. Car cigarette lighter

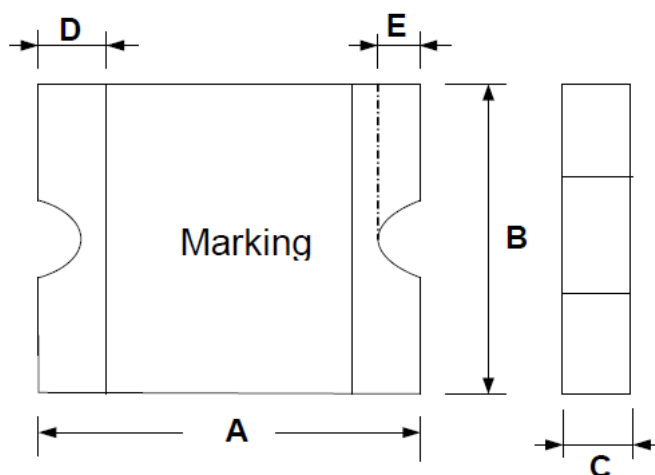
■ Part Number Code



Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ Structure & Dimensions



(Unit: mm)

Part No.	A		B		C		D		E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)
KMC3S005	3.00	3.50	1.50	1.80	0.70	1.15	0.125	0.75	0.08	0.45
KMC3S010					0.70	1.15				
KMC3S016					0.48	0.90				
KMC3S020					0.48	0.90				
KMC3S025					0.48	0.90				
KMC3S035					0.48	0.90				
KMC4S005	3.00	3.43	2.35	2.80	0.70	1.15	0.125	0.75	0.08	0.50
KMC4S010					0.70	1.15				
KMC5S010	4.37	4.73	3.07	3.41	0.70	1.15	0.20	1.20	0.15	0.65
KMC5S014					0.70	1.15				
KMC5S020					0.70	1.15				
KMC5S035					0.48	0.90				
KMC5S050					0.48	0.90				
KMC5S075					0.48	0.90				
KMC5S110-16					0.80	1.25				
KMC5S110-24					0.60	1.25				
KMC5S110-33					0.80	1.60				
KMC5S125-16	0.80	1.25								

Polymer PTC Resettable Fuse: KMC-C Series

SMD Type for Automotive Application



■ Electrical Characteristics at 23°C

Part No.	Marking	Vmax.	Imax.	Ihold	Itrip	Pd (Max.)	Maximum Time to Trip		Resistance		Safety Approvals	
							Current (A)	Time (Sec.)	Initial Ri	Post Trip R1	UL/cUL	TUV
		(V _{dc})	(A)	(A)	(A)	(W)			Min. (Ω)	Max. (Ω)		
KMC3S005	CH	60	100	0.05	0.15	0.4	0.25	1.50	3.60	50.0	√	√
KMC3S010	CY	60	100	0.10	0.25	0.4	0.50	1.00	1.60	15.0	√	√
KMC3S016	CK	30	100	0.16	0.37	0.5	1.00	0.30	1.10	4.50	√	√
KMC3S020	CL	24	100	0.20	0.42	0.6	8.00	0.10	0.65	2.60	√	
KMC3S025	CN	16	100	0.25	0.50	0.6	8.00	0.08	0.55	2.30	√	√
KMC3S035	CP	16	100	0.35	0.75	0.6	8.00	0.10	0.30	1.20	√	√
KMC4S005	Ca	30	10	0.05	0.15	0.6	0.25	1.50	3.60	50.00	√	√
KMC4S010	Cb	30	10	0.10	0.30	0.6	0.5	1.50	1.60	15.00	√	√
KMC5S010	C 010	30	100	0.10	0.30	0.8	0.5	1.50	1.60	15.0	√	√
KMC5S014	C 014	60	10	0.14	0.34	0.8	1.5	0.15	1.50	6.00	√	√
KMC5S020	C 020	30	100	0.20	0.40	0.8	8.0	0.02	0.80	5.00	√	√
KMC5S035	C 035	16	100	0.35	0.70	0.8	8.0	0.10	0.32	1.50	√	√
KMC5S050	C 050	16	100	0.50	1.00	0.8	8.0	0.15	0.15	1.00	√	√
KMC5S075	C 075	16	100	0.75	1.50	0.8	8.0	0.20	0.11	0.45	√	√
KMC5S110-16	C ₁₆ ¹¹⁰	16	100	1.10	2.20	1.0	8.0	0.50	0.06	0.18	√	√
KMC5S110-24	C ₂₄ ¹¹⁰	24	20	1.10	2.20	1.2	8.0	0.50	0.06	0.20	√	√
KMC5S110-33	C ₃₃ ¹¹⁰	33	20	1.10	2.20	1.2	8.0	0.50	0.06	0.20	√	√
KMC5S125-16	C ₁₆ ¹²⁵	16	100	1.25	2.50	1.0	8.0	0.40	0.05	0.14	√	√

Note: UL&cUL File No: E138827

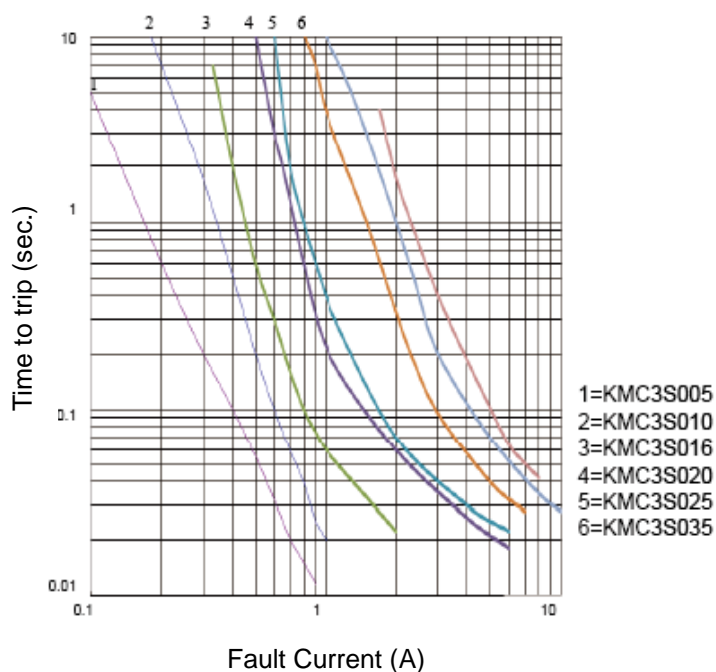
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Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application

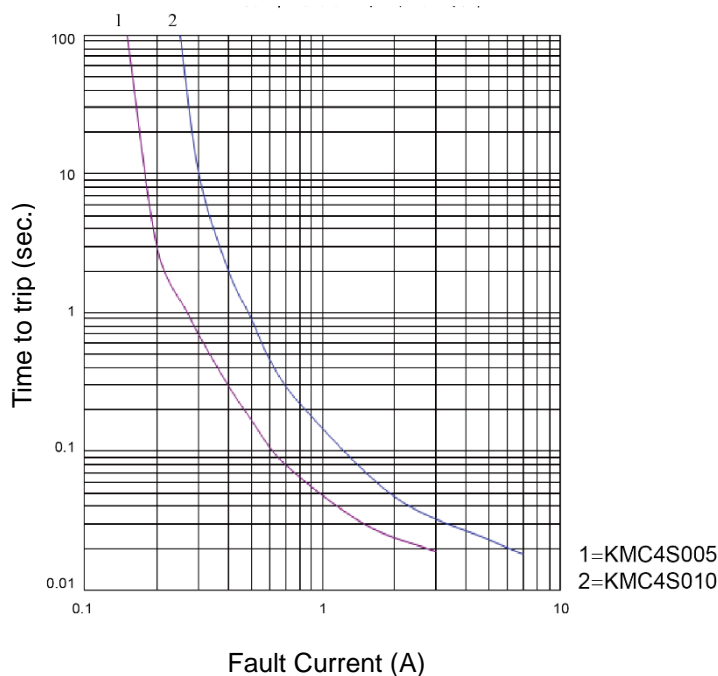


■ Typical Time to Trip Curve at 23°C

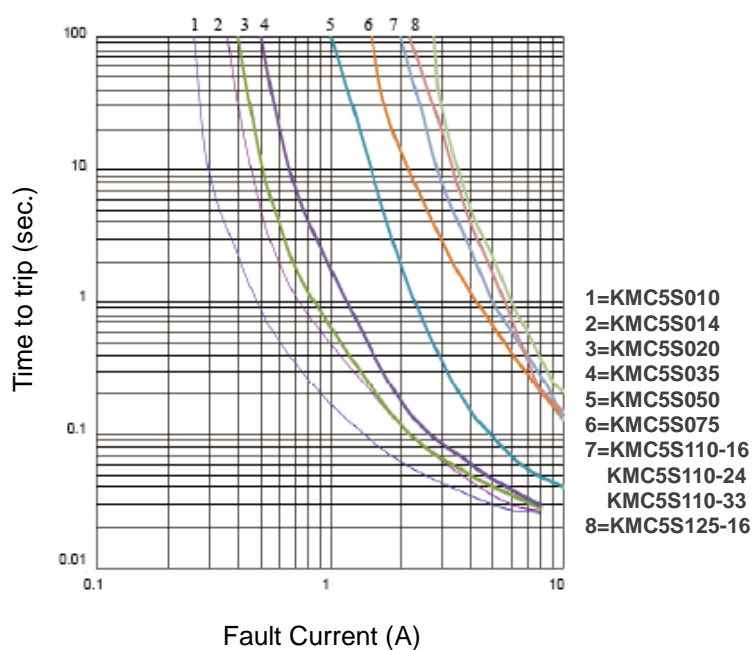
KMC3S-C Series



KMC4S-C Series



KMC5S-C Series

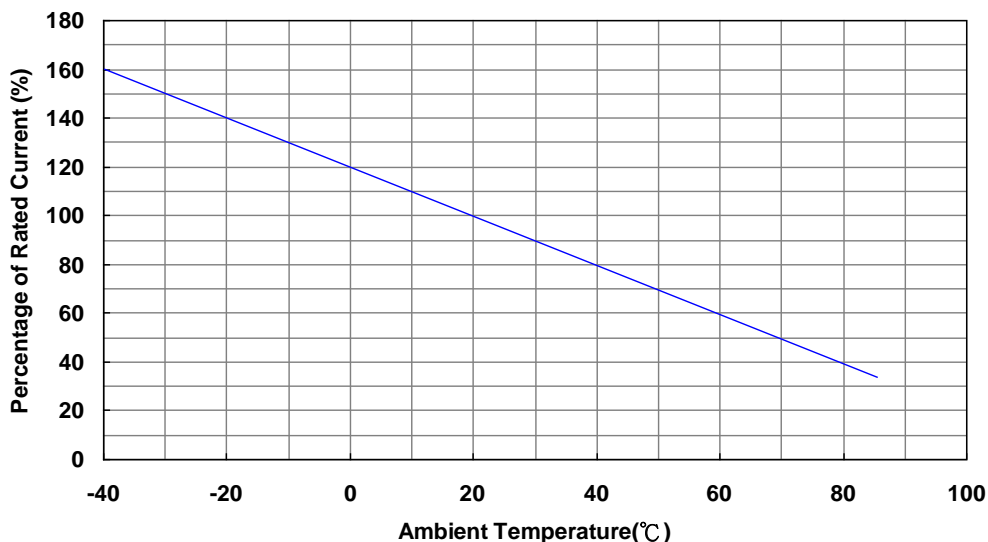


Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ KMC3S-C (1206) Series Ihold & Itrip Thermal Derating Curve

KMC3S-C (1206) Series



■ KMC3S-C (0603) Series Ihold Thermal Derating Chart

KMC3S-C (1206) Series

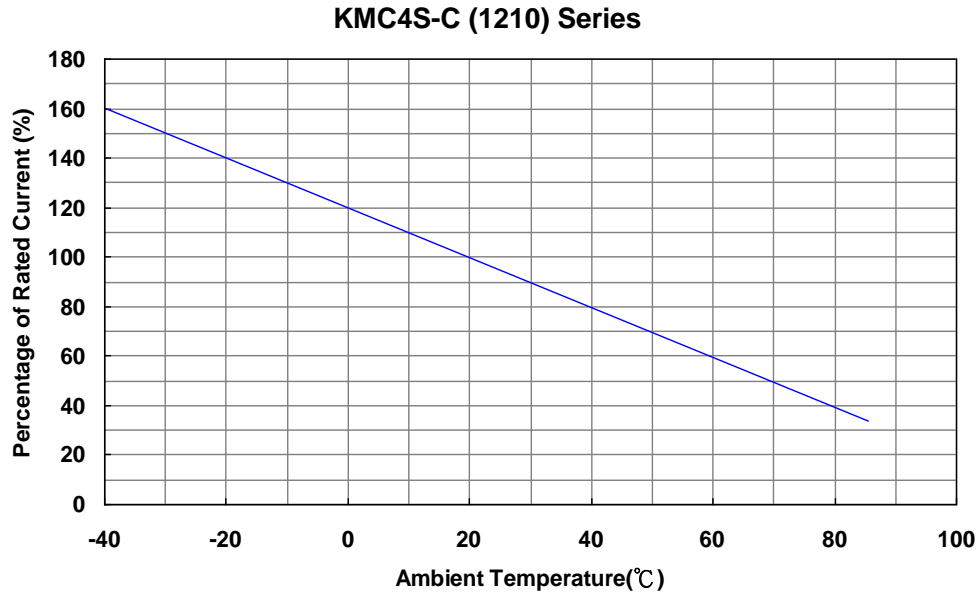
(Unit: A)

Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC3S005	0.07	0.06	0.05	0.05	0.04	0.03	0.03	0.03	0.026
KMC3S010	0.14	0.13	0.11	0.10	0.08	0.07	0.07	0.06	0.055
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	0.18	0.15

Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ KMC4S-C (1210) Series Ihold & Itrip Thermal Derating Curve



■ KMC4S-C (1210) Series Ihold Thermal Derating Chart

KMC4S-C (1210) Series

(Unit: A)

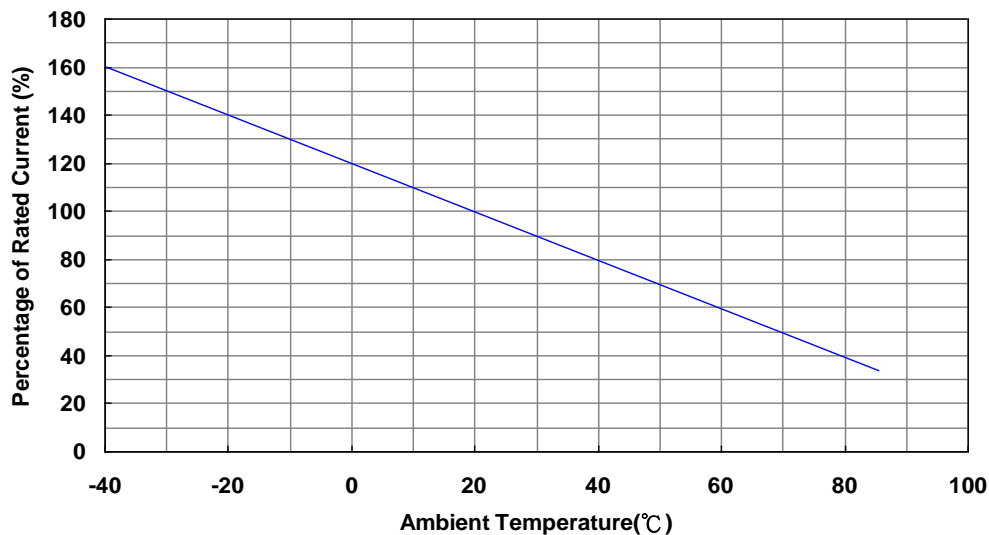
Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC4S005	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02
KMC4S010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03

Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ KMC5S-C (1812)Series Ihold & Itrip Thermal Derating Curve

KMC5S-C (1812) Series



■ KMC5S-C (1812)Series Ihold Thermal Derating Chart

KMC5S-C (1812) Series

(Unit: A)

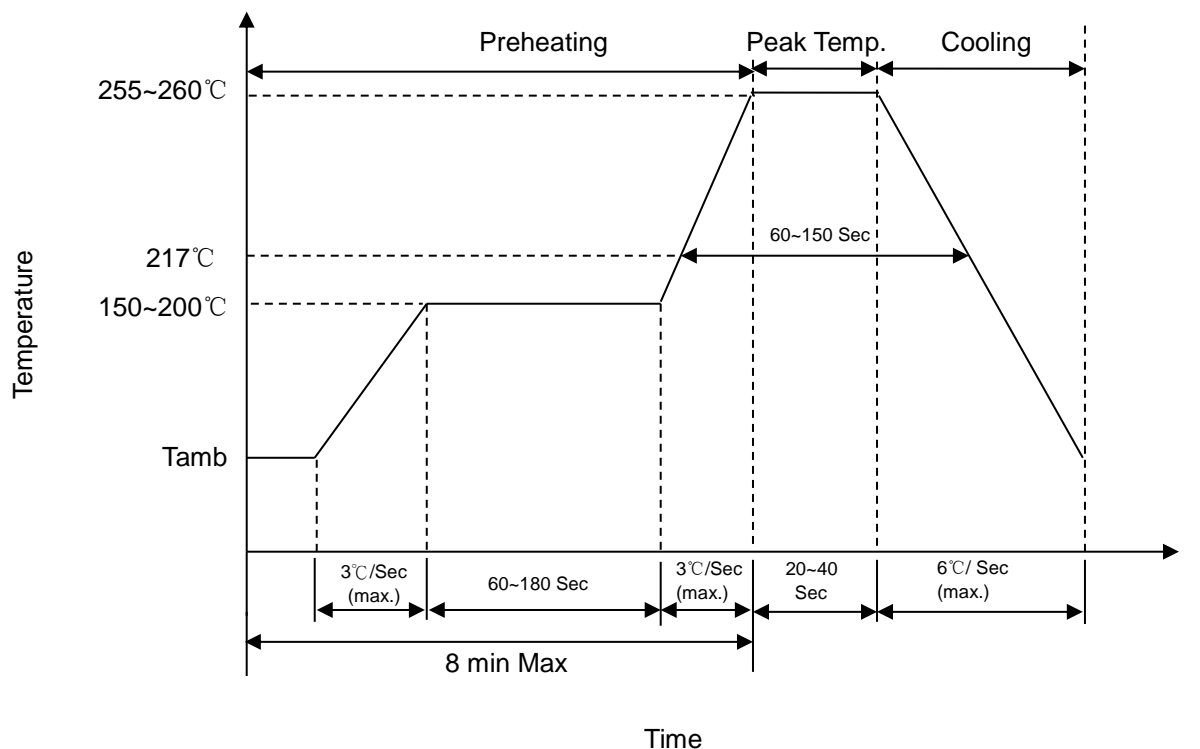
Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC5S010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
KMC5S014	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
KMC5S020	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
KMC5S035	0.50	0.45	0.40	0.35	0.29	0.26	0.24	0.21	0.19
KMC5S050	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
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
KMC5S125-16	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53

Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



■ Recommended Soldering Condition

● IR-Reflow Soldering Profile



- Welding method of the product is reflow welding, and wave soldering is not recommended.
- Recommended reflow methods: IR, vapor phase, and hot air oven.
- Devices can be cleaned by using standard industry methods and solvents.

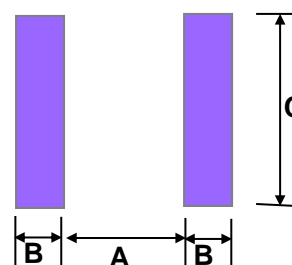
Note:

- If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements.
- Devices are not designed to be wave soldered to the bottom side of the board.

■ Recommended Soldering Pad Dimensions (Nominal)

(Unit: mm)

Series	Size	A	B	C
KMC3S	1206	2.00	1.00	1.90
KMC4S	1210	2.00	1.00	2.80
KMC5S	1812	3.45	1.78	3.50



Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application

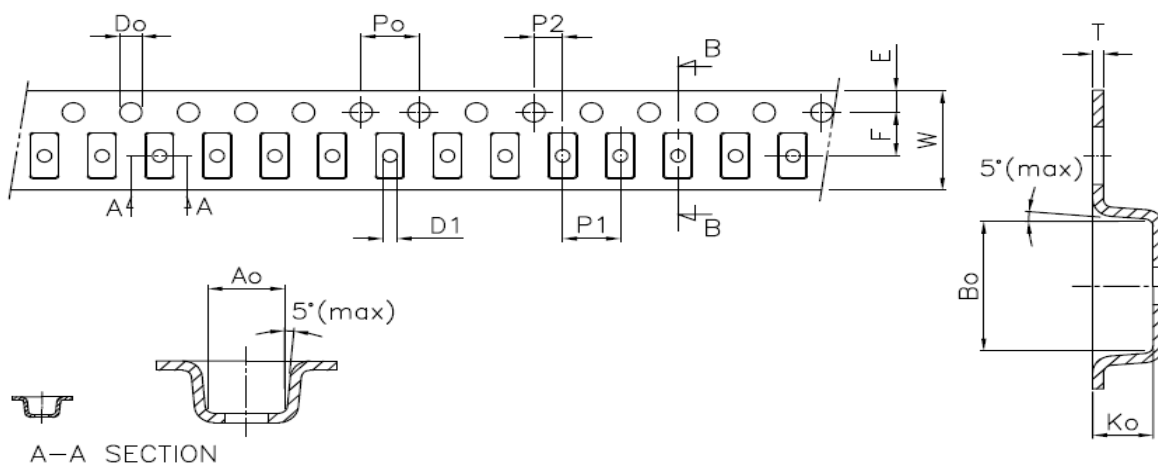


■ Reliability

Item	Standard	Test Condition / Methods	Criteria
Passive Aging	IEC 60738-1	85±5°C, 1000±24 hrs	±10% typical resistance change
Humidity Aging	Specification Standard	85±5°C, 80~85%RH, 100±5 hrs	±5% typical resistance change
Rapid Change of Temperature	IEC 60738-1	85±5/-40±5°C, 20 cycles Duration:30 min	-33% typical resistance change
Overload and Endurance Test	UL 1434	Vmax,120% Imax, 50 cycles Vmax,300% Itrip, 6000 cycles	No arcing or burring
Trip Endurance	UL 1434	Vmax, Itrip ≤ I ≤ Imax, 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.

■ Package

● Taping Specification



◆ KMC3S-C Series: SMD 1206 Type

For KMC3S005, KMC3S010

(Unit: mm)

Index Size	A ₀	B ₀	K ₀	P ₀	P ₁	P ₂	T	E	F	D ₀	D ₁ Min.	W	10P ₀
1206	+0.1/-0	+0.1/-0	±0.05	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	1.00	±0.30	±0.20

Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



For KMC3S016, KMC3S020, KMC3S025, KMC3S035

(Unit: mm)

Index Size	A ₀ ±0.10	B ₀ ±0.10	K ₀ ±0.05	P ₀ ±0.10	P ₁ ±0.10	P ₂ ±0.10	T ±0.05	E ±0.10	F ±0.10	D ₀ ±0.05	D ₁ Min.	W ±0.30	10P ₀ ±0.20
1206	1.85	3.45	0.85	4.00	4.00	2.00	0.23	1.75	3.50	1.55	1.00	8.00	40.00

◆ KMC4S-C Series: SMD 1210 Type

For KMC4S005, KMC4S010

(Unit: mm)

Index Size	A ₀ +0.1/-0	B ₀ +0.1/-0	K ₀ ±0.05	P ₀ ±0.10	P ₁ ±0.10	P ₂ ±0.10	T ±0.05	E ±0.10	F ±0.10	D ₀ ±0.05	D ₁ Min.	W ±0.30	10P ₀ ±0.20
1206	2.82	3.63	1.47	4.00	4.00	2.00	0.23	1.75	3.50	1.55	1.00	8.00	40.00

◆ KMC5S-C Series: SMD 1812 Type

For KMC5S010, KMC5S014, KMC5S020, KMC5S110-16, KMC5S110-24, KMC5S110-33, KMC5S125-16 (Unit: mm)

Index Size	A ₀ ±0.10	B ₀ ±0.10	K ₀ ±0.05	P ₀ ±0.10	P ₁ ±0.10	P ₂ ±0.10	T ±0.05	E ±0.10	F ±0.10	D ₀ ±0.05	D ₁ Min.	W ±0.30	10P ₀ ±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	40.00

For KMC5S035, KMC5S050, KMC5S075

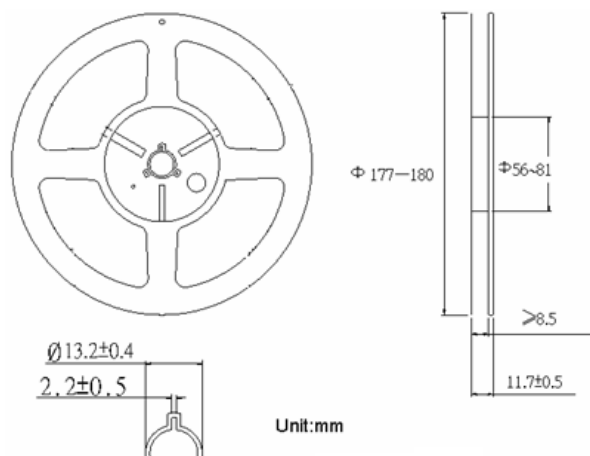
(Unit: mm)

Index Size	A ₀ ±0.10	B ₀ ±0.10	K ₀ ±0.05	P ₀ ±0.10	P ₁ ±0.10	P ₂ ±0.10	T ±0.03	E ±0.10	F ±0.10	D ₀ ±0.05	D ₁ Min.	W ±0.30	10P ₀ ±0.20
1812	3.50	5.00	0.90	4.00	8.00	2.00	0.25	1.75	5.50	1.55	1.50	12.00	40.00

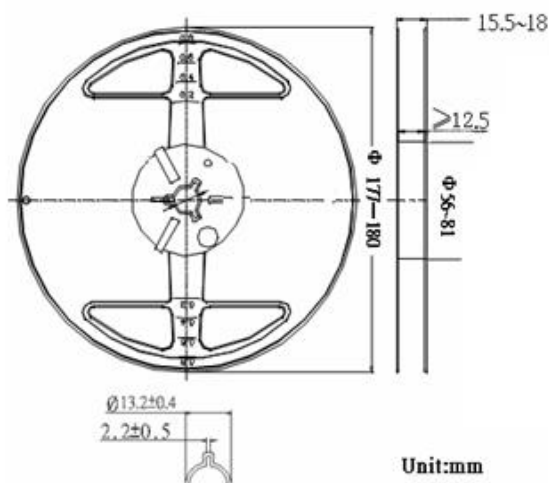
Polymer PTC Resettable Fuse: KMC-C Series SMD Type for Automotive Application



● Quantity



Size	Part No.	Quantity (pcs/reel)
1206	KMC3S005, KMC3S010	2,500
	KMC3S016, KMC3S020, KMC3S025, KMC3S035	5,000
1210	KMC4S005, KMC4S010	3,000



Size	Part No.	Quantity (pcs/reel)
1812	KMC5S010, KMC5S014, KMC5S020, KMC5S110-16, , KMC5S110-24, KMC5S110-33, KMC5S125-16	1,000
	KMC5S035, KMC5S050, KMC5S075	2,000

■ 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