

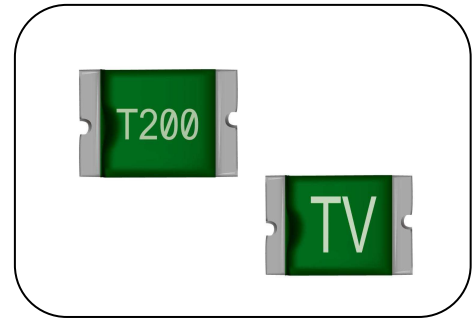
Polymer PTC Resettable Fuse: KMC Series



SMD Type

■ Features

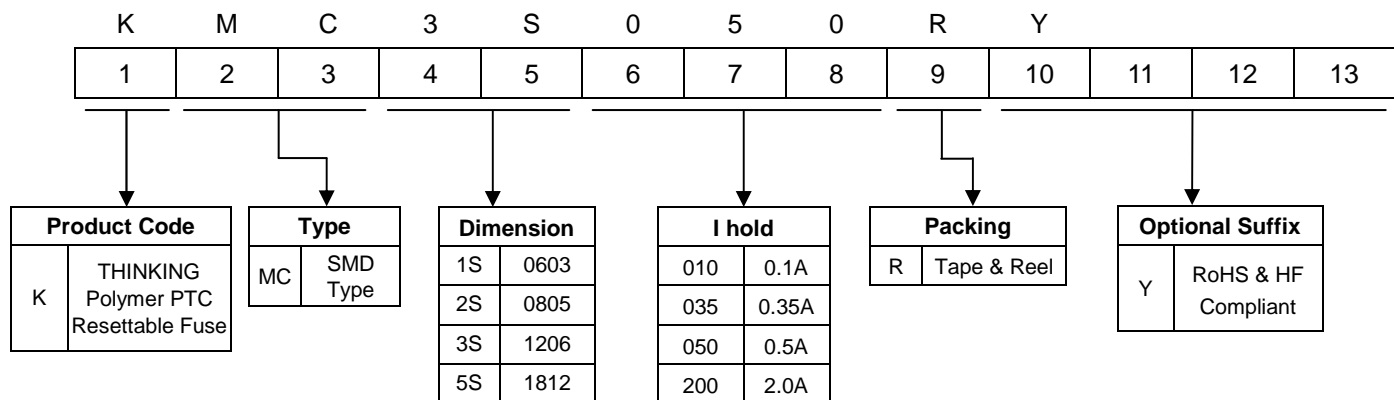
1. RoHS & Halogen-Free (HF) compliant
2. EIA size: 0603, 0805, 1206, 1812
3. Hold current ratings from 0.05 to 3A
4. Voltage ratings from 6V computer and electronic applications to 60V
5. Small footprint
6. Fast time to trip
7. Operating & storage temperature range: -40~+85°C
8. Agency Approval: UL / cUL / TUV



■ Recommended Applications

1. USB, HDMI, IEEE 1394...interface
2. PC, Motherboard, NB, Tablet
3. Mobile phone
4. Digital cameras
5. Telecommunication
6. Consumer Device

■ Part Number Code

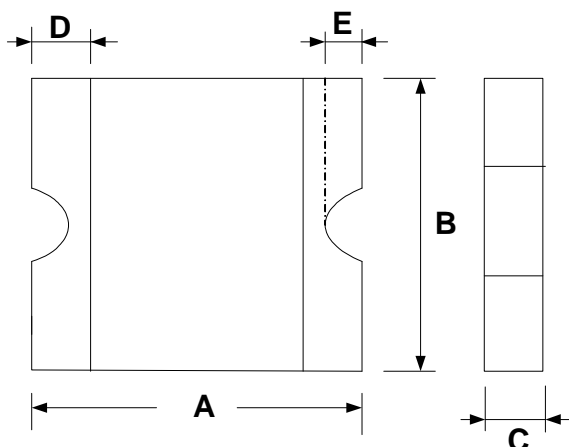


Polymer PTC Resettable Fuse: KMC Series

SMD Type



■ Structure & Dimensions

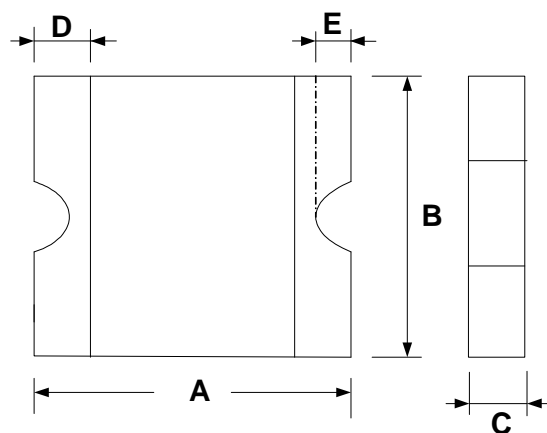


(Unit: mm)

Part No.	A		B		C		D		E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)
KMC1S010	1.40	1.80	0.60	1.00	0.30	0.60	0.15	0.50	--	0.40
KMC1S020					0.30	0.60				
KMC1S025					0.30	0.60				
KMC1S035					0.50	1.00				
KMC2S010	2.00	2.20	1.20	1.50	0.40	1.00	0.15	0.55	0.05	0.45
KMC2S010-24					0.40	1.00				
KMC2S020					0.40	1.00				
KMC2S035					0.30	0.75				
KMC2S050					0.30	1.25				
KMC2S075					0.50	1.25				
KMC3S005	3.00	3.50	1.50	1.80	0.50	0.90	0.125	0.75	0.08	0.45
KMC3S010					0.50	0.90				
KMC3S012					0.35	0.90				
KMC3S016					0.28	0.68				
KMC3S020					0.28	0.68				
KMC3S025					0.28	0.68				
KMC3S035					0.28	0.68				
KMC3S050					0.28	0.68				
KMC3S050-15					0.28	1.06				
KMC3S075					0.28	0.85				
KMC3S100					0.40	0.88				
KMC3S110					0.40	0.88				
KMC3S150					0.55	1.00				
KMC3S200					0.80	1.60				

Polymer PTC Resettable Fuse: KMC Series

SMD Type



(Unit: mm)

Part No.	A		B		C		D		E	
	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)
KMC5S010	4.37	4.73	3.07	3.41	0.50	0.90	0.20	1.2	0.15	0.65
KMC5S014					0.50	0.90				
KMC5S020					0.50	0.90				
KMC5S035					0.28	0.68				
KMC5S050					0.28	0.68				
KMC5S075					0.28	0.68				
KMC5S075-24					0.60	1.20				
KMC5S075-33					0.60	1.20				
KMC5S110					0.28	0.68				
KMC5S110-16					0.60	1.00				
KMC5S110-24					0.60	1.00				
KMC5S110-33					0.80	1.60				
KMC5S125					0.28	0.68				
KMC5S125-16					0.30	0.90				
KMC5S150					0.28	0.68				
KMC5S150-12					0.60	1.00				
KMC5S150-24					0.70	1.50				
KMC5S160					0.28	0.68				
KMC5S200					0.35	0.90				
KMC5S260					0.35	0.90				
KMC5S300	0.60	1.20								

Polymer PTC Resettable Fuse: KMC Series

SMD Type



■ 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	Time	Initial R _i	Post Trip R ₁	UL/cUL	TUV
							(A)	(Sec.)				
KMC1S010	1	15	40	0.10	0.30	0.50	0.50	1.00	0.900	6.000	√	√
KMC1S020	2	9	40	0.20	0.50	0.50	1.00	0.60	0.550	3.500	√	√
KMC1S025	5	9	40	0.25	0.55	0.50	8.00	0.08	0.500	3.000	√	√
KMC1S035	7	6	40	0.35	0.75	0.50	8.00	0.10	0.200	1.000	√	√
KMC2S010	D	15	100	0.10	0.30	0.50	0.50	1.50	1.000	6.000	√	√
KMC2S010-24	D	24	100	0.10	0.30	0.50	0.50	1.50	1.000	6.000	√	√
KMC2S020	L	9	100	0.20	0.50	0.50	8.00	0.02	0.650	3.500	√	√
KMC2S035	T	6	100	0.35	0.75	0.50	8.00	0.10	0.250	1.200	√	√
KMC2S050	O	6	100	0.50	1.00	0.50	8.00	0.10	0.150	0.850	√	√
KMC2S075	X	6	100	0.75	1.50	0.50	8.00	0.20	0.090	0.350	√	√
KMC3S005	TH	60	100	0.05	0.15	0.40	0.25	1.50	3.600	50.000	√	√
KMC3S010	TY	60	100	0.10	0.25	0.40	0.50	1.00	1.600	15.000	√	√
KMC3S012	TJ	30	100	0.125	0.29	0.50	1.00	0.20	1.400	6.000	√	√
KMC3S016	TK	30	100	0.16	0.37	0.50	1.00	0.30	1.100	4.500	√	√
KMC3S020	TL	24	100	0.20	0.42	0.60	8.00	0.10	0.650	2.600	√	√
KMC3S025	TN	16	100	0.25	0.50	0.60	8.00	0.08	0.550	2.300	√	√
KMC3S035	TP	16	100	0.35	0.75	0.60	8.00	0.10	0.300	1.200	√	√
KMC3S050	TQ	8	100	0.50	1.00	0.60	8.00	0.10	0.150	0.700	√	√
KMC3S050-15	TQ1	15	100	0.50	1.00	0.60	8.00	0.10	0.150	0.700	√	√
KMC3S075	TR	8	100	0.75	1.50	0.60	8.00	0.10	0.100	0.290	√	√
KMC3S100	TS	6	100	1.00	1.80	0.80	8.00	0.30	0.065	0.210	√	√
KMC3S110	TU	8	100	1.10	2.20	0.80	8.00	0.10	0.070	0.200	√	√
KMC3S150	TV	8	100	1.50	3.00	0.80	8.00	0.30	0.040	0.120	√	√
KMC3S200	TX	6	100	2.00	3.50	1.00	8.00	1.50	0.020	0.080	√	√

Note : UL&cUL File No: E138827

TUV File No: R50143386 , J50218395

Polymer PTC Resettable Fuse: KMC Series



SMD Type

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)		
KMC5S010	T 010	30	100	0.10	0.30	0.80	0.50	1.50	1.600	15.000	√	√
KMC5S014	T 014	60	10	0.14	0.34	0.80	1.50	0.15	1.500	6.000	√	√
KMC5S020	T 020	30	100	0.20	0.40	0.80	8.00	0.02	0.800	5.000	√	√
KMC5S035	T 035	16	100	0.35	0.70	0.80	8.00	0.10	0.320	1.500	√	√
KMC5S050	T 050	16	100	0.50	1.00	0.80	8.00	0.15	0.150	1.000	√	√
KMC5S075	T 075	16	100	0.75	1.50	0.80	8.00	0.20	0.110	0.450	√	√
KMC5S075-24	T ⁰⁷⁵ ₂₄	24	100	0.75	1.50	0.80	8.00	0.20	0.110	0.400	√	√
KMC5S075-33	T ⁰⁷⁵ ₃₃	33	20	0.75	1.50	0.80	8.00	0.20	0.110	0.400	√	√
KMC5S110	T 110	8	100	1.10	2.20	0.80	8.00	0.30	0.040	0.210	√	√
KMC5S110-16	T ¹¹⁰ ₁₆	16	100	1.10	2.20	0.80	8.00	0.50	0.060	0.180	√	√
KMC5S110-24	T ¹¹⁰ ₂₄	24	20	1.10	2.20	0.80	8.00	0.50	0.060	0.200	√	√
KMC5S110-33	T ¹¹⁰ ₃₃	33	20	1.10	2.20	0.80	8.00	0.50	0.060	0.200	√	√
KMC5S125	T 125	6	100	1.25	2.50	0.80	8.00	0.40	0.050	0.140	√	√
KMC5S125-16	T ¹²⁵ ₁₆	16	100	1.25	2.50	0.80	8.00	0.40	0.050	0.140	√	√
KMC5S150	T 150	8	100	1.50	3.00	0.90	8.00	0.30	0.040	0.110	√	√
KMC5S150-12	T ¹⁵⁰ ₁₂	12	100	1.50	3.00	0.90	8.00	0.50	0.040	0.110	√	√
KMC5S150-24	T ¹⁵⁰ ₂₄	24	20	1.50	3.00	0.90	8.00	1.50	0.040	0.120	√	√
KMC5S160	T 160	8	100	1.60	3.20	0.80	8.00	1.00	0.030	0.100	√	√
KMC5S200	T 200	8	100	2.00	3.50	1.20	8.00	2.00	0.020	0.060	√	√
KMC5S260	T 260	8	100	2.60	5.00	1.20	8.00	2.50	0.015	0.047	√	√
KMC5S300	T 300	6	100	3.00	5.00	1.20	8.00	4.00	0.012	0.040	√	√

Note : UL&cUL File No: E138827

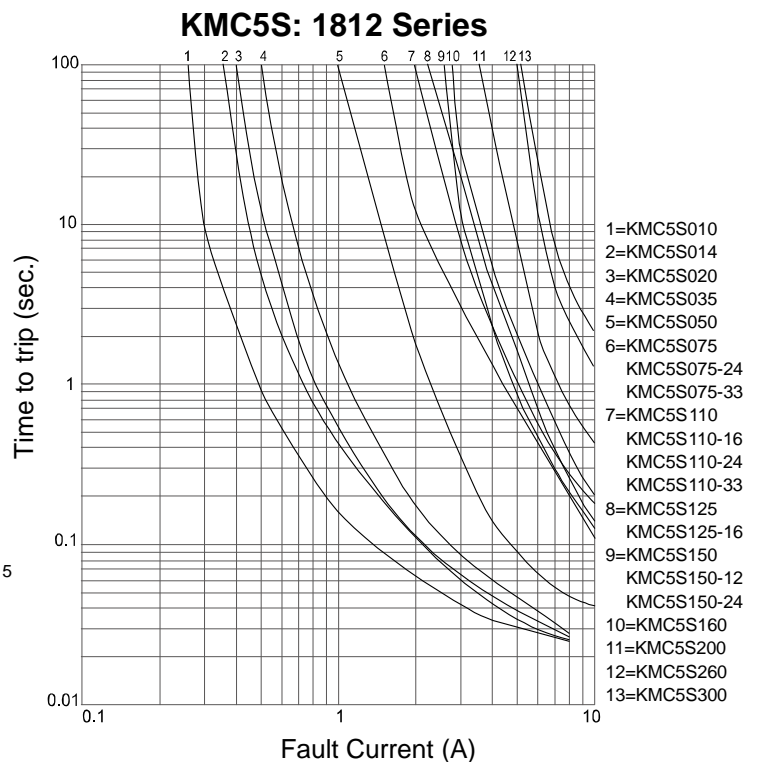
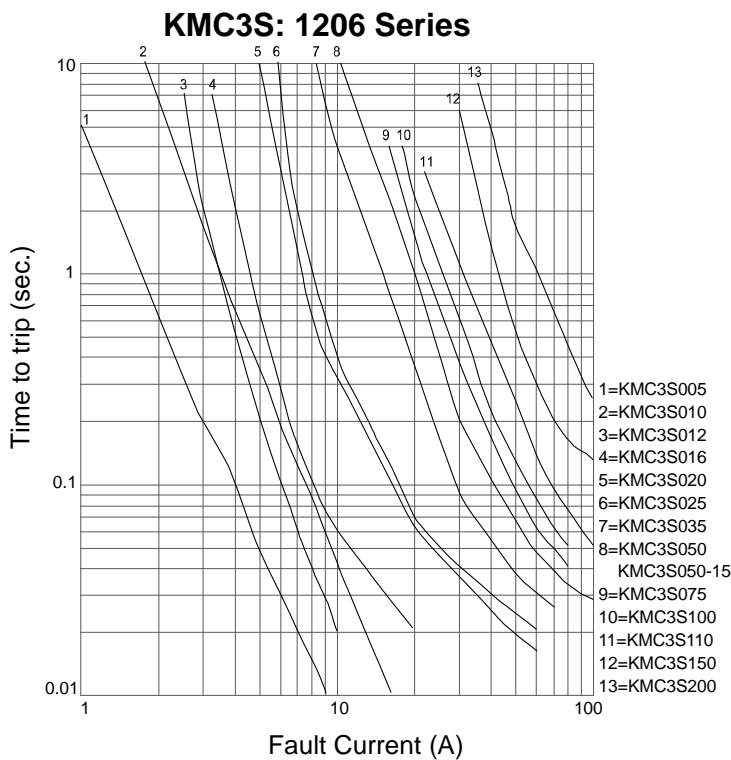
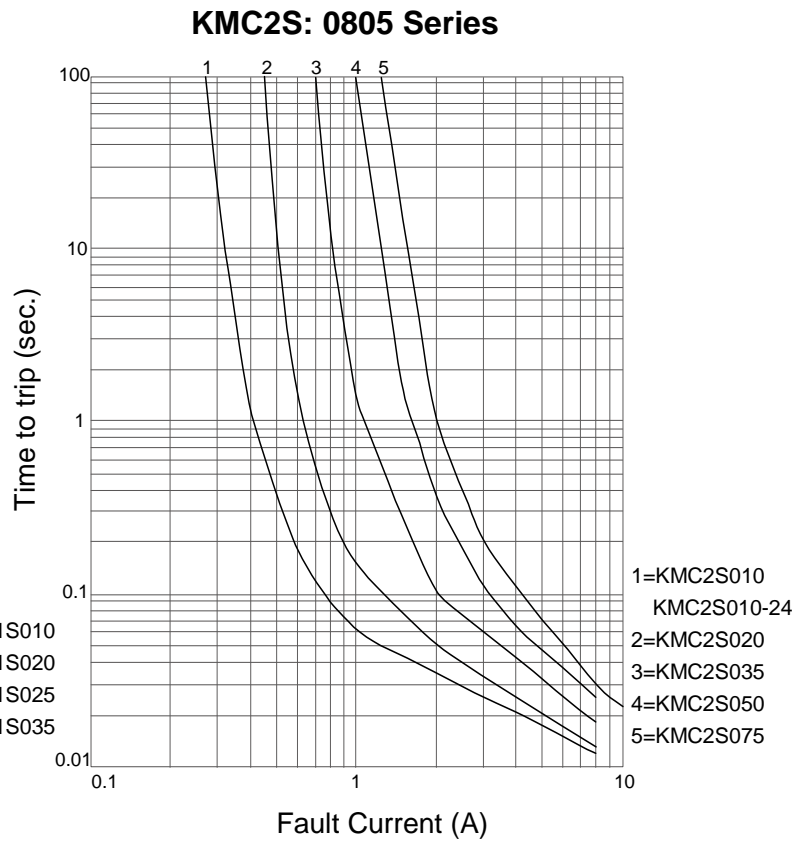
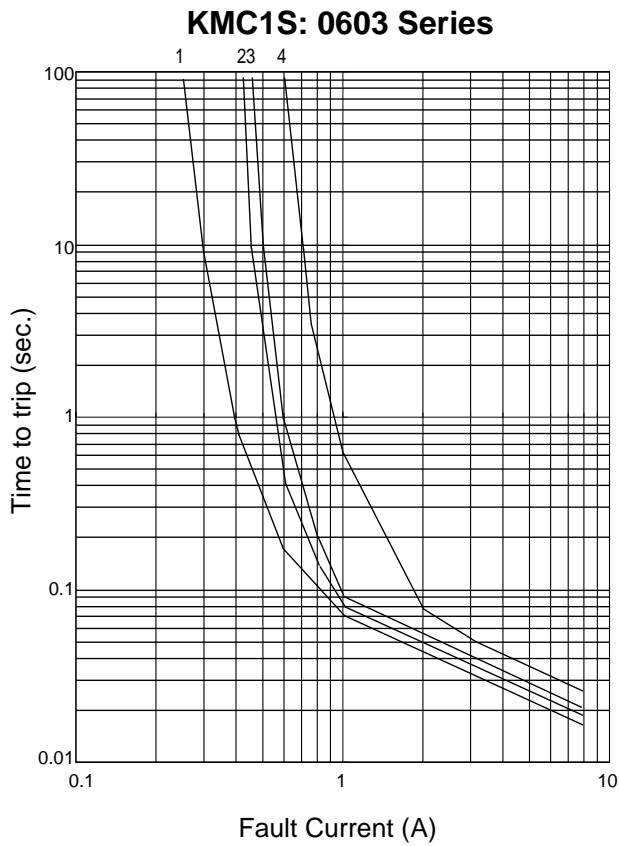
TUV File No: R50143386 , J50218395

Polymer PTC Resettable Fuse: KMC Series

SMD Type



Typical Time to Trip Curve at 23°C



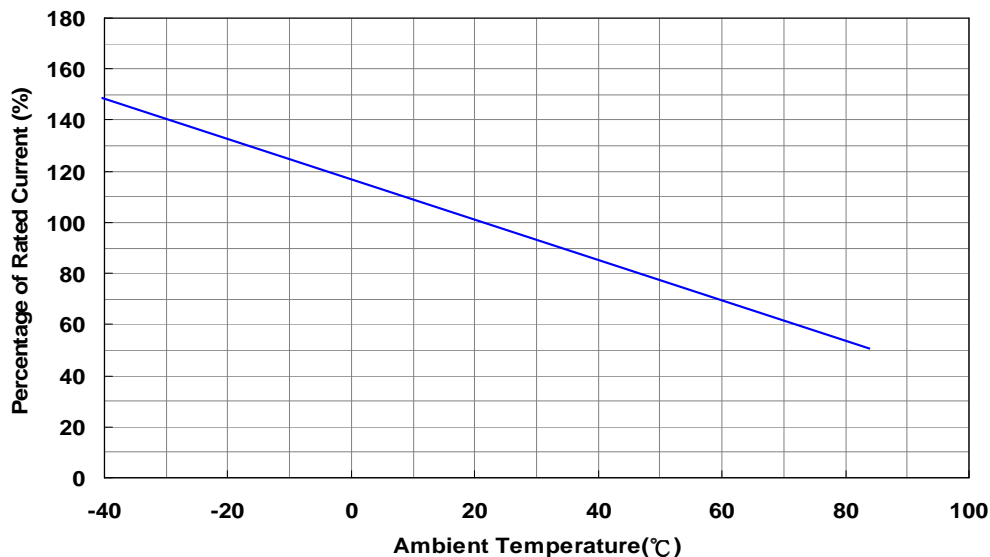
Polymer PTC Resettable Fuse: KMC Series

SMD Type



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

Derating Curve for KMC1S (0603) Series



KMC1S (0603) Series Ihold Thermal Derating Chart

(Unit: A)

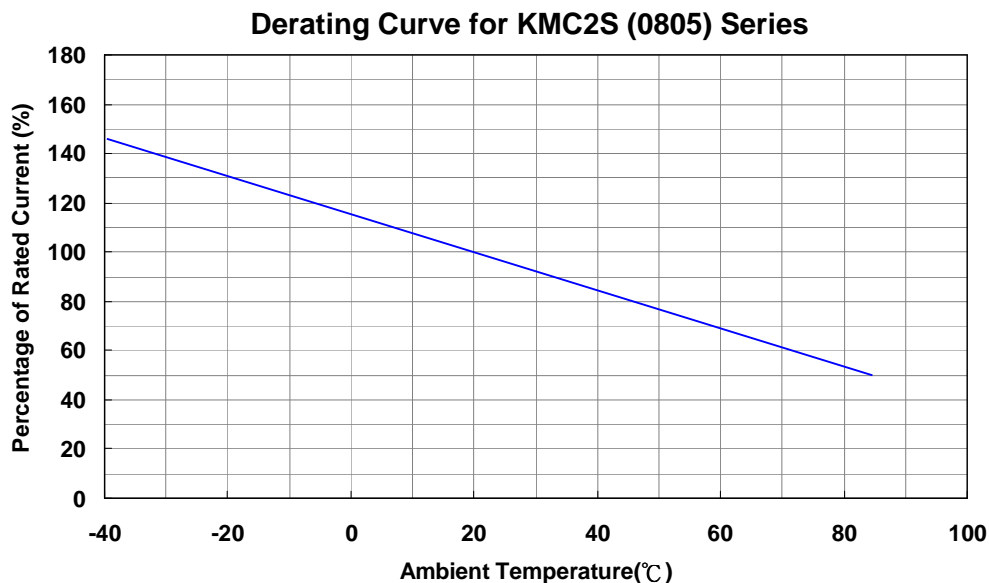
Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC1S010	0.13	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
KMC1S020	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
KMC1S025	0.32	0.29	0.27	0.25	0.21	0.18	0.16	0.14	0.10
KMC1S035	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14

Polymer PTC Resettable Fuse: KMC Series

SMD Type



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



KMC2S (0805) Series Ihold Thermal Derating Chart

(Unit: A)

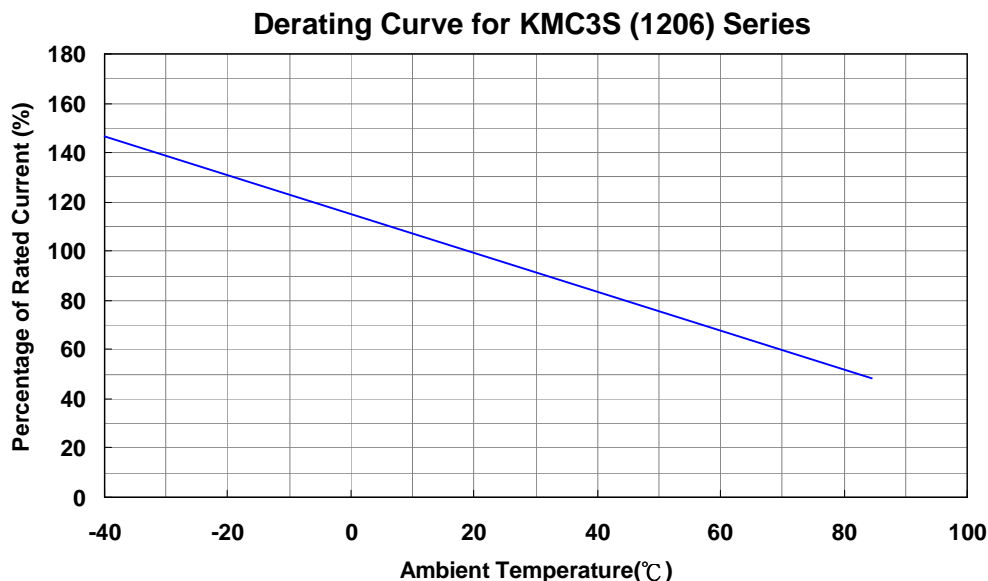
Part No.	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC2S010	0.14	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
KMC2S010-24	0.14	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
KMC2S020	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
KMC2S035	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
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 Type



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



■ KMC3S (1206) Series Ihold Thermal Derating Chart

(Unit: A)

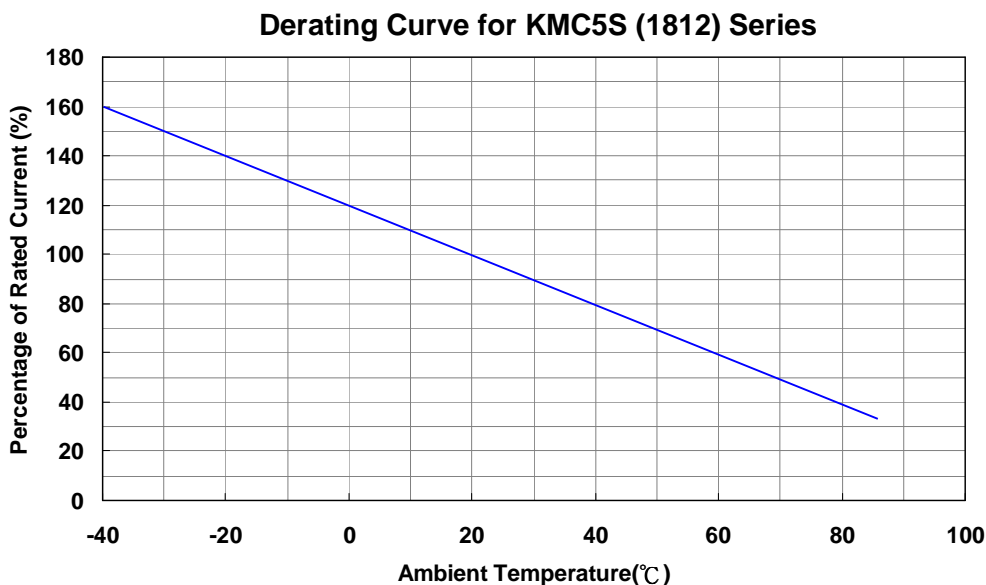
Part no	Ambient Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
KMC3S005	0.0725	0.063	0.057	0.05	0.043	0.038	0.035	0.03	0.026
KMC3S010	0.145	0.133	0.115	0.10	0.085	0.075	0.07	0.06	0.055
KMC3S012	0.20	0.17	0.15	0.12	0.11	0.10	0.09	0.08	0.07
KMC3S016	0.21	0.20	0.18	0.16	0.14	0.13	0.12	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	0.18	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	2.92	2.64	2.35	2.00	1.79	1.64	1.50	1.22	1.14

Polymer PTC Resettable Fuse: KMC Series

SMD Type



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



■ KMC5S (1812) Series 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
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	0.55	0.47	0.36
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	2.60	2.44	2.22	2.00	1.80	1.60	1.50	1.07	0.80
KMC5S260	3.40	3.16	2.80	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

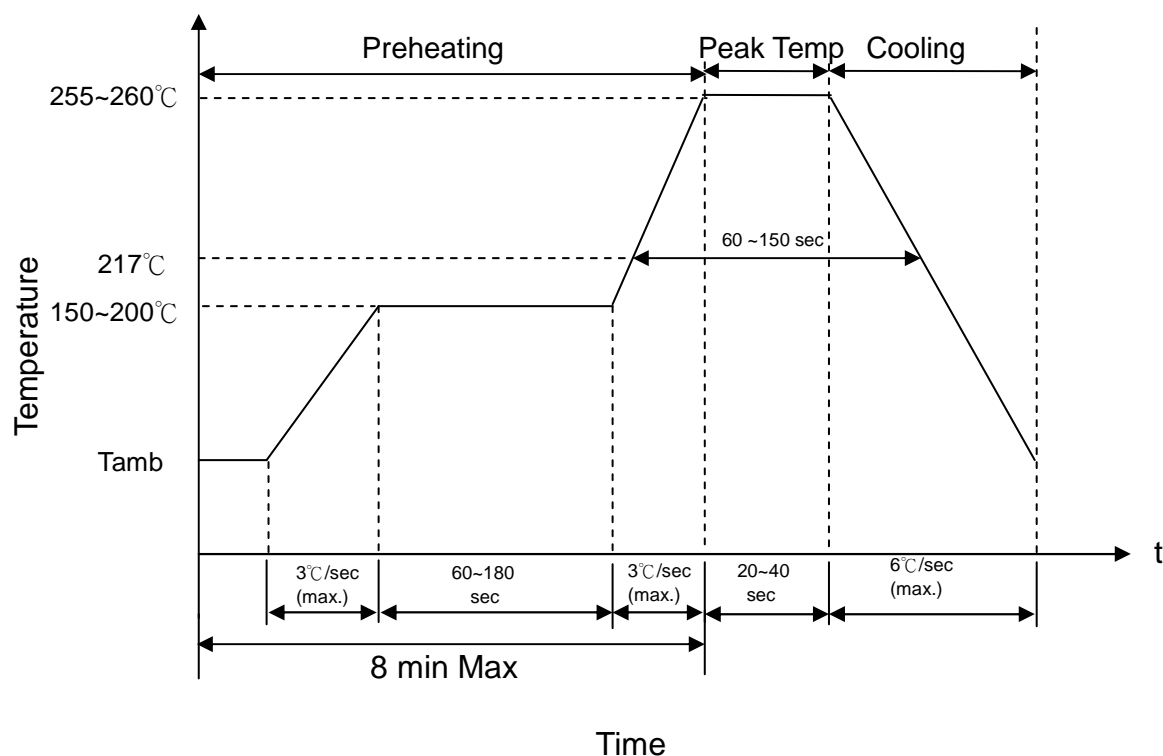
Polymer PTC Resettable Fuse: KMC Series

SMD Type



■ Recommended Soldering Condition

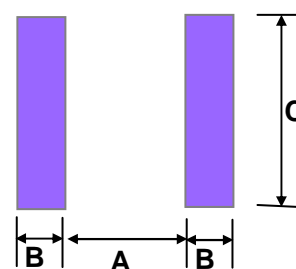
● IR-Reflow Soldering Profile



■ Recommended Soldering Pad Dimensions (Nominal)

(Unit:mm)

Series	Size	A	B	C
KMC1S	0603	0.80	1.00	1.00
KMC2S	0805	1.20	1.00	1.50
KMC3S	1206	2.00	1.00	1.90
KMC5S	1812	3.45	1.78	3.50



Polymer PTC Resettable Fuse: KMC Series

SMD Type

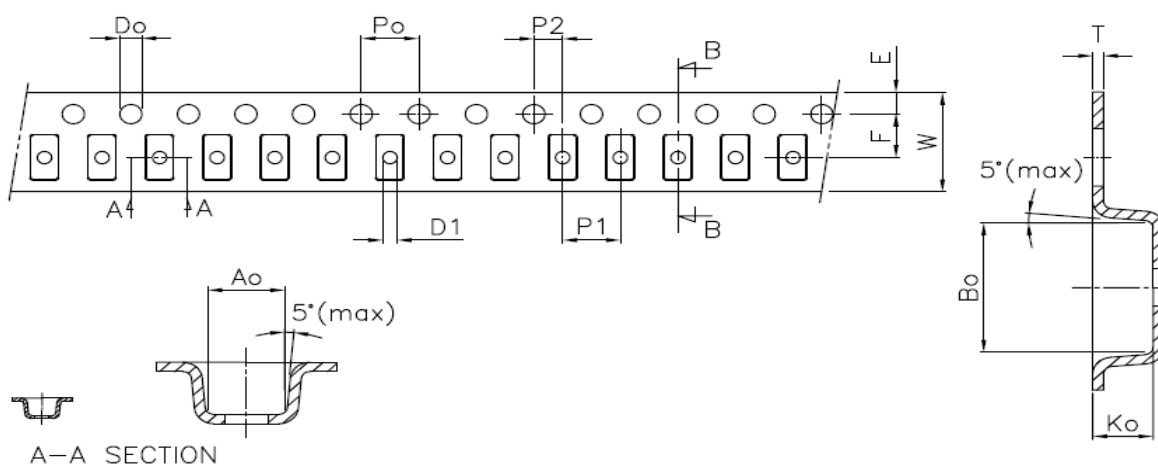


■ Reliability

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 Endurance	UL 1434	Vmax,120% Imax ,50 cycles Vmax,300% Itrip ,6000 cycles	No visible damage
Trip Endurance	UL 1434	Vmax, Itrip ≤ I ≤ Imax , 1000±24hrs	No visible damage
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



◆ KMC1S Series: SMD 0603 Type

For KMC1S010, KMC1S020, KMC1S025

(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
	±0.05	±0.05	±0.05	±0.10	±0.10	±0.05	±0.05	±0.10	±0.05	+0.10/-0	+0.10 -0.05	+0.30 -0.10	±0.20
0603	1.10	1.85	0.60	4.00	4.00	2.00	0.20	1.75	3.50	1.50	0.50	8.00	40.00

Polymer PTC Resettable Fuse: KMC Series

SMD Type



For KMC1S035

(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
	±0.10	±0.15	±0.10	±0.10	±0.10	±0.05	+0.05 -0.08	±0.10	±0.05	±0.05	Min.	±0.20	±0.20
0603	1.10	1.85	0.75	4.00	4.00	2.00	0.23	1.75	3.50	1.55	0.40	8.00	40.00

◆ 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
	±0.10	±0.10	±0.10	±0.08	±0.10	±0.05	±0.10	±0.10	±0.05	±0.05	Min.	±0.10	±0.20
0805	1.60	2.30	0.90	4.00	4.00	2.00	0.25	1.75	3.50	1.55	1.00	8.00	40.00

◆ KMC3S Series: SMD 1206 Type

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

(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
	+0.1/-0	+0.1/-0	±0.10	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	Min.	±0.30	±0.20
1206	1.95	3.55	1.40	4.00	4.00	2.00	0.23	1.75	3.50	1.55	1.00	8.00	40.00

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

(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
	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	Min.	±0.30	±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

◆ KMC5S Series: SMD 1812 Type

For KMC5S010, KMC5S014, KMC5S020, KMC5S075-24, KMC5S075-33, KMC5S110-16, KMC5S110-24,

KMC5S110-33, KMC5S125-16, KMC5S150-12, KMC5S150-24, KMC5S260, KMC5S300

(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
	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.05	Min.	±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	40.00

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

(Unit:mm)

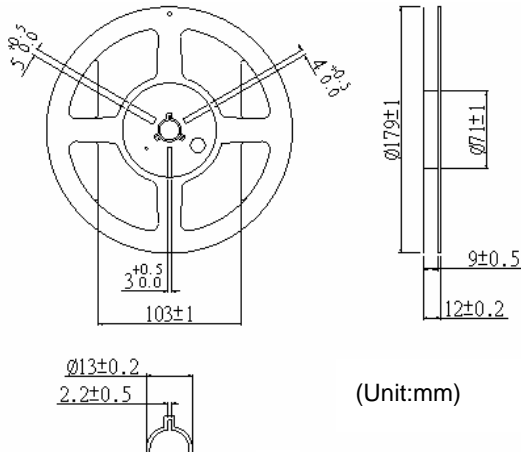
Index Size	A ₀	B ₀	K ₀	P ₀	P ₁	P ₂	T	E	F	D ₀	D ₁	W	10P ₀
	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.03	±0.10	±0.10	±0.05	Min.	±0.30	±0.20
1812	3.50	5.00	0.90	4.00	8.00	2.00	0.25	1.75	5.50	1.55	1.50	12.00	40.00

Polymer PTC Resettable Fuse: KMC Series

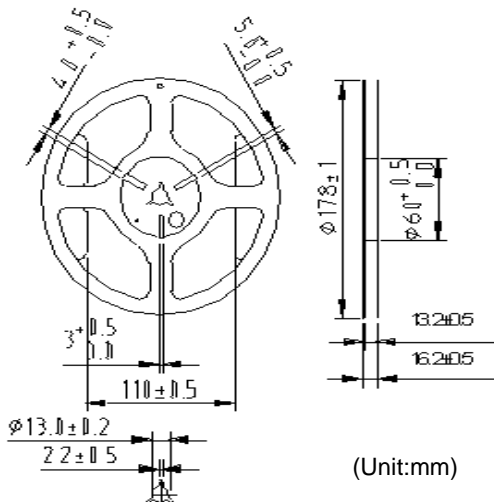
SMD Type



Quantity



Size	Part no	Quantity (pcs/reel)
0603	KMC1S010, KMC1S020, KMC1S025	6,000
	KMC1S035	5,000
0805	For all parts	4,000
1206	For KMC3S005, KMC3S010, KMC3S050-15, KMC3S100, KMC3S110, KMC3S150, KMC3S200	2,500
	For KMC3S012, KMC3S016, KMC3S020, KMC3S025, KMC3S035, KMC3S050, KMC3S075	5,000



Size	Part no	Quantity (pcs/reel)
1812	For KMC5S010, KMC5S014, KMC5S020, KMC5S075-24, KMC5S075-33, KMC5S110-16, KMC5S110-24, KMC5S110-33, KMC5S125-16, KMC5S150-12, KMC5S150-24, KMC5S260, KMC5S300	1,000
	For KMC5S035, KMC5S050, KMC5S075, KMC5S110, KMC5S125, KMC5S150, KMC5S160, KMC5S200	2,000

Warehouse Storage Conditions of Products

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