

LP-ISM Series Surface-mount devices

Features

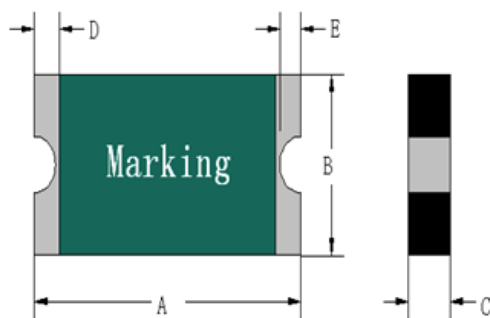
- ✦ Small size of 0805
- ✦ Fast tripping resettable circuit protection
- ✦ Surface mount packaging for automated assembly
- ✦ Agency recognition: UL、CSA、TUV



Product Dimensions

Size 2012mm/0805mils

Part number	A	B	C	D	E
	Max.	Max.	Max.	Min.	Min.
LP-ISM005	2.50	1.55	1.80	0.10	0.20
LP-ISM010	2.50	1.55	1.00	0.10	0.20
LP-ISM020	2.50	1.55	1.00	0.10	0.20
LP-ISM035	2.50	1.55	0.75	0.10	0.20
LP-ISM050	2.50	1.55	1.25	0.10	0.20
LP-ISM075	2.50	1.60	1.50	0.10	0.20
LP-ISM110	2.50	1.55	1.80	0.10	0.20



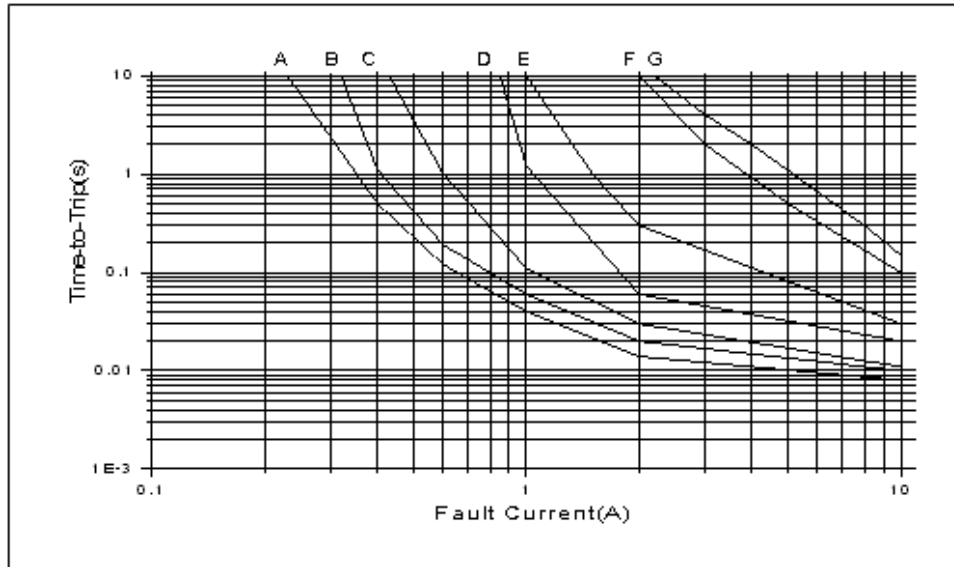
Thermal Derating Chart-IH(A)

Size 2012mm/0805mils

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
LP-ISM005	0.08	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02

LP-ISM010	0.14	0.13	0.12	0.10	0.10	0.09	0.08	0.07	0.06	0.04
LP-ISM020	0.29	0.25	0.23	0.20	0.20	0.17	0.15	0.14	0.12	0.08
LP-ISM035	0.51	0.45	0.40	0.36	0.35	0.30	0.26	0.25	0.21	0.16
LP-ISM050	0.76	0.66	0.58	0.51	0.50	0.43	0.38	0.34	0.30	0.24
LP-ISM075	1.09	0.99	0.86	0.77	0.75	0.64	0.56	0.51	0.45	0.34
LP-ISM110	1.59	1.45	1.25	1.12	1.10	0.94	0.83	0.75	0.65	0.51

Typical Time-to-Trip Charts at 25°C



LP-ISM Series

- A = LP-ISM005
- B = LP-ISM010
- C = LP-ISM020
- D = LP-ISM035
- E = LP-ISM050
- F = LP-ISM075
- G = LP-ISM110

Electrical Characteristics at 25°C

Size 2012mm/0805mils

Part number	I_H	I_T	V_{max}	I_{max}	Max.Time-to-trip		P_{dtyp}	R_{min}	R_{1max}
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)
LP-ISM005	0.05	0.15	15	10	0.5	2.00	0.5	3.000	50.00
LP-ISM010	0.10	0.30	15	10	0.5	1.50	0.5	1.000	6.000
LP-ISM020	0.20	0.50	9	40	8.0	0.02	0.5	0.650	3.500
LP-ISM035	0.35	0.75	6	40	8.0	0.10	0.5	0.250	1.200
LP-ISM050	0.50	1.00	6	40	8.0	0.10	0.5	0.150	0.850
LP-ISM075	0.75	1.50	6	40	8.0	0.20	0.5	0.100	0.400
LP-ISM110	1.10	2.20	6	40	8.0	0.30	0.5	0.050	0.210

I_H =Hold current: maximum current at which the device will not trip at 25°C still air.

I_T =Trip current: minimum current at which the device will always trip at 25°C still air.

V_{max} =Maximum voltage device can withstand without damage at rated current.

I_{max} =Maximum fault current device can withstand without damage at rated voltage.

T_{trip} =Maximum time to trip at assigned current.

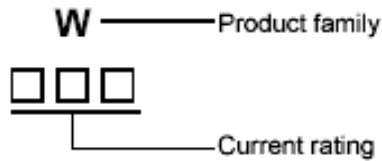
P_{dtyp} =Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min} =Minimum device resistance at 25°C prior to tripping.

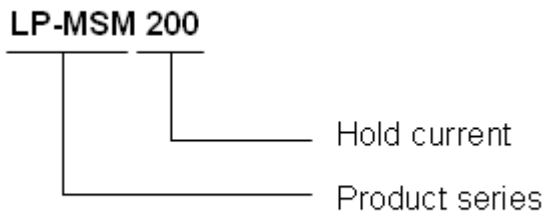
R_{1max} =Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

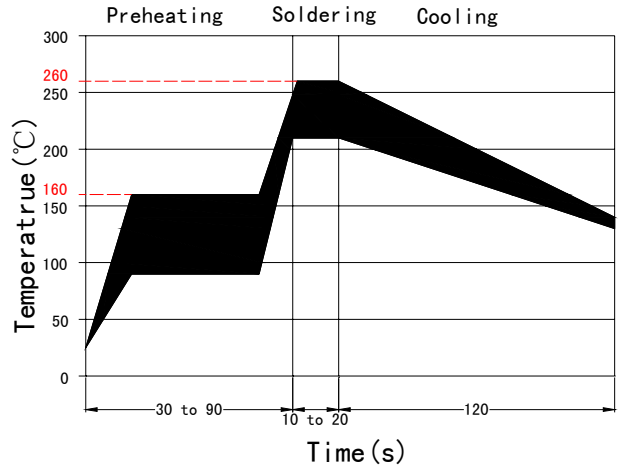
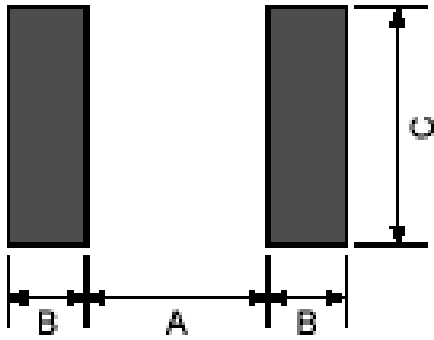
Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25°C	$R_{min} \leq R \leq R_{max}$
Time to Trip	Specified current, V_{max} , 25°C	$T \leq$ maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 24hours	No arcing or burning

Packaging and Marking Information

Size 2012mm/0805mils

Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-ISM005	4000	0805B	1	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM010	4000	0805B	0	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM020	4000	0805B	2	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM035	4000	0805B	3	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM050	4000	0805A	4	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM075	4000	0805A	5	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV
LP-ISM110	4000	0805A	6	1.20	(0.051)	1.00	(0.041)	1.50	(0.061)	UL,CSA,TUV

Solder Pad Layouts



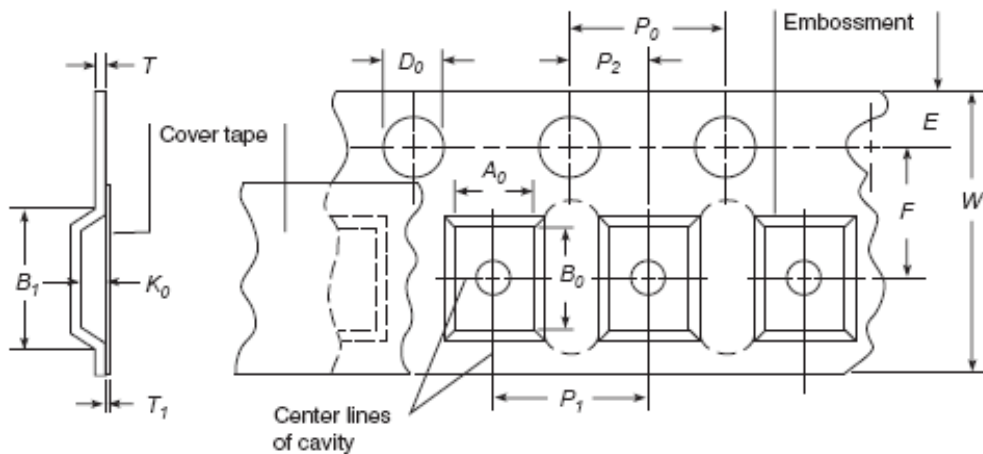
- * Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.
- * Devices can be cleaned using standard industry methods and solvents.

Notes:

If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

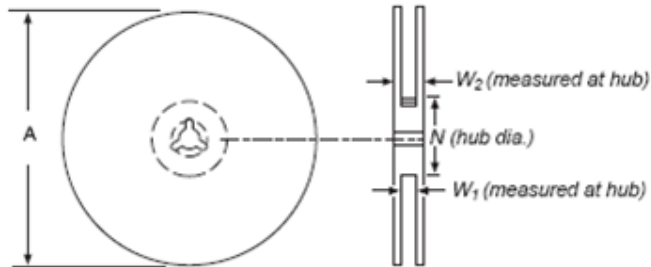
Tape Specification And Reel Dimensions

Tape spc code	W	P0	P1	P2	A	B	D	F	E	T	K
0805(A)	8.00± 0.10	4.00± 0.10	4.00± 0.10	2.00± 0.10	1.68± 0.10	2.44± 0.10	1.55± 0.05	3.50± 0.10	1.75± 0.10	0.22± 0.05	1.50± 0.10
0805(B)	8.00± 0.10	4.00± 0.10	4.00± 0.10	2.00± 0.10	1.68± 0.10	2.44± 0.10	1.55± 0.05	3.50± 0.10	1.75± 0.10	0.22± 0.05	1.02± 0.10



Reel Dimensions

Tape spc code	A	N	W1	W2
0805(A)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0
0805(B)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0



Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions, and should not be used when repeated fault conditions are anticipated. Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit protection devices. However, users should independently evaluate and test the suitability of each product. Wayon makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. Wayon's only obligations are those in the Wayon Standard Terms and Conditions of Sale and in no case will Wayon be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. Wayon reserves the right to change or update, without notice, any information contained in this specification.

LP-NSM Series Surface-mount devices

Features

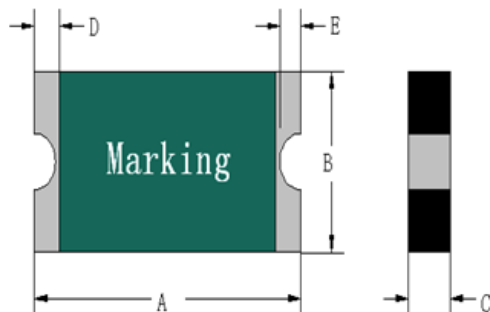
- ✦ Small size of 1206
- ✦ Fast tripping resettable circuit protection
- ✦ Surface mount packaging for automated assembly
- ✦ Agency recognition: UL、CSA、TUV



Product Dimensions

Size 3216mm/1206mils

Part number	A	B	C	D	E
	Max.	Max.	Max.	Min.	Min.
LP-NSM005	3.50	1.80	0.85	0.10	0.20
LP-NSM012	3.50	1.80	0.85	0.10	0.20
LP-NSM016	3.50	1.80	0.85	0.10	0.20
LP-NSM020	3.50	1.80	0.85	0.10	0.20
LP-NSM035	3.50	1.80	0.85	0.10	0.20
LP-NSM050	3.50	1.80	0.85	0.10	0.20
LP-NSM075	3.50	1.80	1.30	0.10	0.20
LP-NSM110	3.50	1.80	1.30	0.10	0.20
LP-NSM150	3.50	1.80	1.80	0.10	0.20
LP-NSM200	3.50	1.80	1.80	0.10	0.20

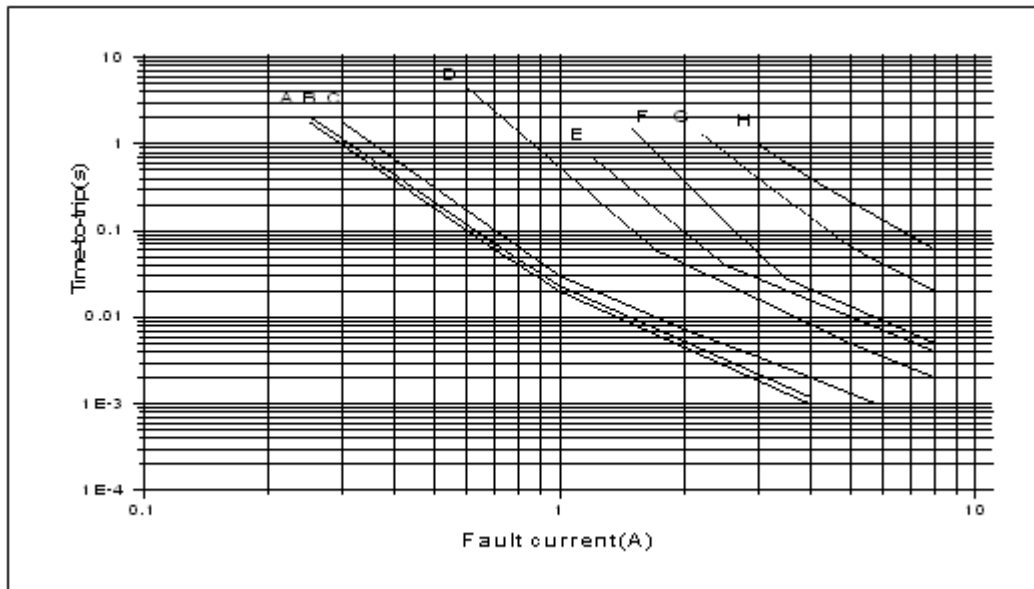


Thermal Derating Chart-IH(A)

Size 3216mm/1206mils

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
LP-NSM005	0.09	0.08	0.06	0.05	0.05	0.04	0.03	0.03	0.03	0.02
LP-NSM012	0.19	0.16	0.14	0.13	0.125	0.10	0.09	0.08	0.07	0.04
LP-NSM016	0.25	0.20	0.18	0.16	0.16	0.14	0.12	0.11	0.09	0.06
LP-NSM020	0.31	0.26	0.22	0.21	0.20	0.18	0.16	0.15	0.13	0.07
LP-NSM035	0.51	0.46	0.39	0.36	0.35	0.30	0.27	0.26	0.20	0.16
LP-NSM050	0.77	0.64	0.56	0.52	0.50	0.45	0.40	0.35	0.32	0.23
LP-NSM075	1.12	1.01	0.88	0.78	0.75	0.66	0.58	0.53	0.46	0.33
LP-NSM110	1.61	1.44	1.27	1.12	1.10	0.94	0.85	0.77	0.63	0.48
LP-NSM150	2.21	1.97	1.72	1.53	1.50	1.27	1.11	1.00	0.89	0.69
LP-NSM200	2.61	2.42	2.34	2.06	2.00	1.78	1.66	1.49	1.42	1.09

Typical Time-to-Trip Charts at 25°C



LP-NSM Series

- A = LP-NSM012
- B = LP-NSM016
- C = LP-NSM020
- D = LP-NSM035
- E = LP-NSM050
- F = LP-NSM075
- G = LP-NSM110
- H = LP-NSM150

Electrical Characteristics at 25°C

Size 3216mm/1206mils

Part number	I_H	I_T	V_{max}	I_{max}	Max.Time-to-trip		P_{dtyp}	R_{min}	R_{1max}
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)
LP-NSM005	0.05	0.15	60	10	1.0	1.20	0.6	2.000	50.000
LP-NSM012	0.125	0.29	30	20	1.0	0.20	0.6	1.500	6.000
LP-NSM016	0.16	0.37	30	20	1.0	0.30	0.6	1.200	4.500
LP-NSM020	0.20	0.40	16	40	8.0	0.05	0.6	0.600	2.500
LP-NSM035	0.35	0.75	6	40	8.0	0.10	0.6	0.300	1.200
LP-NSM050	0.50	1.00	6	40	8.0	0.10	0.6	0.150	0.700
LP-NSM075	0.75	1.50	6	40	8.0	0.20	0.6	0.100	0.290
LP-NSM110	1.10	1.80	6	40	8.0	0.30	0.6	0.055	0.210
LP-NSM150	1.50	3.00	6	40	8.0	1.00	0.6	0.040	0.120
LP-NSM200	2.00	4.00	6	40	8.0	2.00	1.0	0.020	0.070

I_H =Hold current: maximum current at which the device will not trip at 25°C still air.

I_T =Trip current: minimum current at which the device will always trip at 25°C still air.

V_{max} =Maximum voltage device can withstand without damage at rated current.

I_{max} =Maximum fault current device can withstand without damage at rated voltage.

T_{trip} =Maximum time to trip at assigned current.

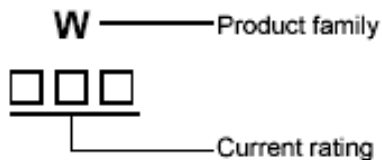
P_{dtyp} =Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min} =Minimum device resistance at 25°C prior to tripping.

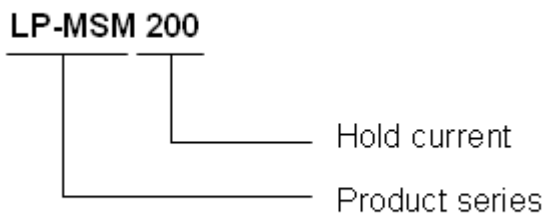
R_{1max} =Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

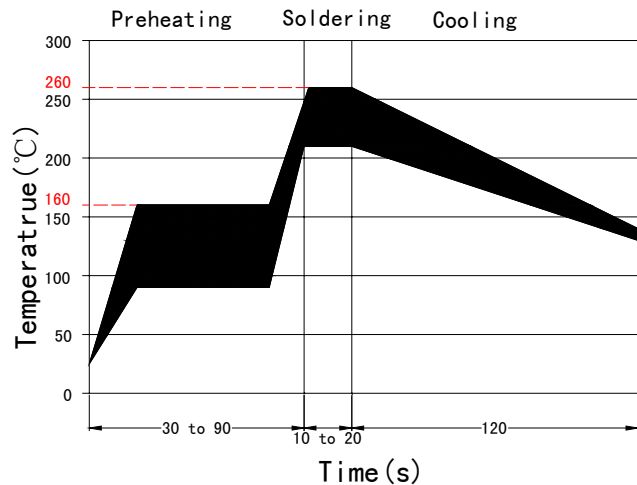
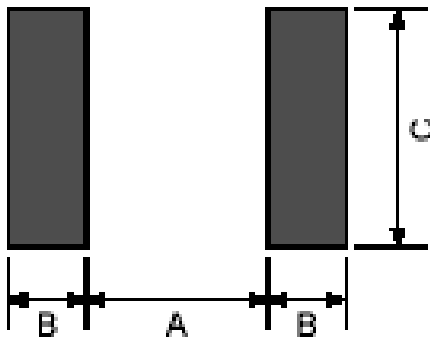
Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25°C	$R_{min} \leq R \leq R_{max}$
Time to Trip	Specified current, V_{max} , 25°C	$T \leq$ maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 24hours	No arcing or burning

Packaging and Marking Information

Size 3216mm/1206 mils

Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
				mm	In.	mm	In.	mm	In.	
LP-NSM005	4000	1206A	/	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	Pending
LP-NSM012	4000	1206A	P	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM016	4000	1206A	T	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM020	4000	1206A	C	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM035	4000	1206A	W	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM050	4000	1206A	A	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM075	4000	1206A	Y	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM110	3500	1206B	O	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM150	3500	1206B	N	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	UL,CSA,TUV
LP-NSM200	3500	1206B	G	1.80	(0.071)	1.00	(0.041)	1.80	(0.071)	Pending

Solder Pad Layouts



* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.

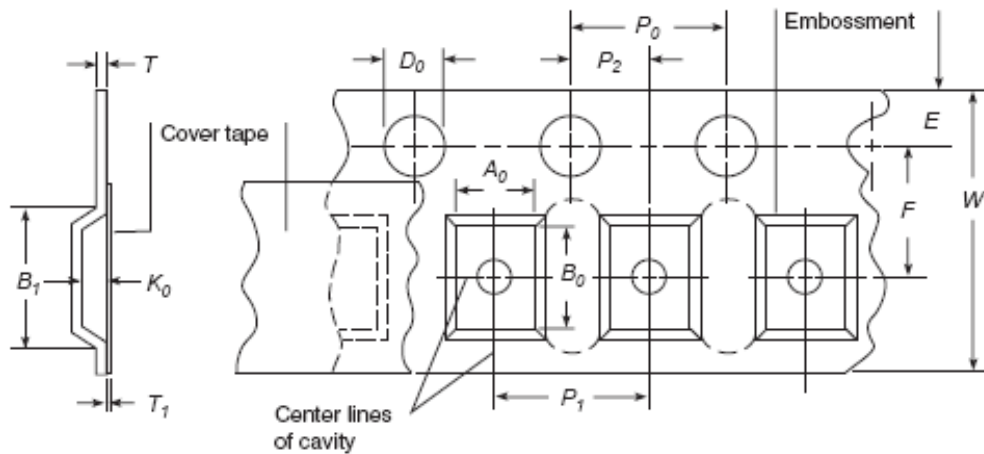
* Devices can be cleaned using standard industry methods and solvents.

Notes:

If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

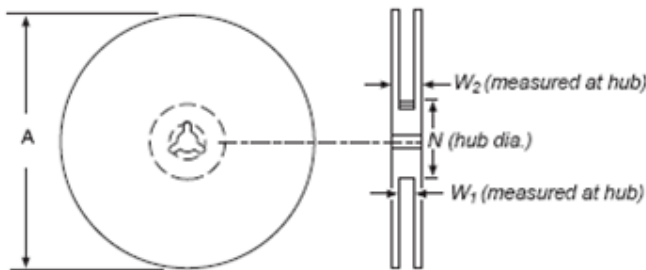
Tape Specification And Reel Dimensions

Tape spc code	W	P0	P1	P2	A		D	F	E	T	K
1206(A)	8.00±0.20	4.00±0.10	4.00±0.10	2.00±0.05	1.77±0.10	3.40±0.10	1.55±0.05	3.50±0.10	1.75±0.10	0.22±0.05	1.04±0.10
1206(B)	8.00±0.20	4.00±0.10	4.00±0.10	2.00±0.05	1.77±0.10	3.40±0.10	1.55±0.05	3.50±0.10	1.75±0.10	0.22±0.05	1.26±0.10



Reel Dimensions

Tape spc code	A	N	W1	W2
1206(A)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0
1206(B)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0



Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

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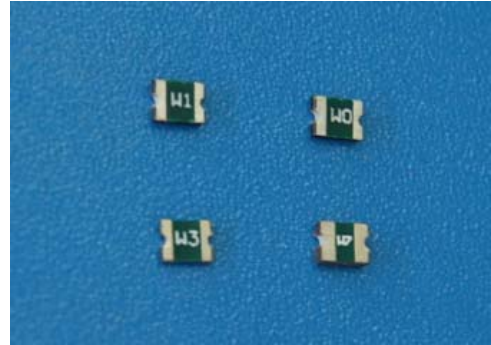
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LP-USM Series Surface-mount devices

Features

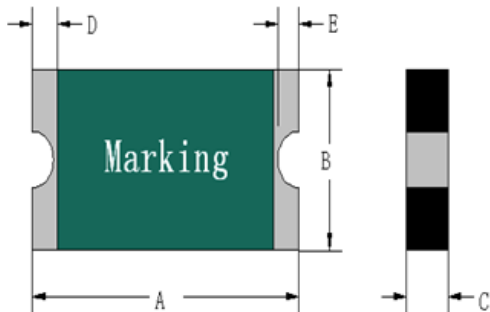
- ✧ Small size of 1210
- ✧ Fast tripping resettable circuit protection
- ✧ Surface mount packaging for automated assembly
- ✧ Agency recognition: UL、CSA、TUV



Product Dimensions

Size 3225mm/1210mils

Part number	A	B	C	D	E
	Max.	Max.	Max.	Min.	Min.
LP-USM005	3.43	2.80	1.25	0.25	0.20
LP-USM010	3.43	2.80	1.25	0.25	0.20
LP-USM020	3.43	2.80	1.25	0.25	0.20
LP-USM035	3.43	2.80	0.85	0.25	0.20
LP-USM050	3.43	2.80	0.85	0.25	0.20
LP-USM075	3.43	2.80	1.30	0.25	0.20
LP-USM110	3.43	2.80	1.30	0.25	0.20
LP-USM150	3.43	2.80	1.80	0.25	0.20
LP-USM175	3.43	2.80	1.80	0.25	0.20
LP-USM200	3.43	2.80	1.80	0.25	0.20

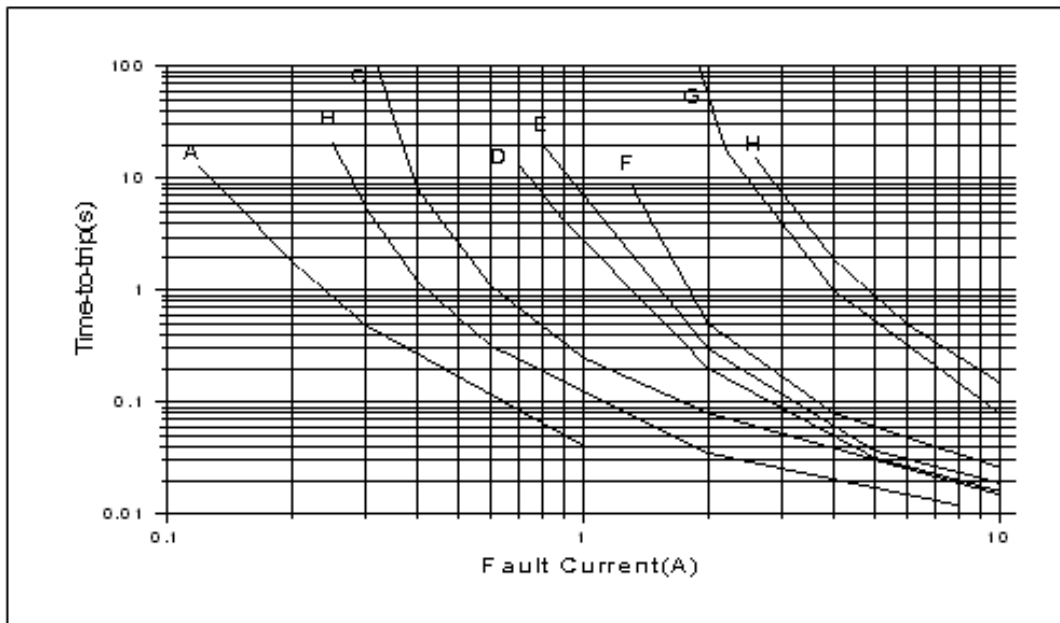


Thermal Derating Chart-IH(A)

Size 3225mm/1210mils

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
LP-USM005	0.09	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02
LP-USM010	0.16	0.14	0.13	0.11	0.10	0.09	0.07	0.07	0.06	0.05
LP-USM020	0.32	0.26	0.24	0.21	0.20	0.16	0.15	0.14	0.11	0.09
LP-USM035	0.52	0.48	0.41	0.38	0.35	0.32	0.27	0.26	0.23	0.17
LP-USM050	0.76	0.65	0.57	0.51	0.50	0.44	0.37	0.35	0.29	0.24
LP-USM075	1.11	1.00	0.87	0.77	0.75	0.66	0.58	0.53	0.46	0.36
LP-USM110	1.64	1.46	1.29	1.13	1.10	0.96	0.85	0.74	0.63	0.53
LP-USM150	2.25	2.02	1.76	1.54	1.50	1.29	1.10	1.00	0.87	0.67
LP-USM175	2.61	2.33	2.03	1.78	1.75	1.51	1.42	1.32	1.11	0.92
LP-USM200	2.89	2.65	2.43	2.04	2.00	1.70	1.52	1.42	1.23	0.97

Typical Time-to-Trip Charts at 25°C



LP-USM Series

- A = USM005
- B = USM010
- C = USM020
- D = USM035
- E = USM050
- F = USM075
- G = USM110
- H = USM150

Electrical Characteristics at 25°C

Size 3225mm/1210 mils

Part number	I_H (A)	I_T (A)	V_{max} (V)	I_{max} (A)	Max.Time-to-trip (A)	Max.Time-to-trip (S)	Pd _{typ} (W)	R_{min} (Ω)	R_{1max} (Ω)
LP-USM005	0.05	0.15	30	10	0.25	1.50	1	3.600	50.00
LP-USM010	0.10	0.30	30	10	0.5	1.50	1	1.600	15.00
LP-USM020	0.20	0.40	30	10	8.0	0.02	1	0.800	5.000
LP-USM035	0.35	0.70	6	40	8.0	0.20	1	0.320	1.300
LP-USM050	0.50	1.00	13.2	40	8.0	0.10	1	0.250	0.900
LP-USM075	0.75	1.50	6	40	8.0	0.10	1	0.130	0.400
LP-USM110	1.10	2.20	6	40	8.0	0.30	1	0.060	0.210
LP-USM150	1.50	3.00	6	40	8.0	0.50	1	0.040	0.110
LP-USM175	1.75	3.50	6	40	8.0	0.80	0.8	0.025	0.080
LP-USM200	2.00	4.00	6	100	8.0	2.50	0.8	0.020	0.060

I_H =Hold current: maximum current at which the device will not trip at 25°C still air.

I_T =Trip current: minimum current at which the device will always trip at 25°C still air.

V_{max} =Maximum voltage device can withstand without damage at rated current.

I_{max} =Maximum fault current device can withstand without damage at rated voltage.

T_{trip} =Maximum time to trip at assigned current.

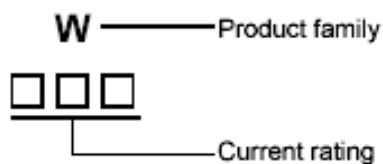
Pd_{typ}=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min} =Minimum device resistance at 25°C prior to tripping.

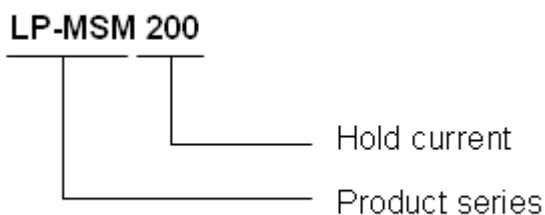
R_{1max} =Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

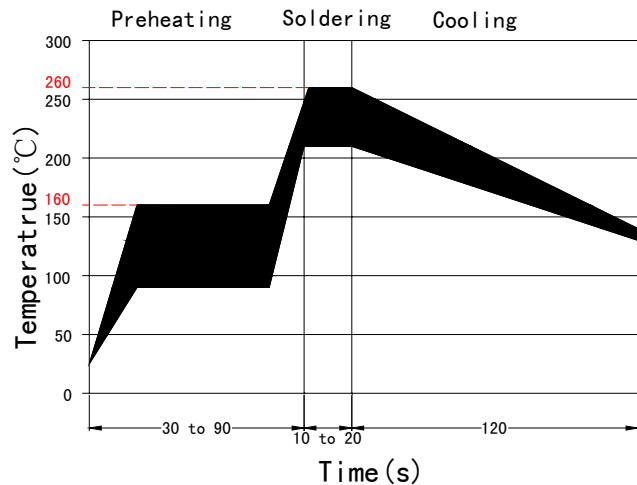
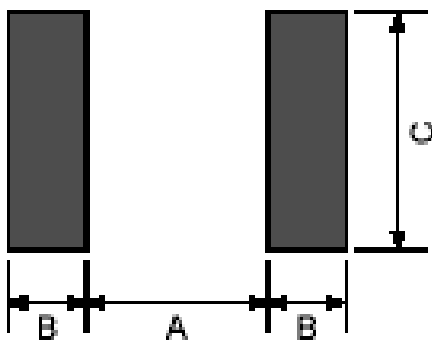
Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25°C	$R_{min} \leq R \leq R_{max}$
Time to Trip	Specified current, V_{max} , 25°C	$T \leq$ maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 24hours	No arcing or burning

Packaging and Marking Information

Size 3225mm/1210 mils

Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
				mm	In.	mm	In.	mm	In.	
LP-USM005	4000	1210A	W0	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM010	4000	1210A	W1	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM020	4000	1210A	W2	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM035	4000	1210A	W3	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM050	4000	1210A	W4	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM075	4000	1210A	W5	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM110	4000	1210A	W6	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM150	3000	1210B	W7	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	UL,CSA,TUV
LP-USM175	3000	1210B	W9	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	Pending
LP-USM200	3000	1210B	W8	2.00	(0.081)	1.00	(0.041)	2.50	(0.101)	Pending

Solder Pad Layouts



* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.

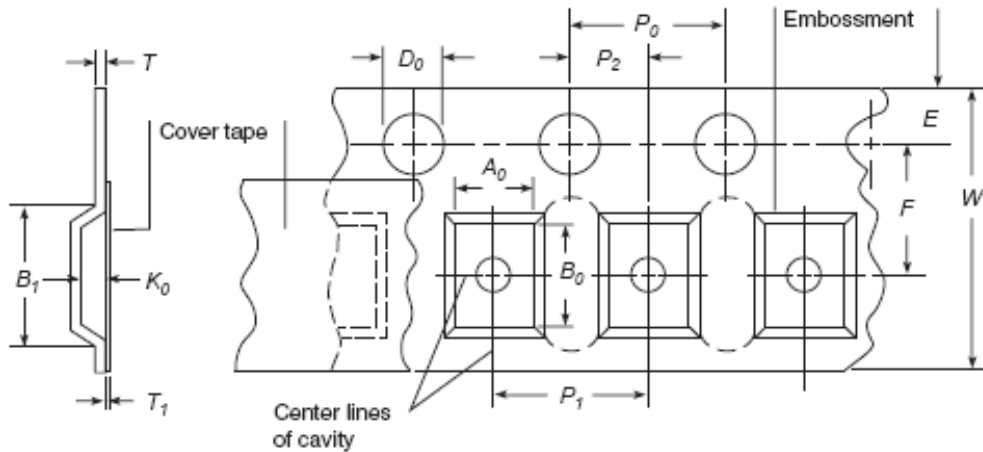
* Devices can be cleaned using standard industry methods and solvents.

Notes:

If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

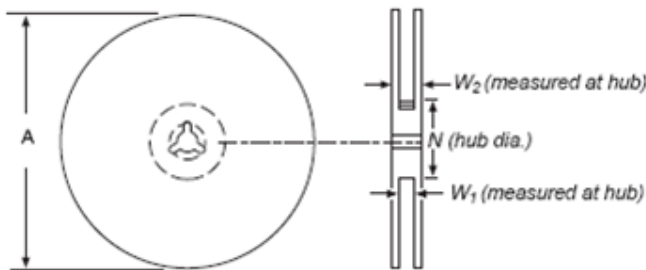
Tape Specification And Reel Dimensions

Tape spc code	W	P0	P1	P2	A		D	F	E	T	K
1210(A)	8.00±0.10	4.00±0.10	4.00±0.10	2.00±0.05	2.82±0.10	3.46±0.10	1.55±0.05	3.50±0.10	1.75±0.10	0.22±0.05	1.00±0.10
1210(B)	8.00±0.10	4.00±0.10	4.00±0.10	2.00±0.05	2.82±0.10	3.46±0.10	1.55±0.05	3.50±0.10	1.75±0.10	0.22±0.05	1.25±0.10



Reel Dimensions

Tape spc code	A	N	W1	W2
1210(A)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0
1210(B)	180+0/-1.5	60+1/-0	9.0+1/-0	13.0+1/-0



Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions, and should not be used when repeated fault conditions are anticipated. Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit protection devices. However, users should independently evaluate and test the suitability of each product. Wayon makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. Wayon's only obligations are those in the Wayon Standard Terms and Conditions of Sale and in no case will Wayon be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. Wayon reserves the right to change or update, without notice, any information contained in this specification.

LP-MSM Series

Surface-mount devices

Features

- ✧ Small size of 1812/4420
- ✧ Fast tripping resettable circuit protection
- ✧ Surface mount packaging for automated assembly
- ✧ Agency recognition: UL、CSA、TUV



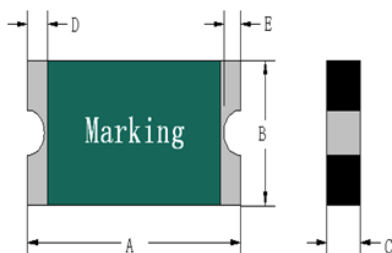
Product Dimensions

Size 4532mm/1812 mils

Part number	A	B	C	D	E
	Max.	Max.	Max.	Min.	Min.
LP-MSM010	4.73	3.41	1.00	0.30	0.30
LP-MSM014	4.73	3.41	1.00	0.30	0.30
LP-MSM020	4.73	3.41	1.00	0.30	0.30
LP-MSM050	4.73	3.41	0.83	0.30	0.30
LP-MSM075	4.73	3.41	0.83	0.30	0.30
LP-MSM110	4.73	3.41	0.83	0.30	0.30
LP-MSM125	4.73	3.41	1.05	0.30	0.30
LP-MSM150	4.73	3.41	1.05	0.30	0.30
LP-MSM160	4.73	3.41	1.05	0.30	0.30
LP-MSM200	4.73	3.41	1.05	0.30	0.30
LP-MSM260	4.73	3.41	1.80	0.30	0.30
LP-MSM050/24	4.73	3.41	1.05	0.30	0.30
LP-MSM075/24	4.73	3.41	1.05	0.30	0.30
LP-MSM110/24	4.73	3.41	1.05	0.30	0.30
LP-MSM125/24	4.73	3.41	1.50	0.30	0.30
LP-MSM150/24	4.73	3.41	1.70	0.30	0.30
LP-MSM160/24	4.73	3.41	1.70	0.30	0.30
LP-MSM200/24	4.73	3.41	2.00	0.30	0.30
LP-MSM260/24	4.73	3.41	2.50	0.30	0.30

Size 11550mm/4420 mils

Part number	A	B	C	D	E
	Max.	Max.	Max.	Min.	Min.
LP-MSM190	12.00	5.33	1.00	0.30	0.30



Thermal Derating Chart-IH(A)

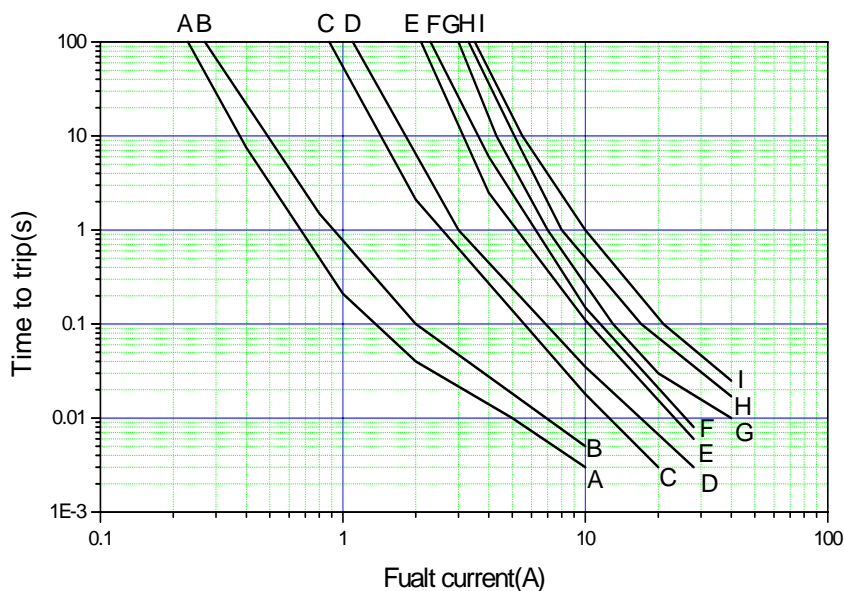
Size 4532mm/1812 mils

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
LP-MSM010	0.17	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.04
LP-MSM014	0.23	0.20	0.18	0.16	0.14	0.12	0.11	0.10	0.07	0.05
LP-MSM020	0.33	0.29	0.26	0.22	0.20	0.17	0.16	0.15	0.13	0.09
LP-MSM050	0.76	0.69	0.61	0.53	0.50	0.45	0.40	0.36	0.33	0.23
LP-MSM075	1.11	1.02	0.89	0.80	0.75	0.65	0.59	0.54	0.47	0.38
LP-MSM110	1.65	1.50	1.32	1.15	1.10	0.99	0.85	0.78	0.68	0.52
LP-MSM125	1.89	1.64	1.41	1.28	1.25	1.09	0.98	0.86	0.74	0.56
LP-MSM150	2.28	2.05	1.85	1.55	1.50	1.26	1.14	1.05	0.92	0.73
LP-MSM160	2.45	2.15	1.89	1.64	1.60	1.34	1.25	1.15	0.96	0.79
LP-MSM200	2.90	2.61	2.40	2.05	2.00	1.70	1.51	1.41	1.21	0.95
LP-MSM260	3.80	3.61	3.12	2.64	2.60	2.28	2.10	1.85	1.61	1.29
LP-MSM050/24	0.78	0.69	0.59	0.52	0.50	0.48	0.41	0.37	0.33	0.23
LP-MSM075/24	1.12	1.02	0.89	0.79	0.75	0.66	0.58	0.53	0.47	0.39
LP-MSM110/24	1.65	1.49	1.29	1.15	1.10	0.95	0.85	0.79	0.66	0.53
LP-MSM125/24	1.89	1.69	1.46	1.29	1.25	1.09	0.95	0.89	0.76	0.59
LP-MSM150/24	2.25	2.04	1.80	1.55	1.50	1.30	1.15	1.03	0.92	0.73
LP-MSM160/24	2.50	2.20	1.89	1.64	1.60	1.40	1.25	1.13	0.99	0.79
LP-MSM200/24	2.91	2.65	2.41	2.08	2.00	1.75	1.65	1.45	1.28	1.05
LP-MSM260/24	3.75	3.45	3.08	2.68	2.60	2.35	2.10	1.84	1.62	1.26

Size 11550mm/4420 mils

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
LP-MSM190	3.15	2.75	2.21	1.92	1.90	1.50	1.25	1.12	0.82	0.37

Typical Time-to-Trip Charts at 25°C



LP-MSM Series

A=LP-MSM010,LP-MSM014

B = LP-MSM020

C=LP-MSM050,LP-MSM050/24

D = LP-MSM075,LP-MSM075/24

E = LP-MSM110,LP-MSM110/24,
LP-MSM125,LP-MSM125/24

F = LP-MSM150,LP-MSM150/24,
LP-MSM160,LP-MSM160/24

G = LP-MSM200,LP-MSM200/24

H = LP-MSM190

I= LP-MSM260,LP-MSM260/24

Electrical Characteristics at 25°C

Size 4532mm/1812 mils

Part number	I_H	I_T	V_{max}	I_{max}	Max.Time-to-trip		P_{dtyp}	R_{min}	R_{1max}
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)
LP-MSM010	0.10	0.20	60	10	1.5	0.15	1	0.700	6.000
LP-MSM014	0.14	0.34	60	10	1.5	0.15	1	0.700	6.000
LP-MSM020	0.20	0.40	30	10	6.0	0.02	1	0.600	5.000
LP-MSM050	0.50	1.00	15	40	8.0	0.15	1	0.150	1.000
LP-MSM075	0.75	1.50	13.2	40	8.0	0.20	1	0.100	0.480
LP-MSM110	1.10	2.20	6	40	8.0	0.30	1	0.040	0.260
LP-MSM125	1.25	2.50	6	40	8.0	0.40	1	0.070	0.250
LP-MSM150	1.50	3.00	6	40	8.0	0.50	1	0.040	0.110
LP-MSM160	1.60	3.20	6	40	8.0	1.00	1	0.030	0.100
LP-MSM200	2.00	3.50	6	40	8.0	2.00	1	0.020	0.075
LP-MSM260	2.60	5.20	6	40	8.0	2.50	1	0.015	0.047
LP-MSM050/24	0.50	1.00	24	40	8.0	0.15	1	0.150	1.000
LP-MSM075/24	0.75	1.50	24	40	8.0	0.20	1	0.100	0.480
LP-MSM110/24	1.10	2.20	24	40	8.0	0.30	1	0.040	0.260
LP-MSM125/24	1.25	2.50	24	40	8.0	0.40	1	0.070	0.250
LP-MSM150/24	1.50	3.00	24	40	8.0	0.50	1	0.040	0.110
LP-MSM160/24	1.60	3.20	24	40	8.0	1.00	1	0.030	0.100
LP-MSM200/24	2.00	3.50	24	40	8.0	2.00	1	0.020	0.075
LP-MSM260/24	2.60	5.20	24	40	8.0	2.50	1	0.015	0.047

Size 11550mm/4420 mils

Part number	I_H	I_T	V_{max}	I_{max}	Max.Time-to-trip		P_{dtyp}	R_{min}	R_{1max}
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)
LP-MSM190	1.90	3.80	16	100	10.0	2.00	1.5	0.024	0.080

I_H =Hold current: maximum current at which the device will not trip at 25°C still air.

I_T =Trip current: minimum current at which the device will always trip at 25°C still air.

V_{max} =Maximum voltage device can withstand without damage at rated current.

I_{max} =Maximum fault current device can withstand without damage at rated voltage.

T_{trip} =Maximum time to trip at assigned current.

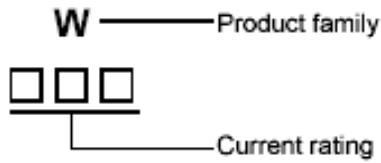
P_{dtyp} =Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min} =Minimum device resistance at 25°C prior to tripping.

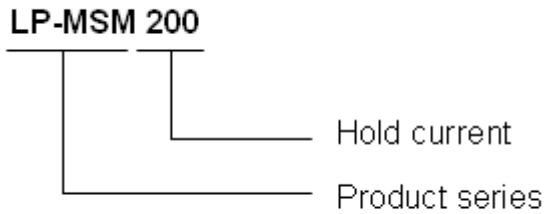
R_{1max} =Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25°C	$R_{min} \leq R \leq R_{max}$
Time to Trip	Specified current, V_{max} , 25°C	$T \leq$ maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 24hours	No arcing or burning

Packaging and Marking Information

Size 4532mm/1812 mils

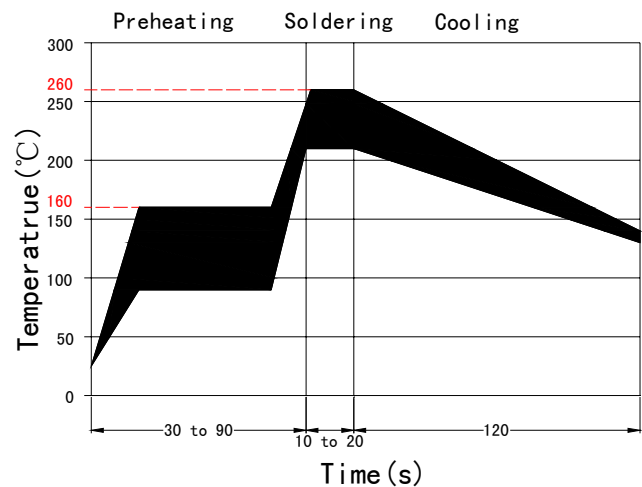
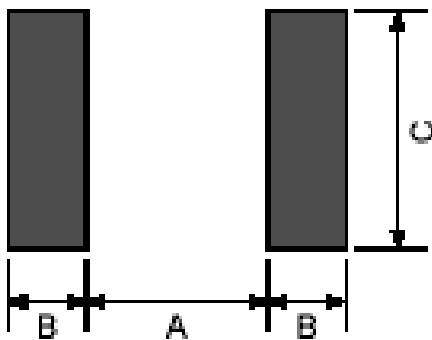
Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-MSM010	2000	1812A	W010	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM014	2000	1812A	W014	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM020	2000	1812A	W020	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM050	2000	1812A	W050	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM075	2000	1812A	W075	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM110	2000	1812A	W110	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM125	2000	1812A	W125	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM150	2000	1812A	W150	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM160	2000	1812A	W160	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM200	2000	1812A	W200	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV

LP-MSM260	1000	1812B	W260	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	UL,CSA,TUV
LP-MSM050/24	2000	1812A	W050	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM075/24	2000	1812A	W075	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM110/24	2000	1812A	W110	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM125/24	2000	1812A	W125	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM150/24	1000	1812B	W150	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM160/24	1000	1812B	W160	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM200/24	1000	1812B	W200	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV
LP-MSM260/24	1000	1812B	W260	3.45	(0.141)	1.78	(0.071)	3.15	(0.121)	TUV

Size 11550mm/4420 mils

Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-MSM190	4000	4420A	W190	9.57	(0.381)	1.45	(0.061)	4.75	(0.191)	UL,CSA,TUV

Solder Pad Layouts



* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.

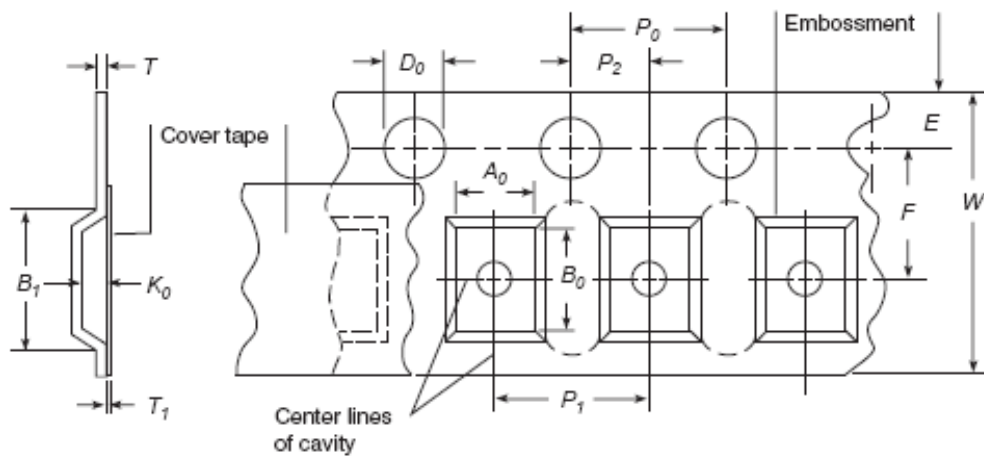
* Devices can be cleaned using standard industry methods and solvents.

Notes:

If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

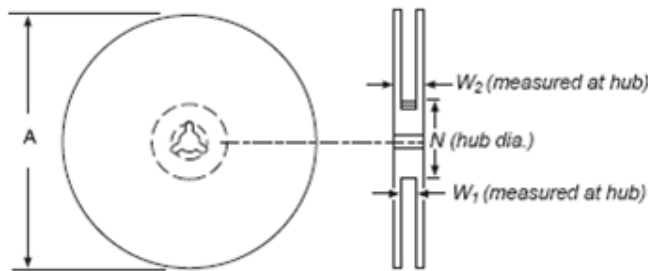
Tape Specification And Reel Dimensions

Tape spc code	W	P0	P1	P2	A	B	D	F	E	T	K
1812(A)	12.0 ± 0.30	4.00 ± 0.10	8.00 ± 0.10	2.00 ± 0.05	3.55 ± 0.10	4.90 ± 0.10	1.55 ± 0.05	5.50 ± 0.10	1.75 ± 0.10	0.25 ± 0.05	0.80 ± 0.10
1812(B)	12.0 ± 0.30	4.00 ± 0.10	8.00 ± 0.10	2.00 ± 0.05	3.55 ± 0.10	4.90 ± 0.10	1.55 ± 0.05	5.50 ± 0.10	1.75 ± 0.10	0.25 ± 0.05	1.25 ± 0.10
4420 (A)	16.0 ± 0.30	4.00 ± 0.10	8.00 ± 0.10	2.00 ± 0.05	5.65 ± 0.10	8.05 ± 0.10	1.55 ± 0.05	7.50 ± 0.10	1.75 ± 0.10	0.30 ± 0.05	1.45 ± 0.10



Reel Dimensions

Tape spc code	A	N	W1	W2
1812(A)	180+0/-1.5	60+1/-0	13.0+1/-0	15.4+1/-0
1812(B)	180+0/-1.5	60+1/-0	13.0+1/-0	15.4+1/-0
4420(A)	330+0/-1.5	100+1/-0	16.4+1/-0	24.2+1/-0



Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions, and should not be used when repeated fault conditions are anticipated. Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit production devices. However, users should independently evaluate and test the suitability of each product. Wayon makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. Wayon's only obligations are those in the Wayon Standard Terms and Conditions of Sale and in no case will Wayon be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. Wayon reserves the right to change or update, without notice, any information contained in this specification.

LP-SM Series

Surface-mount devices

Features

- ◇ Small size of 2920/3425
- ◇ Fast tripping resettable circuit protection
- ◇ Surface mount packaging for automated assembly
- ◇ Agency recognition: UL、CSA、TUV

◇



Product Dimensions

Size 7555mm/2920 mils

Part number	Dimension					Figures for Dimension
	A Max.	B Max.	C Max.	D Min.	E Min.	
LP-SM030	7.98	3.18	5.44	0.50		S3
LP-SM050	7.98	3.18	5.44	0.50		S3
LP-SM075	7.98	3.18	5.44	0.50		S3
LP-SM110	7.98	3.18	5.44	0.50		S3
LP-SM125	7.98	3.18	5.44	0.50		S3
LP-SM260	7.98	3.18	5.44	0.50		S3
LP-SM300	7.98	3.18	5.44	0.50		S3
LP-SM030C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM050C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM075C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM110C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM125C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM130C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM150C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM185C	7.98	5.44	1.25	0.30	0.30	S2
LP-SM200C	7.98	5.44	1.50	0.30	0.30	S2
LP-SM250C	7.98	5.44	1.50	0.30	0.30	S2
LP-SM260C	7.98	5.44	1.50	0.30	0.30	S2
LP-SM300C	7.98	5.44	1.50	0.30	0.30	S2
LP-SM300C/24	7.98	5.44	1.50	0.30	0.30	S2
LP-SM400C	7.98	5.44	2.00	0.30	0.30	S2

Size 8763mm/3425 mils

Part number	Dimension					Figures for Dimension
	A Max.	B Max.	C Max.	D Min.	E Min.	
LP-SM130	9.50	3.00	6.71	0.50		S3
LP-SM150	9.50	3.00	6.71	0.50		S3
LP-SM185	9.50	3.00	6.71	0.50		S3
LP-SM200	9.50	3.00	6.71	0.50		S3
LP-SM250	9.50	3.00	6.71	0.50		S3

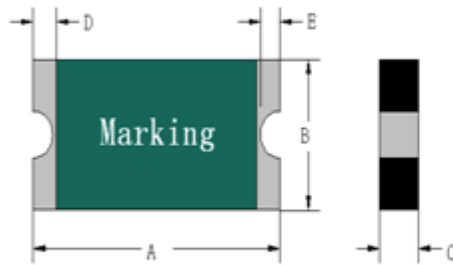


Figure S2

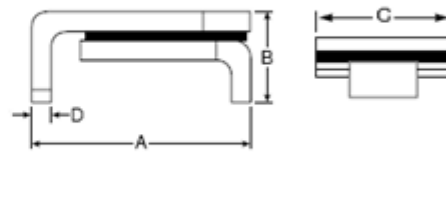


Figure S3

Thermal Derating Chart-IH(A)

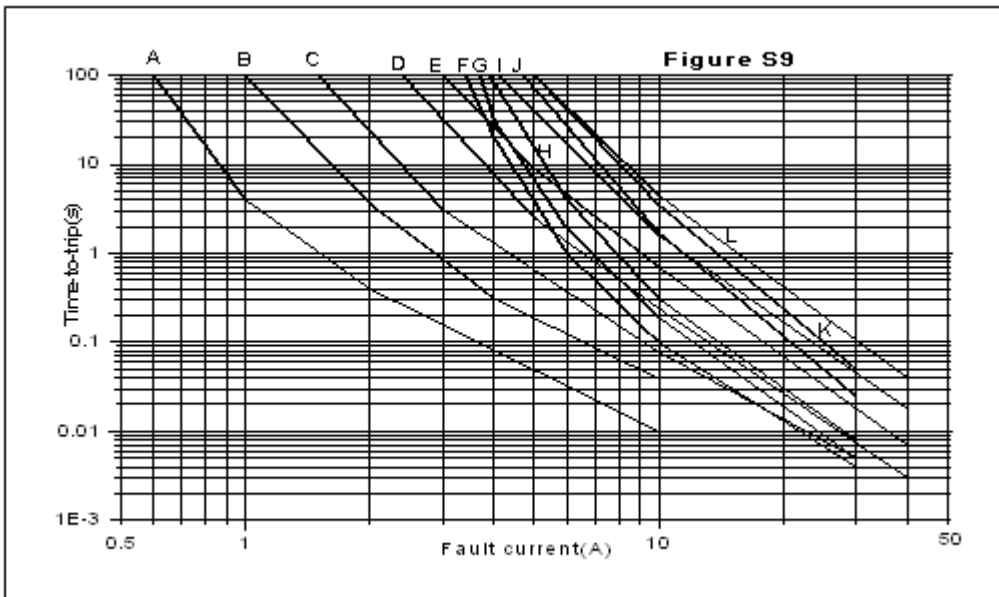
Size 7555mm/2920 mils

Part number	Maximum Ambient Temperature									
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C
LP-SM030	0.48	0.41	0.35	0.32	0.30	0.25	0.23	0.19	0.15	0.10
LP-SM050	0.80	0.71	0.59	0.52	0.50	0.44	0.38	0.32	0.26	0.19
LP-SM075	1.21	1.05	0.89	0.78	0.75	0.64	0.56	0.49	0.41	0.28
LP-SM110	1.75	1.54	1.32	1.15	1.10	0.96	0.83	0.73	0.61	0.42
LP-SM125	1.99	1.75	1.51	1.30	1.25	1.07	0.94	0.83	0.69	0.46
LP-SM260	4.12	3.62	3.18	2.64	2.60	2.23	1.91	1.75	1.45	1.02
LP-SM300	4.74	4.21	3.63	3.05	3.00	2.59	2.25	2.02	1.65	1.18
LP-SM030C	0.47	0.43	0.38	0.31	0.30	0.24	0.21	0.18	0.16	0.11
LP-SM050C	0.81	0.73	0.63	0.52	0.50	0.44	0.36	0.33	0.26	0.21
LP-SM075C	1.21	1.08	0.93	0.79	0.75	0.64	0.54	0.49	0.41	0.30
LP-SM110C	1.76	1.57	1.36	1.15	1.10	0.96	0.80	0.72	0.61	0.43
LP-SM125C	2.01	1.78	1.54	1.30	1.25	1.09	0.91	0.82	0.69	0.49
LP-SM130C	2.06	1.81	1.59	1.35	1.30	1.13	0.93	0.86	0.72	0.51
LP-SM150C	2.40	2.09	1.81	1.52	1.50	1.33	1.06	1.01	0.83	0.59
LP-SM185C	2.95	2.58	2.28	1.87	1.85	1.64	1.34	1.24	1.03	0.72
LP-SM200C	3.18	2.80	2.45	2.03	2.00	1.76	1.45	1.32	1.11	0.79
LP-SM250C	3.98	3.51	3.06	2.53	2.50	2.19	1.82	1.68	1.40	0.95
LP-SM260C	4.15	3.65	3.18	2.64	2.60	2.24	1.91	1.77	1.46	1.01
LP-SM300C	4.76	4.21	3.66	3.05	3.00	2.61	2.21	2.05	1.69	1.17
LP-SM300C/24	4.76	4.21	3.66	3.05	3.00	2.61	2.21	2.05	1.69	1.17
LP-SM400C	6.35	5.63	4.86	4.05	4.00	3.46	2.95	2.72	2.24	1.53

Size 8763mm/3425mils

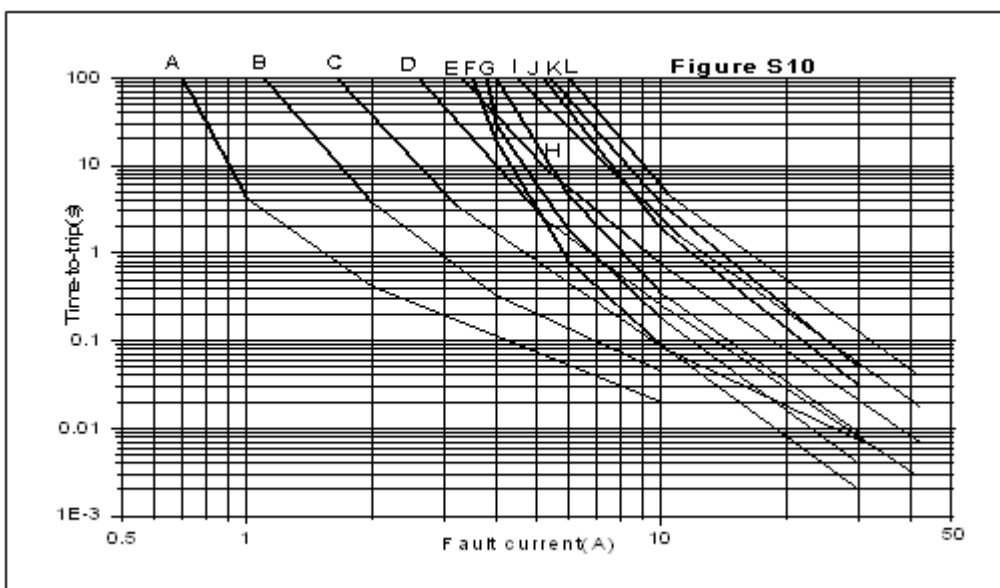
Part number	Maximum Ambient Temperature									
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C
LP-SM130	2.05	1.84	1.59	1.32	1.30	1.12	0.94	0.87	0.73	0.49
LP-SM150	2.42	2.10	1.81	1.52	1.50	1.30	1.11	1.01	0.85	0.57
LP-SM185	2.96	2.62	2.26	1.88	1.85	1.59	1.36	1.26	1.03	0.69
LP-SM200	3.19	2.84	2.45	2.06	2.00	1.75	1.46	1.36	1.12	0.76
LP-SM250	3.99	3.54	3.06	2.56	2.50	2.18	1.85	1.71	1.41	0.94

Typical Time-to-Trip Charts at 25°C



LP-SM Series

- A = LP-SM030
- B = LP-SM050
- C = LP-SM075
- D = LP-SM110
- E = LP-SM125
- J = LP-SM260
- L = LP-SM300
- F = LP-SM130
- G = LP-SM150
- H = LP-SM185
- I = LP-SM200



LP-SM Series

- A = LP-SM030C
- B = LP-SM050C
- C = LP-SM075C
- D = LP-SM110C
- E = LP-SM125C
- J = LP-SM260C
- L = LP-SM300C, LP-SM300C/24
- F = LP-SM130C
- G = LP-SM150C
- H = LP-SM185C
- I = LP-SM200C
- K = LP-SM250C
- K = LP-SM250

Electrical Characteristics at 25°C

Size 7555mm/2920 mils

Part number	I _H	I _T	V _{max}	I _{max}	Max. Time-to-trip		Pd _{typ}	R _{min}	R _{1max}	Figures for Dimension
					(A)	(S)				
LP-SM030	0.30	0.60	60	10	1.5	3.00	1.9	0.700	4.800	S3
LP-SM050	0.50	1.00	60	10	2.5	4.00	1.9	0.350	1.400	S3
LP-SM075	0.75	1.50	60	40	8.0	0.30	1.9	0.290	1.000	S3
LP-SM110	1.10	2.20	33	40	8.0	0.50	1.9	0.100	0.480	S3
LP-SM125	1.25	2.50	24	40	8.0	2.00	1.6	0.070	0.250	S3
LP-SM260	2.60	5.20	6	40	8.0	20.00	1.9	0.025	0.075	S3
LP-SM300	3.00	6.00	6	40	8.0	35.00	1.9	0.015	0.048	S3
LP-SM030C	0.30	0.60	60	10	1.5	3.00	1.9	0.700	4.800	S2
LP-SM050C	0.50	1.00	60	10	2.5	4.00	1.9	0.350	1.400	S2
LP-SM075C	0.75	1.50	60	40	8.0	0.30	1.9	0.290	1.000	S2
LP-SM110C	1.10	2.20	33	40	8.0	0.50	1.9	0.100	0.480	S2
LP-SM125C	1.25	2.50	24	40	8.0	2.00	1.6	0.070	0.250	S2
LP-SM130C	1.30	2.60	33	40	8.0	4.00	2.1	0.080	0.280	S2
LP-SM150C	1.50	3.00	33	40	8.0	5.00	2.1	0.060	0.250	S2
LP-SM185C	1.85	3.70	33	40	8.0	5.00	2.1	0.045	0.165	S2
LP-SM200C	2.00	4.00	15	40	8.0	12.00	2.1	0.045	0.125	S2
LP-SM250C	2.50	5.00	15	40	8.0	25.00	1.9	0.025	0.085	S2
LP-SM260C	2.60	5.20	6	40	8.0	20.00	1.9	0.025	0.075	S2
LP-SM300C	3.00	6.00	6	40	8.0	35.00	1.9	0.015	0.048	S2
LP-SM300C/24	3.00	6.00	24	40	8.0	35.00	1.9	0.015	0.048	S2
LP-SM400C	4.00	8.00	16	40	8.0	40.00	1.9	0.013	0.040	S2

Size 8763mm/3425 mils

Part number	I _H	I _T	V _{max}	I _{max}	Max. Time-to-trip		Pd _{typ}	R _{min}	R _{1max}	Figures for Dimension
					(A)	(S)				
LP-SM130	1.30	2.60	33	40	8.0	4.00	2.1	0.080	0.280	S3
LP-SM150	1.50	3.00	33	40	8.0	5.00	2.1	0.060	0.250	S3
LP-SM185	1.85	3.70	33	40	8.0	5.00	2.1	0.045	0.165	S3
LP-SM200	2.00	4.00	15	40	8.0	12.00	2.1	0.045	0.125	S3
LP-SM250	2.50	5.00	15	40	8.0	25.00	1.9	0.025	0.085	S3

I_H=Hold current: maximum current at which the device will not trip at 25°C still air.

I_T=Trip current: minimum current at which the device will always trip at 25°C still air.

V_{max}=Maximum voltage device can withstand without damage at rated current.

I_{max}=Maximum fault current device can withstand without damage at rated voltage.

T_{trip}=Maximum time to trip at assigned current.

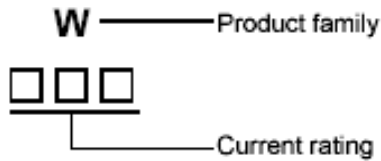
Pd_{typ}=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min}=Minimum device resistance at 25°C prior to tripping.

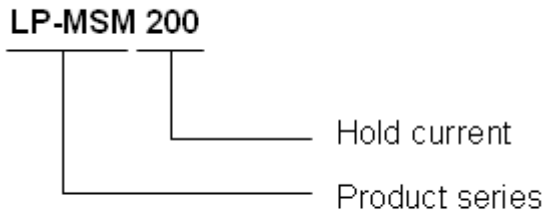
R_{1max}=Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25°C	$R_{min} \leq R \leq R_{max}$
Time to Trip	Specified current, V_{max} , 25°C	$T \leq$ maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max} , I_{max} , 100cycles	No arcing or burning
Trip Endurance	V_{max} , 24hours	No arcing or burning

Packaging and Marking Information

Size 7555mm/2920 mils

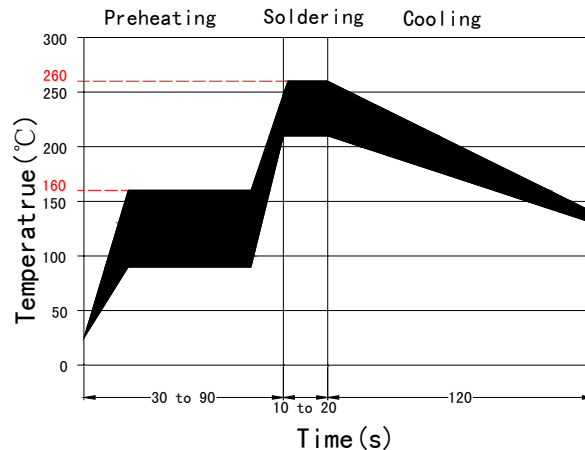
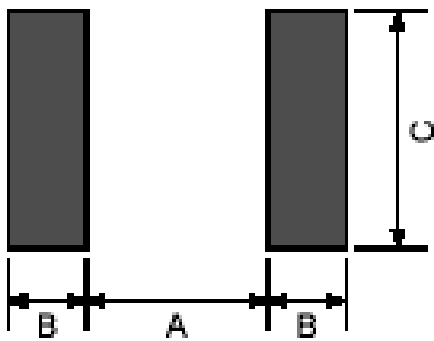
Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-SM030	2000	2920A	⊗ 030	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM050	2000	2920A	⊗ 050	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM075	2000	2920A	⊗ 075	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM110	2000	2920A	⊗ 110	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM125	2000	2920A	⊗ 125	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM260	2000	2920A	⊗ 260	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM300	2000	2920A	⊗ 300	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	TUV
LP-SM030C	2000	2920B	SM030	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM050C	2000	2920B	SM050	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV

LP-SM075C	2000	2920B	SM075	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM110C	2000	2920B	SM110	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM125C	2000	2920B	SM125	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM130C	2000	2920B	SM130	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM150C	2000	2920B	SM150	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM185C	2000	2920B	SM185	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM200C	2000	2920B	SM200	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM250C	2000	2920B	SM250	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM260C	2000	2920B	SM260	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM300C	2000	2920B	SM300	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	TUV
LP-SM300C/24	2000	2920B	SM300	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	Pending
LP-SM400C	2000	2920B	SM400	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	Pending

Size 8763mm/3425 mils

Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-SM130	1500	3425A	⊗130	6.10	(0.181)	2.30	(0.091)	4.60	(0.421)	UL,CSA,TUV
LP-SM150	1500	3425A	⊗150	6.10	(0.181)	2.30	(0.091)	4.60	(0.421)	UL,CSA,TUV
LP-SM185	1500	3425A	⊗185	6.10	(0.181)	2.30	(0.091)	4.60	(0.421)	UL,CSA,TUV
LP-SM200	1500	3425A	⊗200	6.10	(0.181)	2.30	(0.091)	4.60	(0.421)	UL,CSA,TUV
LP-SM250	1500	3425A	⊗250	6.10	(0.181)	2.30	(0.091)	4.60	(0.421)	UL,CSA,TUV

Solder Pad Layouts



* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.

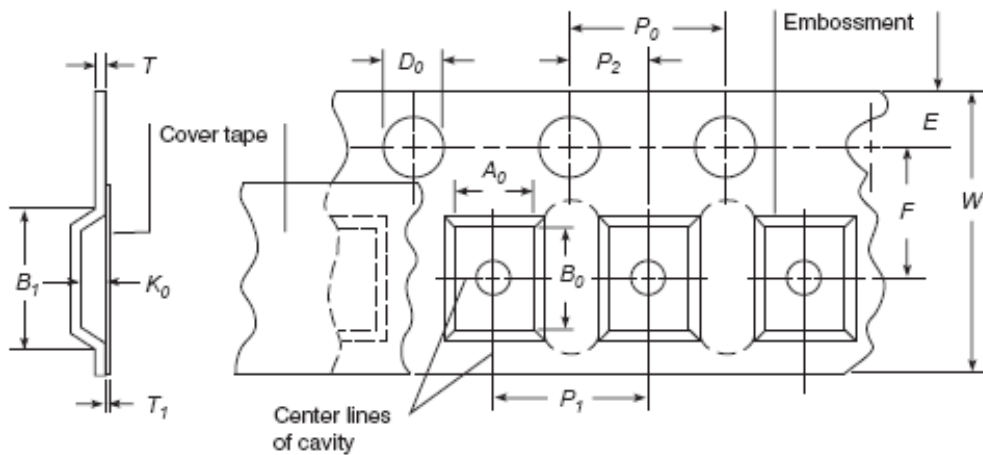
* Devices can be cleaned using standard industry methods and solvents.

Notes:

If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

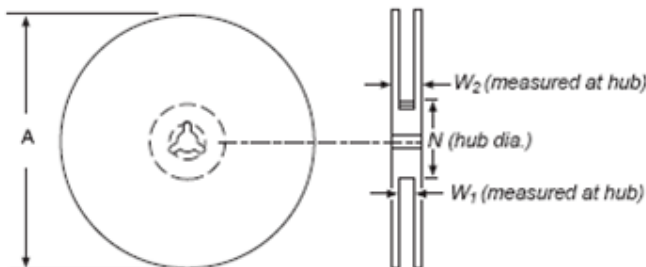
Tape Specification And Reel Dimensions

Tape spc code	W	P0	P1	P2	A	B	D	F	E	T	K
2920(A)	16.0±0.10	4.00±0.10	8.00±0.10	2.00±0.10	5.60±0.10	8.10±0.10	1.55±0.05	7.50±0.10	1.75±0.10	0.30±0.05	3.40±0.10
2920(B)	16.0±0.10	4.00±0.10	8.00±0.10	2.00±0.10	5.60±0.10	8.10±0.10	1.55±0.05	7.50±0.10	1.75±0.10	0.30±0.05	1.50±0.10
3425(A)	16.15±0.15	4.00±0.10	12.0±0.10	2.00±0.10	6.90±0.10	9.40±0.10	1.55±0.05	7.50±0.10	1.75±0.10	0.30±0.05	3.40±0.10



Reel Dimensions

Tape spc code	A	N	W1	W2
2920(A)	330+0/-1.5	100+1/-0	16.4+1/-0	24.2+1/-0
2920(B)	330+0/-1.5	100+1/-0	16.4+1/-0	24.2+1/-0
3425(A)	330+0/-1.5	100+1/-0	16.4+1/-0	24.2+1/-0



Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions, and should not be used when repeated fault conditions are anticipated. Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit protection devices. However, users should independently evaluate and test the suitability of each product. Wayon makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. Wayon's only obligations are those in the Wayon Standard Terms and Conditions of Sale and in no case will Wayon be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. Wayon reserves the right to change or update, without notice, any information contained in this specification.