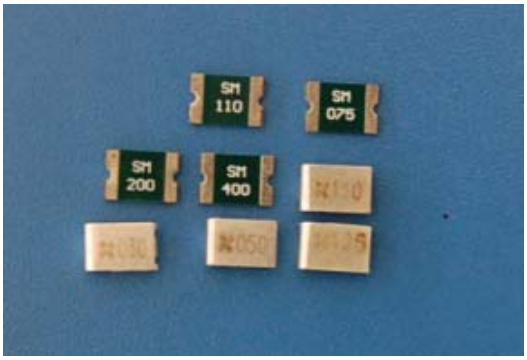
LP-SM *Series* ***Surface-mount devices***

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					
	A	B	C	D	E	Figures for
	Max.	Max.	Max.	Min.	Min.	Dimension
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					
	A	B	C	D	E	Figures for
	Max.	Max.	Max.	Min.	Min.	Dimension
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

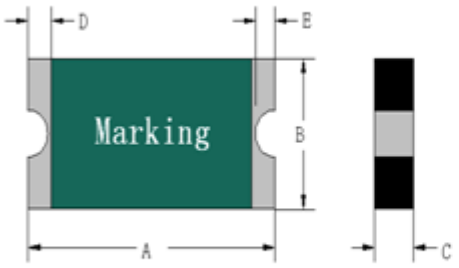


Figure S2

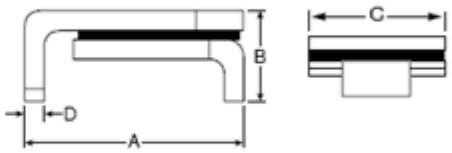


Figure S3

Thermal Derating Chart-IH(A)

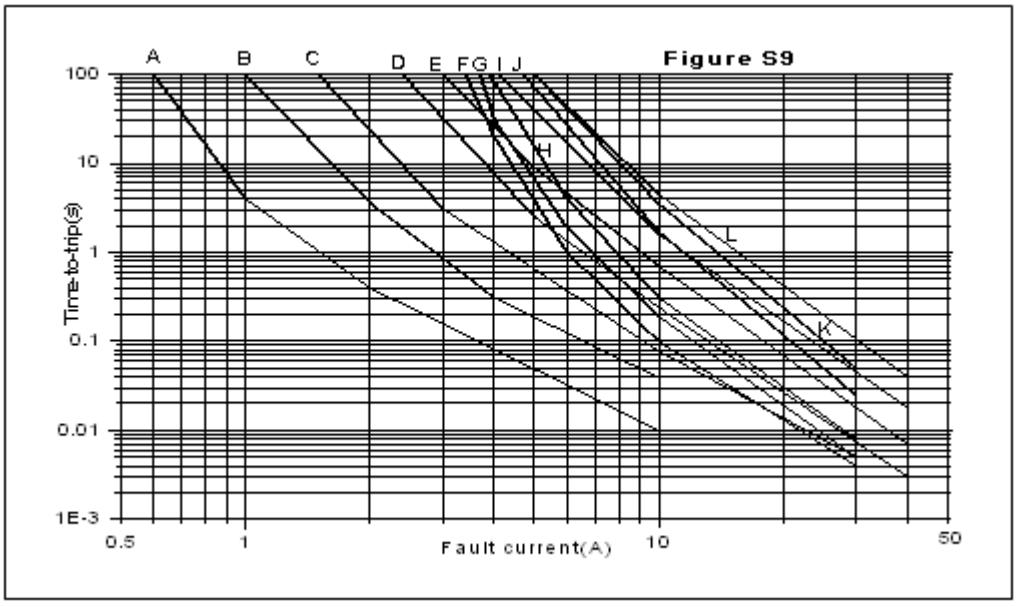
Size 7555mm/2920 mils

Part number	Maximum Ambient Temperature									
	-40℃	-20℃	0℃	20℃	25℃	40℃	50℃	60℃	70℃	85℃
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

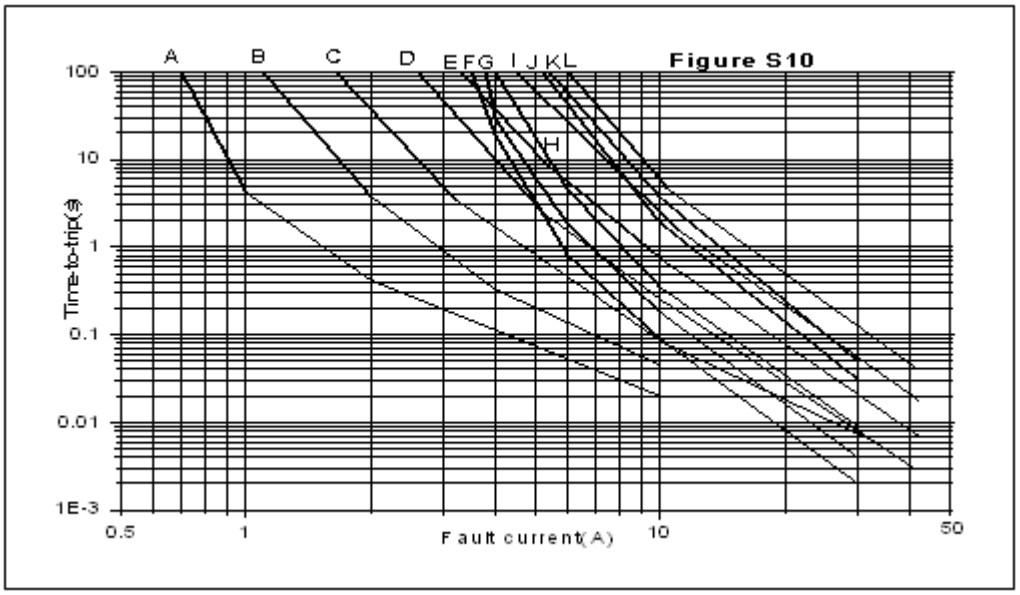
Part number	Maximum Ambient Temperature									
	-40℃	-20℃	0℃	20℃	25℃	40℃	50℃	60℃	70℃	85℃
LP-SM130	2.05	1.84	1.59	1.32	1.30	1.12	0.94	0.87	0.73	0.49
LP-SM150	2.42	2.10	1.81	1.52	1.50	1.30	1.11	1.01	0.85	0.57
LP-SM185	2.96	2.62	2.26	1.88	1.85	1.59	1.36	1.26	1.03	0.69
LP-SM200	3.19	2.84	2.45	2.06	2.00	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℃



LP-SMSeries

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℃

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
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)	Dimension
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
	(A)	(A)	(V)	(A)	(A)	(S)	(W)	(Ω)	(Ω)	Dimension
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℃ still air.

I_T=Trip current: minimum current at which the device will always trip at 25℃ 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.

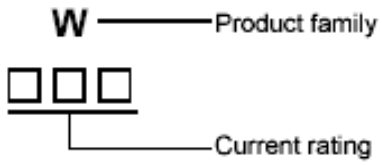
Pd_{typ}=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

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

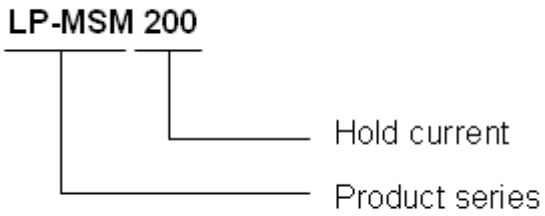
R_{1max}=Maximum device resistance measured in the nontripped state 1 hour post reflow.

Marking System

Part Marking System



Part Numbering System



Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25℃	$R_{min} \leqslant R \leqslant R_{max}$
Time to Trip	Specified current, V_{max}, 25℃	T≤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

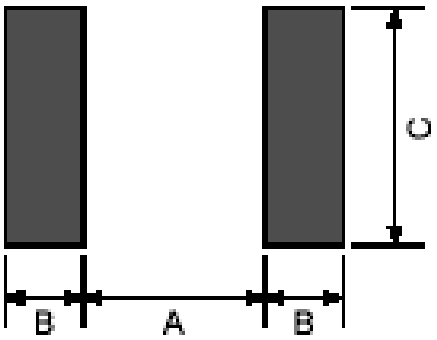
Part number	Tape & Reel Quantity	Tape spc code	Part Marking	Recommended Pad Layout Figures[mm(In.)]						Agency Recognition
				Dimension A(Nom.)		Dimension B(Nom.)		Dimension C(Nom.)		
LP-SM030	2000	2920A	※ 030	5.10	(0.121)	2.30	(0.091)	3.10	(0.381)	UL,CSA,TUV
LP-SM050	2000	2920A	※ 050	5.10	(0.121)	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

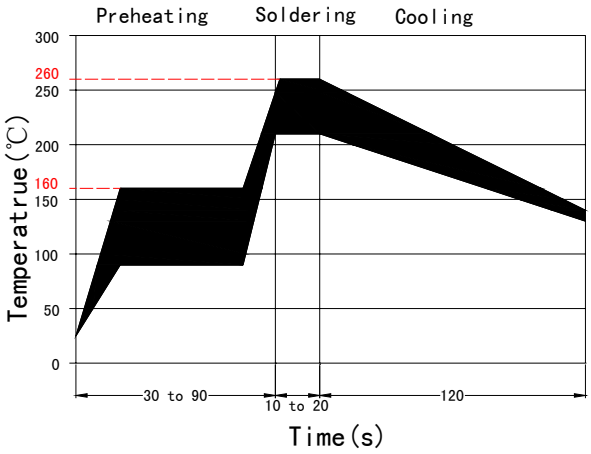
LP-SM075C	2000	2920B	SM075	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM110C	2000	2920B	SM110	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM125C	2000	2920B	SM125	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
LP-SM130C	2000	2920B	SM130	4.60	(0.211)	2.00	(0.081)	5.30	(0.341)	UL,CSA,TUV
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.

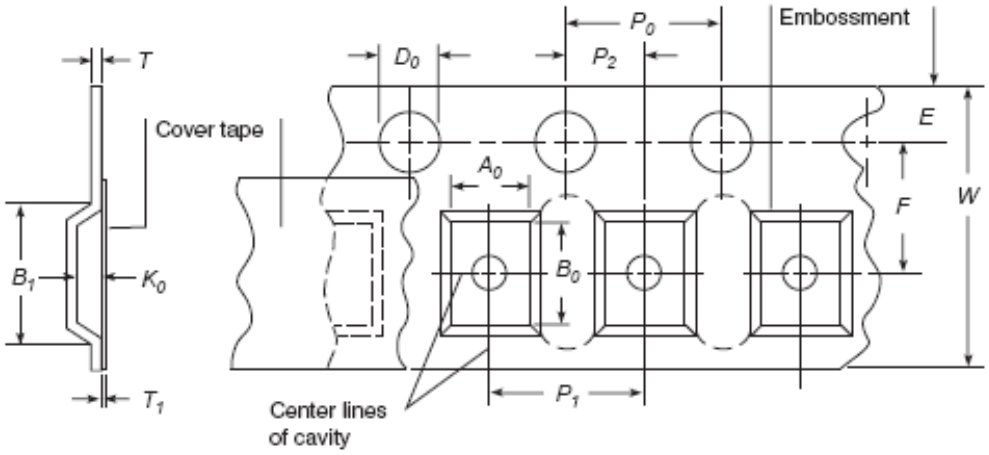
Notes:

If reflow temperatures exceed the recommended profile,

devices may not meet the performance requirements.

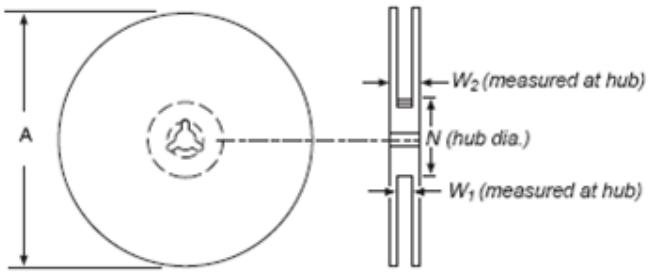
Tape Specification And Reel Dimensions

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℃. Storage temperatures higher than 40℃ 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.