

SMD2920 Series

SMD2920 Polymer PPTC

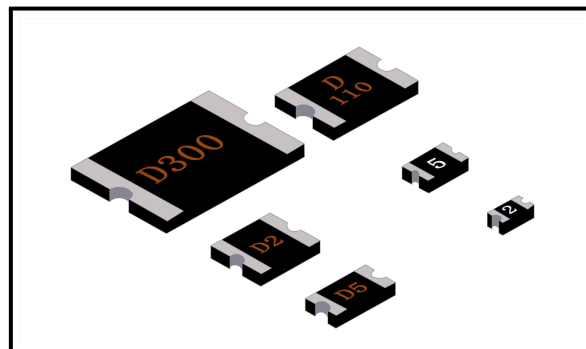
Features

- RoHS compliant and lead-free
- Halogen-free
- Fast reponse to fault current
- Symmetrical design

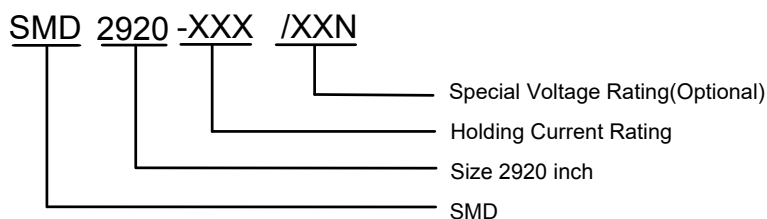
Applications

- Li-ion/Li-Polymer battery packs
- PDA'S / digital cameras
- Computer peripherals
- PC motherboards-plug and play protection

Package



Part Numbering



Environmental Specifications

Operating Temperature	-40°C to +85°C
Maximum Device Surface Temperature in Tripped State	125°C
Passive Aging	+85°C, 1000 hours; ±5% typical resistance change
Humidity Aging	+85°C, 85% R.H.1000 hours; ±5% typical resistance change
Thermal Shock	MIL-STD-202, Method 107; +85°C to -40°C, 20 times; -30% typical resistance change
Solvent Resistance	MIL-STD-202, Method 215; No change
Vibration	MIL-STD-883, Method 2007, Condition A; No change
Moisture Sensivity Level	Level 1, J-STD-020
Storage Conditions	+40°C Max.70% RH Max. Packed in original packaging.



SMD2920 Series

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Electrical Characteristics

Part Number	Marking	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{dtyp.}$	Maximum Time To Trip		$R0min$	$R1max$
		(A)	(A)	(V _{dc})	(A)	(W)	Current(A)	Time(Sec.)	(ohm)	(ohm)
SMD2920-030/60N	D030	0.30	0.60	60.00	10.00	1.50	1.50	3.00	0.60	4.30
SMD2920-030/72N	D030	0.30	0.60	72.00	10.00	1.50	1.50	3.00	0.60	4.30
SMD2920-030/90N	D030	0.30	0.60	90.00	10.00	1.50	1.50	3.00	0.60	4.30
SMD2920-035/72N	D035	0.35	0.70	72.00	10.00	2.50	2.50	5.00	0.45	4.00
SMD2920-035/90N	D035	0.35	0.70	90.00	10.00	2.50	2.50	5.00	0.45	4.00
SMD2920-050/60N	D050	0.50	1.00	60.00	10.00	1.50	2.50	4.00	0.20	1.40
SMD2920-050/72N	D050	0.50	1.00	72.00	10.00	1.50	2.50	4.00	0.20	1.40
SMD2920-075/33N	D075	0.75	1.50	33.00	40.00	1.50	8.00	0.30	0.10	1.00
SMD2920-075/60N	D075/60	0.75	1.50	60.00	10.00	1.50	8.00	0.30	0.10	1.00
SMD2920-075/72N	D075/72	0.75	1.50	72.00	10.00	1.50	8.00	0.30	0.10	1.00
SMD2920-100/33N	D100	1.00	2.00	33.00	40.00	1.50	8.00	0.50	0.065	0.410
SMD2920-100/60N	D100/60	1.00	2.00	60.00	10.00	1.50	8.00	0.50	0.065	0.410
SMD2920-100/72N	D100/72	1.00	2.00	72.00	10.00	1.50	8.00	0.50	0.065	0.410
SMD2920-110/33N	D110	1.10	2.20	33.00	10.00	1.50	8.00	1.00	0.060	0.390
SMD2920-110/60N	D110/60	1.10	2.20	60.00	10.00	1.50	8.00	1.00	0.060	0.390
SMD2920-110/72N	D110/72	1.10	2.20	72.00	10.00	1.50	8.00	1.00	0.060	0.390
SMD2920-125/33N	D125	1.25	2.50	33.00	40.00	1.50	8.00	2.00	0.050	0.250
SMD2920-150/33N	D150	1.50	3.00	33.00	40.00	1.50	8.00	2.00	0.035	0.230
SMD2920-150/60N	D150/60	1.50	3.00	60.00	40.00	1.50	8.00	2.00	0.035	0.230
SMD2920-160/33N	D160/33	1.60	3.30	33.00	40.00	1.50	8.00	2.50	0.032	0.210
SMD2920-160/60N	D160	1.60	3.30	60.00	40.00	1.50	8.00	2.50	0.032	0.210
SMD2920-185/33N	D185	1.85	3.70	33.00	40.00	1.50	8.00	2.50	0.030	0.150
SMD2920-185/48N	D185/48	1.85	3.70	48.00	40.00	1.50	8.00	2.50	0.030	0.150
SMD2920-200/24N	D200	2.00	4.00	24.00	40.00	1.50	8.00	5.00	0.020	0.125
SMD2920-200/33N	D200	2.00	4.00	33.00	40.00	1.50	8.00	5.00	0.020	0.125
SMD2920-200/48N	D200/48	2.00	4.00	48.00	40.00	1.50	8.00	5.00	0.020	0.125
SMD2920-250/16N	D250	2.50	5.00	16.00	40.00	1.50	8.00	20.00	0.015	0.080
SMD2920-250/30N	D250/30	2.50	5.00	30.00	40.00	1.50	8.00	20.00	0.015	0.080
SMD2920-250/33N	D250/33	2.50	5.00	33.00	40.00	1.50	8.00	20.00	0.015	0.080
SMD2920-260/24N	D260	2.60	5.20	24.00	40.00	1.50	8.00	20.00	0.014	0.075
SMD2920-260/30N	D260	2.60	5.20	30.00	40.00	1.50	8.00	20.00	0.014	0.075



SMD2920 Series

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Electrical Characteristics

Part Number	Marking	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{dtyp.}$	Maximum Time To Trip		R_{0min}	R_{1max}
		(A)	(A)	(V _{dc})	(A)	(W)	Current(A)	Time(Sec.)	(ohm)	(ohm)
SMD2920-300/24N	D300	3.00	6.00	24.00	40.00	1.50	8.00	25.00	0.010	0.055
SMD2920-300/16N	D30	3.00	6.00	16.00	40.00	1.50	8.00	25.00	0.010	0.055
SMD2920-300/30N	D300	3.00	6.00	30.00	40.00	1.50	8.00	25.00	0.010	0.055
SMD2920-300/33N	D300	3.00	6.00	33.00	40.00	1.50	8.00	25.00	0.010	0.055
SMD2920-330/24N	D330	3.30	6.60	24.00	40.00	1.50	8.00	5.00	0.010	0.050
SMD2920-350/16N	D350	3.50	7.00	16.00	40.00	1.50	17.50	5.00	0.009	0.045
SMD2920-350/24N	D350	3.50	7.00	24.00	40.00	1.50	17.50	5.00	0.009	0.045
SMD2920-350/30N	D350	3.50	7.00	30.00	40.00	1.50	17.50	5.00	0.009	0.045
SMD2920-400/16N	D400	4.00	8.00	16.00	40.00	1.50	20.00	4.00	0.008	0.040
SMD2920-400/24N	D400	4.00	8.00	24.00	40.00	1.50	20.00	4.00	0.008	0.040
SMD2920-400/30N	D400	4.00	8.00	30.00	40.00	1.50	20.00	4.00	0.008	0.040
SMD2920-450/12N	D450	4.50	9.00	12.00	40.00	1.50	25.00	5.00	0.006	0.030
SMD2920-450/16N	D450	4.50	9.00	16.00	40.00	1.50	25.00	5.00	0.006	0.030
SMD2920-450/24N	D450	4.50	9.00	24.00	40.00	1.50	25.00	5.00	0.006	0.030
SMD2920-500/12N	D500	5.00	10.00	12.00	40.00	1.50	25.00	5.00	0.005	0.025
SMD2920-500/16N	D500	5.00	10.00	16.00	40.00	1.50	25.00	5.00	0.005	0.025
SMD2920-500/24N	D500	5.00	10.00	24.00	40.00	1.50	25.00	5.00	0.005	0.025
SMD2920-500/30N	D500/30	5.00	10.00	30.00	40.00	1.50	25.00	5.00	0.005	0.031
SMD2920-600/12N	D600	6.00	12.00	12.00	40.00	2.00	30.00	2.00	0.003	0.020
SMD2920-600/16N	D600	6.00	12.00	16.00	40.00	2.00	30.00	2.00	0.003	0.020
SMD2920-600/24N	D600	6.00	12.00	24.00	40.00	2.00	30.00	2.00	0.003	0.020
SMD2920-700/12N	D700	7.00	14.00	12.00	40.00	2.00	35.00	2.00	0.0025	0.018
SMD2920-700/16N	D700	7.00	14.00	16.00	40.00	2.00	35.00	2.00	0.0025	0.018

I_{hold} : Holding Current: maximum current at which the device will not trip in 25°C still air.

I_{trip} : Tripping Current: minimum current at which the device will trip in 25° still air.

V_{max} : Maximum voltage device can withstand without damage at rated current(I_{max}).

I_{max} : Maximum fault current device can withstand without damage at rated voltage(V_{max}).

$P_{dtyp.}$: Typical power dissipated from device when in the tripped state at 25°C still air.

R_{0min} : Minimum resistance of device in initial (un-soldered) state.

R_{1max} : Maximum resistance of device at 25°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.



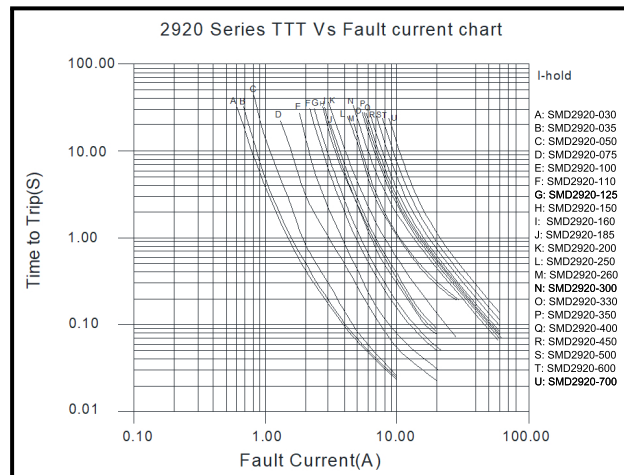
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Thermal Derating Chart

Part Number	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SMD2920-030	0.45	0.40	0.35	0.30	0.25	0.23	0.20	0.17	0.14
SMD2920-035	0.55	0.49	0.42	0.35	0.30	0.26	0.23	0.20	0.15
SMD2920-050	0.76	0.67	0.59	0.50	0.42	0.38	0.33	0.29	0.23
SMD2920-075	1.13	1.01	0.88	0.75	0.62	0.56	0.50	0.44	0.34
SMD2920-100	1.66	1.47	1.29	1.00	0.91	0.83	0.73	0.64	0.50
SMD2920-110	1.70	1.50	1.34	1.10	1.00	0.90	0.80	0.70	0.55
SMD2920-125	1.89	1.68	1.46	1.25	1.04	0.94	0.83	0.73	0.56
SMD2920-150	2.27	2.01	1.76	1.50	1.25	1.13	1.00	0.87	0.74
SMD2920-160	2.42	2.14	1.88	1.60	1.33	1.20	1.06	0.93	0.79
SMD2920-185	2.80	2.47	2.17	1.85	1.54	1.39	1.22	1.07	0.85
SMD2920-200	3.14	2.77	2.42	2.00	1.73	1.56	1.38	1.20	0.98
SMD2920-250	3.54	3.15	2.81	2.50	2.16	1.98	1.86	1.64	1.38
SMD2920-260	3.64	3.25	2.91	2.60	2.26	2.08	1.96	1.74	1.48
SMD2920-300	4.20	3.85	3.44	3.00	2.69	2.50	2.31	2.12	1.63
SMD2920-330	4.60	4.20	3.75	3.30	2.95	2.75	2.50	2.25	1.70
SMD2920-350	5.30	4.70	4.10	3.50	2.95	2.65	2.30	2.05	1.75
SMD2920-400	6.05	5.35	4.70	4.00	3.35	3.00	2.65	2.35	1.80
SMD2920-450	6.80	6.00	5.25	4.50	3.80	3.40	3.00	2.60	2.00
SMD2920-500	7.55	6.70	5.85	5.00	4.20	3.77	3.32	2.92	2.23
SMD2920-600	8.50	7.80	7.00	6.00	5.25	4.85	4.45	4.00	3.40
SMD2920-700	9.50	8.70	7.90	7.00	6.40	5.85	5.40	4.80	3.95

2920 Series TTT Vs Fault current chart(Typical time to trip at 25°C)



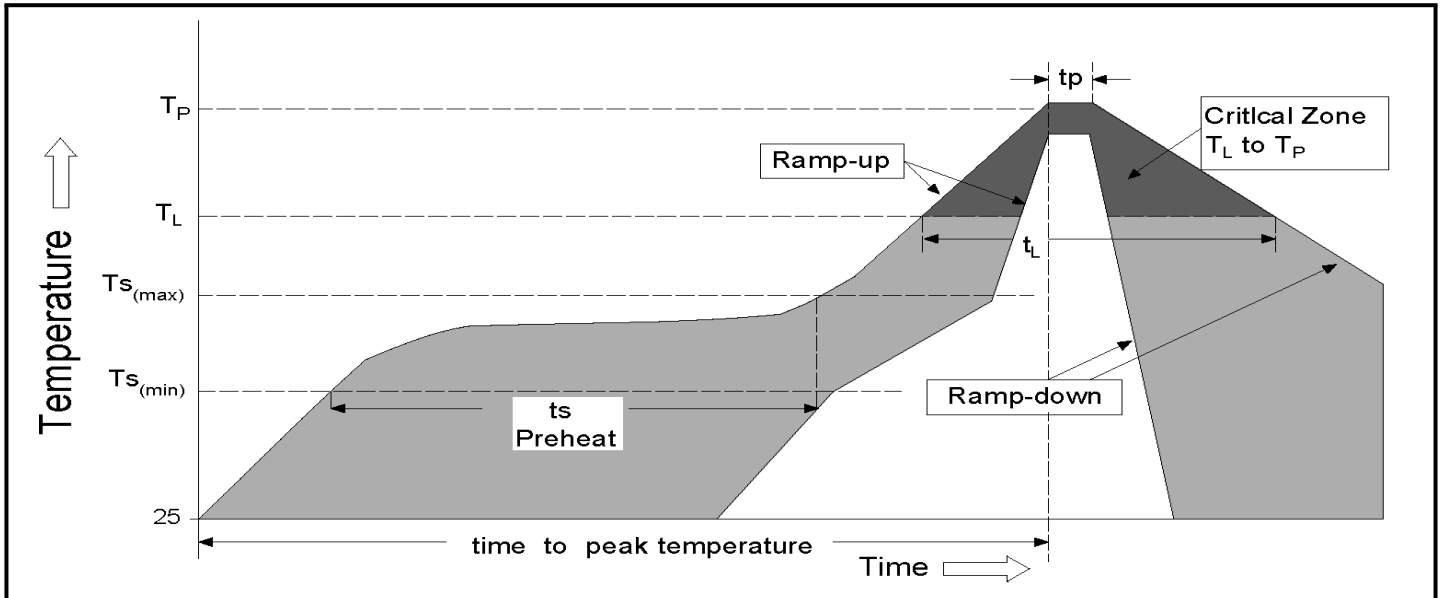
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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information. **Revision: 2025-March-1-A**



Soldering Parameters



Profile Feature		Pb-Free Assembly
Average Ramp-Up Rate ($T_{S(max)}$ to T_P)		3°C/second max
Pre Heat	Temperature Min ($T_{S(min)}$)	150°C
	Temperature Max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60 - 180 secs
Time Maintained Above	Temperature (T_L)	217°C
	Temperature (t_L)	60 - 150 secs
Peak/Classification Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20-40 second
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.

- All temperature refer to topside of thepackage, measured on the pack- age body surface
- If reflow temperature exceeds the rec- ommended profile, devices may not meet the performance requirements
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 en- vironment for lead
- Recommended maximum paste thick- ness is 0.25mm (0.010inch)
- Devices can be cleaned using stan- dard industry methods and solvents

Test Procedures And Requirements

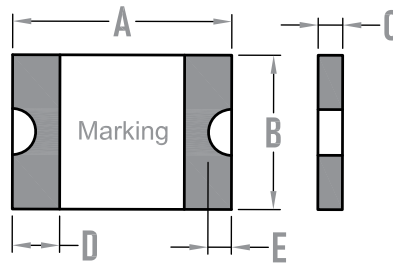
Test	Test Conditions	Accept/Reject Criteria
R0 min	Resistance measurement at 25°C	$R0_{min} \leq R \leq R1_{max}$
R1 max	Resistance measurement one hour after post trip	$R0_{min} \leq R \leq R1_{max}$
I-hold	Hold rated current 1800 second without trip, @25°C	No trip
I-trip	Device must trip within 900 second under rated current, @25°C	Trip
Max. time to trip	At specified current, 25°C	$T \leq \text{max. time to trip (seconds)}$
Trip Cycle Life	V_{max} , I_{max} , 100 cycles	No arcing or burning
Trip Endurance	V_{max} , I_{max} 24 hours	No arcing or burning
Solderability	ANSI/J-STD-002	95 % min. coverage



SMD2920 Series

SMD2920 Polymer PPTC

Product Dimensions(mm)



Model	A		B		C		D		E	Quantity PCS/R
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
SMD2920-030/60N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-030/72N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-030/90N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-035/72N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-035/90N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-050/60N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-050/72N	6.73	7.98	4.80	5.44	0.65	1.05	0.30	2.50	0.25	1500
SMD2920-075/33N	6.73	7.98	4.80	5.44	0.45	0.85	0.30	2.50	0.25	2000
SMD2920-075/60N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-075/72N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-100/33N	6.73	7.98	4.80	5.44	0.45	0.85	0.30	2.50	0.25	2000
SMD2920-100/60N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-100/72N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-110/33N	6.73	7.98	4.80	5.44	0.45	0.85	0.30	2.50	0.25	2000
SMD2920-110/60N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-110/72N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-125/33N	6.73	7.98	4.80	5.44	0.45	0.85	0.30	2.50	0.25	2000
SMD2920-150/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-150/60N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1500
SMD2920-160/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-160/60N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-185/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-185/48N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-200/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-200/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-200/48N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-250/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500



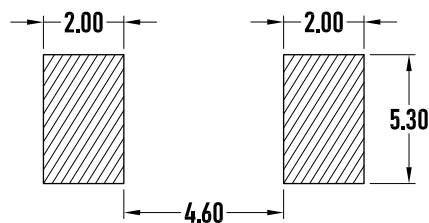
SMD2920 Series

SMD2920 Polymer PPTC

Product Dimensions(mm)

Model	A		B		C		D		E	Quantity
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	PCS/R
SMD2920-250/30N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-250/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-260/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-260/30N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-300/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-300/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-300/30N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-300/33N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-330/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-350/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-350/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-350/30N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-400/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-400/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-400/30N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-450/12N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-450/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-450/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-500/12N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-500/16N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-500/24N	6.73	7.98	4.80	5.44	0.80	1.30	0.30	2.50	0.25	1500
SMD2920-500/30N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000
SMD2920-600/12N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000
SMD2920-600/16N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000
SMD2920-600/24N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000
SMD2920-700/12N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000
SMD2920-700/16N	6.73	7.98	4.80	5.44	1.00	1.50	0.30	2.50	0.25	1000

Recommended Pad Layout(mm)&Physical Specifications



Terminal Material	Tin-Plated Nickle-Copper (Solder Material: Matte Tin (Sn))
Lead Solderability	T Meets EIA Specification RS186-9E, ANSI/J-STD-002 Category 3.

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information. **Revision: 2025-March-1-A**

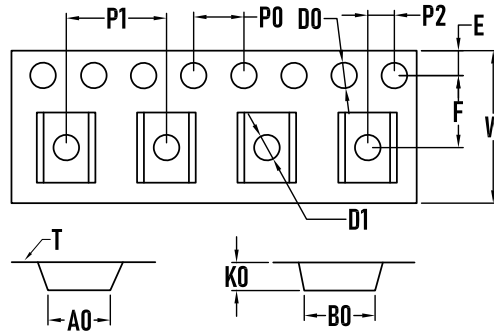


SMD2920 Series

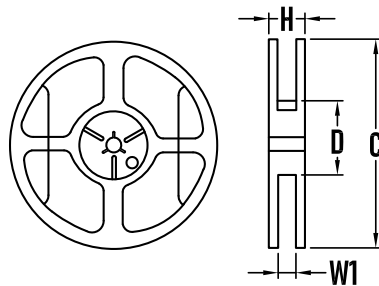
SMD2920 Polymer PPTC

Tape And Reel Specifications (mm)&Packaging quantity

item	TAPE SPECIFICATIONS: EIA-481-1 (mm)		
W	16.00±0.30	16.00±0.30	16.00±0.30
F	7.50±0.10	7.50±0.10	7.50±0.10
E	1.75±0.10	1.75±0.10	1.75±0.10
D0	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.50±0.10	1.50±0.10	1.50±0.10
P0	4.0±0.10	4.0±0.10	4.0±0.10
P1	8.0±0.10	8.0±0.10	8.0±0.10
P2	2.0±0.10	2.0±0.10	2.0±0.10
A0	5.74±0.10	5.74±0.10	5.74±0.10
B0	8.02±0.10	8.02±0.10	8.02±0.10
T	0.30±0.10	0.30±0.10	0.30±0.10
K0	0.90±0.10	1.30±0.10	1.70±0.10
Leader	390 mm	390 mm	390 mm
Trailer	160 mm	160 mm	160 mm
Quantity	2,000pcs/Reel	1500pcs/Reel	1000pcs/Reel



Packaging quantity per Reel



REEL DIMENSIONS:EIA-481-1(mm)	
C	178±3.0
D	60.2±0.5
W1	17.0±0.2
H	19.5±1.0

