Type R2920
Resettable Fuse (PTC's)
Surface Mount

www.optifuse.com (619) 593-5050

Application:
All high-density boards

Product Features:
2920 Dimension, small surface mount, solid state
Faster time to trip than standard SMD devices.

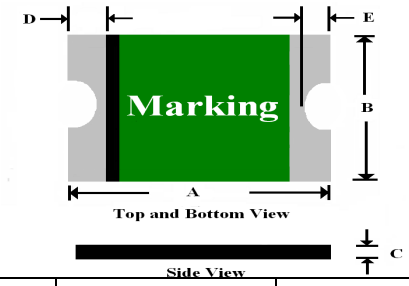
Operation Current: 300mA ~ 5A
Maximum Voltage: 6~60VDC
Temperature Range: -40ºC to 85ºC
Termination Pad Characteristics: Pure Tin

Agency Standards and Listings:

RoHS COMPLIANT
HF Halogen Free

R2920-AAA-VV-X
A: Amperage rating
V: Voltage rating
X: Type of resettable fuse

Product Dimensions (millimeters)



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
R2920-030-R	6.73	7.98	4.80	5.44	0.60	1.15	0.50	1.20	0.50	0.90
R2920-050-R	6.73	7.98	4.80	5.44	0.60	1.15	0.50	1.20	0.50	0.90
R2920-075-R	6.73	7.98	4.80	5.44	0.40	1.15	0.50	1.20	0.50	0.90
R2920-075-60-R	6.73	7.98	4.80	5.44	0.60	1.15	0.50	1.20	0.50	0.90
R2920-100-R	6.73	7.98	4.80	5.44	0.40	1.00	0.50	1.20	0.50	0.90
R2920-110-60-R	6.73	7.98	4.80	5.44	0.40	1.70	0.50	1.20	0.50	0.90
R2920-125-R	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90
R2920-150-R	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90
R2920-185-R	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
R2920-200-R	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
R2920-200-24-R	6.73	7.98	4.80	5.44	0.20	0.80	0.50	1.20	0.50	0.90
R2920-250-R	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
R2920-260-R	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
R2920-260-24-R	6.73	7.98	4.80	5.44	0.65	1.15	0.50	1.20	0.50	0.90
R2920-300-R	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90
R2920-300-15-R	6.73	7.98	4.80	5.44	0.40	1.15	0.50	1.20	0.50	0.90
R2920-300-24-R	6.73	7.98	4.80	5.44	0.65	1.15	0.50	1.20	0.50	0.90
R2920-330-R	6.73	7.98	4.80	5.44	0.65	1.15	0.50	1.20	0.50	0.90
R2920-400-16-R	6.73	7.98	4.80	5.44	0.40	1.50	0.50	1.20	0.50	0.90
R2920-500-16-R	6.73	7.98	4.80	5.44	0.40	1.50	0.50	1.20	0.50	0.90

Note: All specifications subject to change without notice.

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Electrical Characteristics (23ºC)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
						Current	Time	RMIN	R1MAX
	IH, A	IT, A	VMAX, VDC	IMAX, A	Pd, W	A	Sec	Ohms	Ohms
R2920-030-R	0.30	0.60	60	100	1.5	1.5	3.0	1.000	4.800
R2920-050-R	0.50	1.00	60	100	1.5	2.5	4.0	0.300	1.400
R2920-075-R	0.75	1.50	33	100	1.5	8.0	0.3	0.180	1.000
R2920-075-60-R	0.75	1.50	60	100	1.5	8.0	0.3	0.180	1.000
R2920-100-R	1.10	2.20	33	100	1.5	8.0	0.5	0.090	0.410
R2920-110-60-R	1.10	2.20	60	100	1.5	8.0	0.5	0.090	0.410
R2920-125-R	1.25	2.50	33	100	1.5	8.0	2.0	0.050	0.250
R2920-150-R	1.50	3.00	33	100	1.5	8.0	2.0	0.050	0.230
R2920-185-R	1.85	3.70	33	100	1.5	8.0	2.5	0.040	0.150
R2920-200-R	2.00	4.00	16	100	1.5	8.0	4.5	0.035	0.120
R2920-200-24-R	2.00	4.00	24	100	1.5	8.0	5.0	0.035	0.120
R2920-250-R	2.50	5.00	16	100	1.5	8.0	16.0	0.025	0.085
R2920-260-R	2.60	5.20	6	100	1.5	8.0	20.0	0.020	0.075
R2920-260-24-R	2.60	5.20	24	100	1.5	8.0	20.0	0.020	0.075
R2920-300-R	3.00	5.20	6	100	1.5	8.0	25.0	0.010	0.048
R2920-300-15-R	3.00	5.20	15	100	1.5	8.0	20.0	0.010	0.048
R2920-300-24-R	3.00	5.20	24	100	1.5	8.0	20.0	0.010	0.048
R2920-330-R	3.30	5.50	24	100	1.5	8.0	20.0	0.010	0.048
R2920-400-16-R	4.00	8.00	16	100	1.5	20.0	4.0	0.010	0.040
R2920-500-16-R	5.00	10.00	16	100	1.5	20.0	5.0	0.005	0.025

I_H = Hold Current – Maximum current at which the device will not trip at 23ºC still air.
I_T = Trip Current – Minimum current at which the device will always trip at 23ºC still air.
V_{MAX} = Maximum voltage device can withstand without damage at it's rated current.
I_{MAX} = Maximum fault current device can withstand without damage at rated voltage (V max).
Pd = Typical power dissipated from device when in the tripped state in 23ºC still air environment.
R_{MIN} = Minimum device resistance at 23ºC.
$R1_{MAX}$ = Maximum device resistance at 23ºC, 1 hour after tripping.

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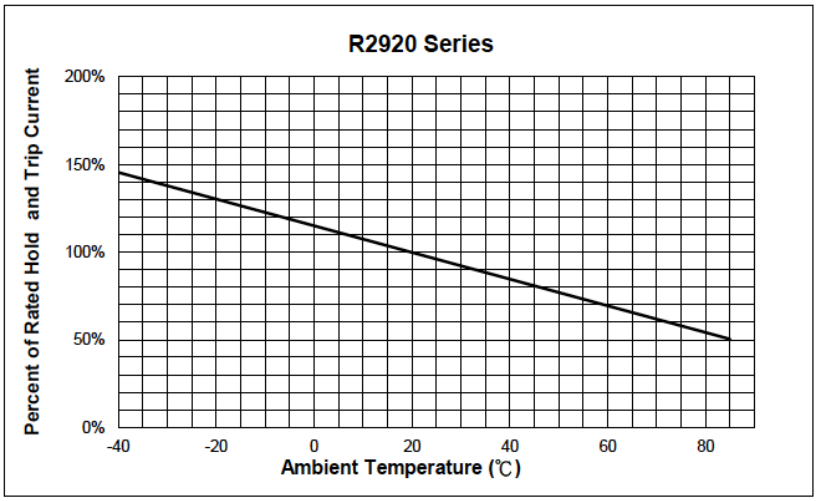
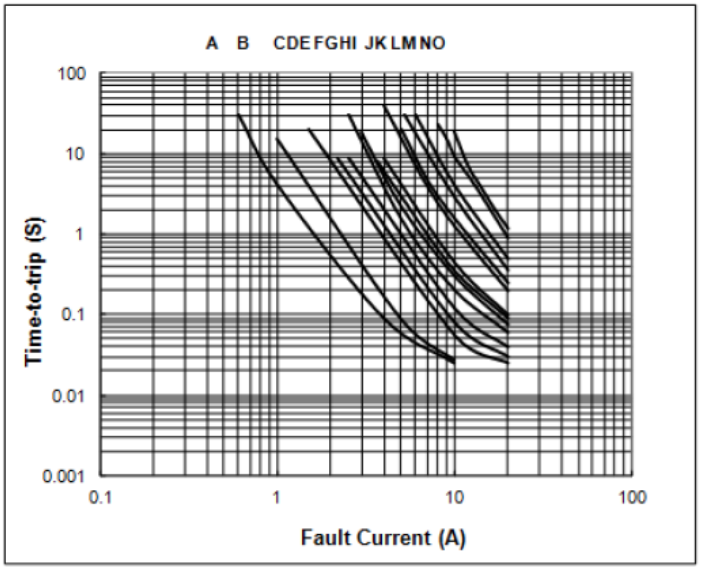
Thermal Derating Curve



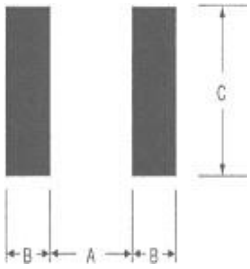
Typical Time-To-Trip (at 23°C)

A = R2920-030-R
B = R2920-050-R
C = R2920-075-R
= R2920-075-60-R
D = R2920-100-R
E = R2920-110-60-R
F = R2920-125-R
G = R2920-150-R
H = R2920-185-R
I = R2920-200-R
= R2920-200-24-R
J = R2920-250-R
K = R2920-260-R
= R2920-260-24-R
= R2920-300-R
L = R2920-300-15-R
= R2920-300-24-R
M = R2920-330-R
N = R2920-400-16-R
O = R2920-500-16-R



Pad Layouts – Solder Reflow and Rework Recommendations

The dimensions in the table below provide the recommended pad layout for each R2920 devices.



Pad Dimensions (millimeters)
A – Nominal – 5.1 mm
B – Nominal – 2.3 mm
C – Nominal – 5.6 mm

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3 ℃/second max.
Preheat : Temperature Min (Tsmin) Temperature Max (Tsmax) Time (tsmin to tsmax)	 150 ℃ 200 ℃ 60-180 seconds
Time maintained above: Temperature(T_L) Time (t_L)	 217 ℃ 60-150 seconds
Peak/Classification Temperature(Tp) :	260 ℃
Time within 5℃ of actual Peak : Temperature (tp)	 20-40 seconds
Ramp-Down Rate :	6 ℃/second max.
Time 25 ℃ to Peak Temperature :	8 minutes max.

Note 1: All temperatures refer to the package, measured on the package body surface.

Solder Reflow

※ Due to "Lead Free" nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

1. Recommended max paste thickness is 0.25mm.(Nominal)
2. Devices can be cleaned using standard methods and aqueous solvent.
3. Rework use standard industry practices.
4. Storage environment : < 30℃ / 60%RH

Caution:

1. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
2. Devices are not designed to be wave soldered to the bottom side of the board.

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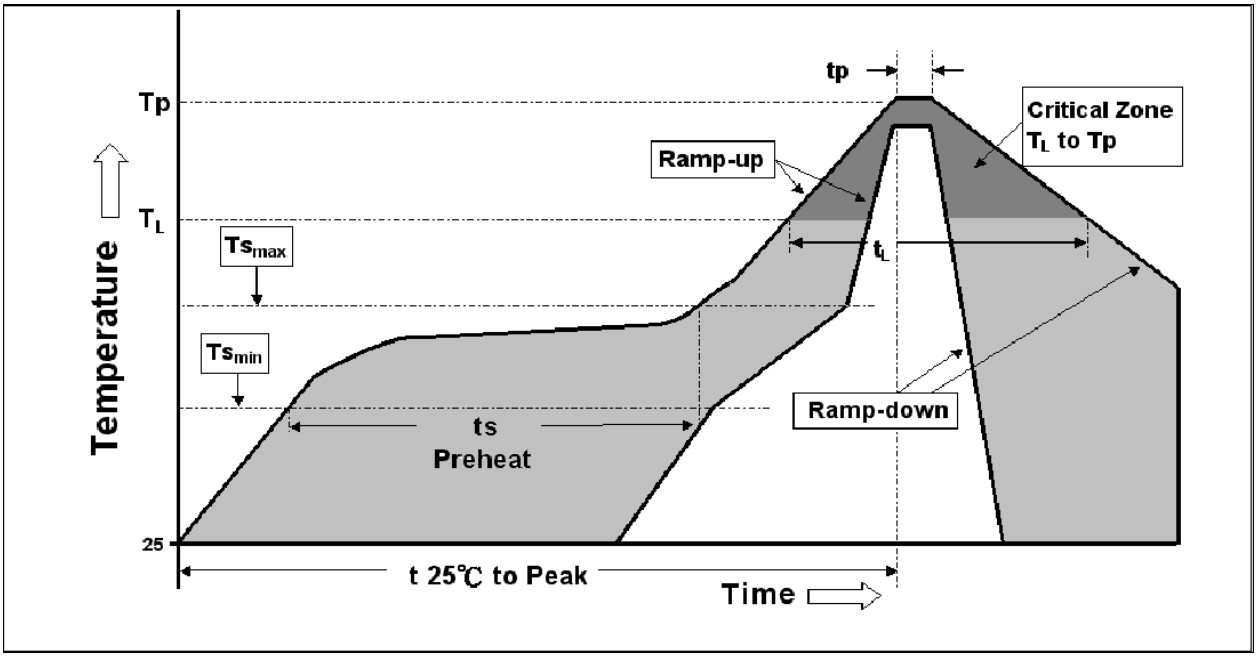
Reflow Profile



Package Information

Part Number	Reel/Tape
R2920-030-R~R2920-100-R	2.0K
R2920-110-60-R	1.0K
R2920-125-R~R2920-330-R	2.0K
R2920-400-16-R~R2920-500-16-R	1.0K

Warning:	-Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame. -PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated. -Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.