

# Circuitclear



## ASMD2920 Series

- Features**
- Surface Mount Devices
  - Lead free device
  - Size 7555mm/2920 mils
  - Surface Mount packaging for automated assembly

- Applications**
- Almost anywhere there is a low voltage power supply, up to 60V and a load to be protected, including:
- Computer mother board, Modem.
  - Telecommunication equipments.

### Performance Specification

**Pb** **RoHS**

Model	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> @25°C (A)	I <sub>trip</sub> @25°C (A)	P <sub>d</sub> TYP (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	R <sub>i min</sub> (Ω)	R <sub>1 max</sub> (Ω)
ASMD030-2920	60	100	0.30	0.60	1.5	1.5	3.0	0.600	4.800
ASMD050-2920	60	100	0.50	1.00	1.5	2.5	4.0	0.180	1.400
ASMD075-2920	33	100	0.75	1.50	1.5	8.0	0.3	0.100	1.000
ASMD100-2920	33	100	1.10	2.20	1.5	8.0	0.5	0.065	0.410
ASMD125-2920	33	100	1.25	2.50	1.5	8.0	2.0	0.050	0.250
ASMD150-2920	33	100	1.50	3.00	1.5	8.0	2.0	0.035	0.230
ASMD185-2920	33	100	1.85	3.70	1.5	8.0	2.5	0.030	0.150
ASMD200-2920	16	100	2.00	4.00	1.5	8.0	4.5	0.020	0.120
ASMD250-2920	16	100	2.50	5.00	1.5	8.0	16.0	0.020	0.085
ASMD260-2920	6	100	2.60	5.20	1.5	8.0	10.0	0.014	0.075
ASMD300-6V-2920	6	40	3.00	6.00	1.5	8.0	20.0	0.012	0.048
ASMD300-2920	16	100	3.00	6.00	1.5	8.0	20.0	0.012	0.048

**I<sub>hold</sub>** = Hold Current. Maximum current device will not trip in 25°C still air.  
**I<sub>trip</sub>** = Trip Current. Minimum current at which the device will always trip in 25°C still air.  
**V<sub>max</sub>** = Maximum operating voltage device can withstand without damage at rated current (I<sub>max</sub>).  
**I<sub>max</sub>** = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>).  
**P<sub>d</sub>** = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.  
**R<sub>i min</sub>/max** = Minimum/Maximum device resistance prior to tripping at 25°C.  
**R<sub>1 max</sub>** = Maximum device resistance is measured one hour post reflow.  
**CAUTION** : Operation beyond the specified ratings may result in damage and possible arcing and flame.

### Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating conditions :	- 40 °C to +85 °C	
Maximum surface temperature of the device in the tripped state is 125 °C		

### AGENCY APPROVALS :



UL approved  
The others: UL pending

### I<sub>hold</sub> versus temperature

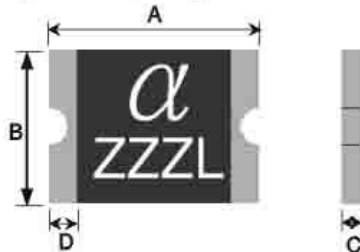
Model	Maximum ambient operating temperature (T <sub>max</sub> ) vs. hold current (I <sub>hold</sub> )								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
ASMD030-2920	0.45	0.40	0.35	0.30	0.25	0.23	0.20	0.17	0.14
ASMD050-2920	0.76	0.67	0.59	0.50	0.42	0.38	0.33	0.29	0.23
ASMD075-2920	1.13	1.01	0.88	0.75	0.62	0.56	0.50	0.44	0.34
ASMD100-2920	1.66	1.47	1.29	1.10	0.91	0.83	0.73	0.64	0.50
ASMD125-2920	1.89	1.68	1.46	1.25	1.04	0.94	0.83	0.73	0.56
ASMD150-2920	2.27	2.01	1.76	1.50	1.25	1.13	1.00	0.87	0.74
ASMD185-2920	2.80	2.47	2.17	1.85	1.54	1.39	1.22	1.07	0.85
ASMD200-2920	3.02	2.68	2.34	2.00	1.66	1.50	1.32	1.16	0.90
ASMD250-2920	3.78	3.35	2.93	2.50	2.08	1.88	1.65	1.45	1.13
ASMD260-2920	3.64	3.25	2.91	2.60	2.26	2.08	1.95	1.74	1.13
ASMD300-2920	4.53	4.02	3.51	3.00	2.52	2.26	1.99	1.75	1.34

# ASMD2920 Series

## Construction And Dimension (Unit:mm)

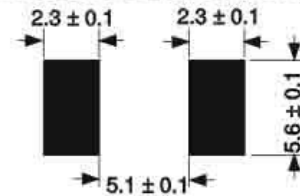
Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
ASMD030-2920	6.73	7.98	4.80	5.44	0.60	1.15	0.30
ASMD050-2920	6.73	7.98	4.80	5.44	0.60	1.15	0.30
ASMD075-2920	6.73	7.98	4.80	5.44	0.60	1.15	0.30
ASMD100-2920	6.73	7.98	4.80	5.44	0.40	1.00	0.30
ASMD125-2920	6.73	7.98	4.80	5.44	0.40	0.90	0.30
ASMD150-2920	6.73	7.98	4.80	5.44	0.40	0.90	0.30
ASMD185-2920	6.73	7.98	4.80	5.44	0.30	0.90	0.30
ASMD200-2920	6.73	7.98	4.80	5.44	0.30	0.90	0.30
ASMD250-2920	6.73	7.98	4.80	5.44	0.30	0.90	0.30
ASMD260-2920	6.73	7.98	4.80	5.44	0.30	0.90	0.30
ASMD300-2920	6.73	7.98	4.80	5.44	0.30	0.90	0.30

## Dimensions & Marking



α = Trademark  
ZZZ = Hold current

## Recommended pad layout (mm)



## Termination pad characteristics

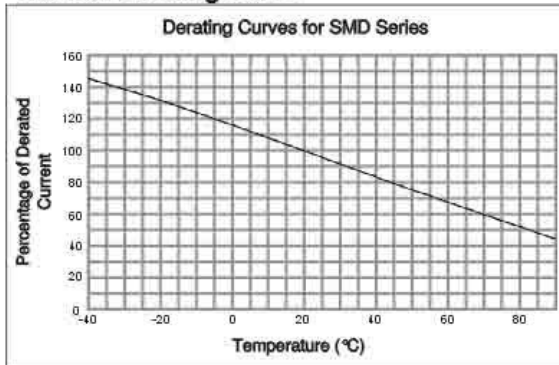
Terminal pad materials : Gold-Plated Nickel-Copper

Terminal pad solderability : Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

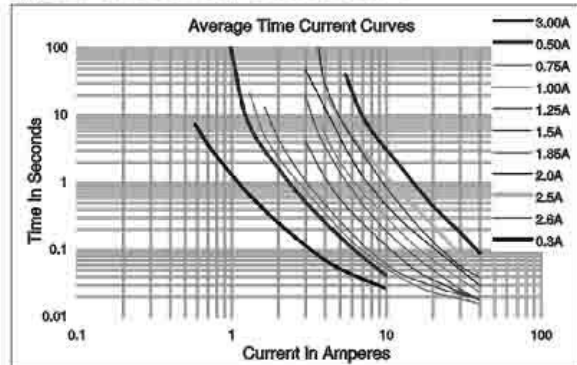
## Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

## Thermal Derating Curve



## Typical Time-To-Trip Curve At 25 °C



## WARNING:

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage (L di/dt) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
- Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability performance of our devices.

# ASMD2920 Series

## Recommended Solder Reflow Conditions

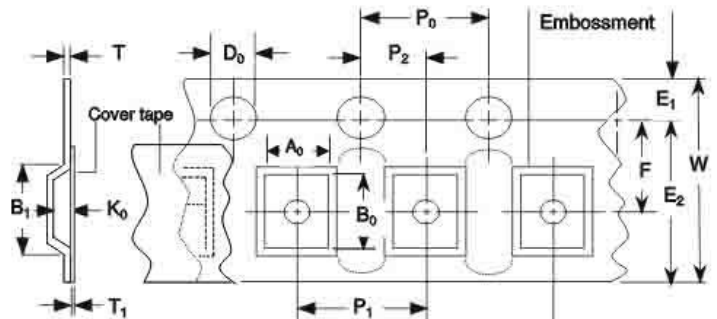


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
  - Devices are not designed to be wave soldered to the bottom side of the board.
  - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
  - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

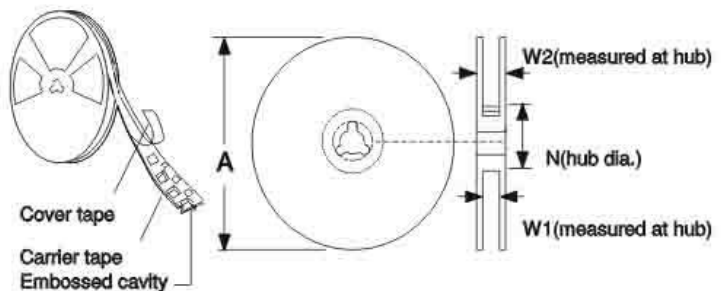
## Tape And Reel Specifications (mm)

Governing Specifications	EIA 481-2
W	16.0 ± 0.3
P <sub>0</sub>	4.0 ± 0.10
P <sub>1</sub>	8.0 ± 0.10
P <sub>2</sub>	2.0 ± 0.05
A <sub>0</sub>	5.70 ± 0.10
B <sub>0</sub>	8.00 ± 0.10
B <sub>1</sub> max.	12.1
D <sub>0</sub>	1.5 + 0.1, -0
F	7.5 ± 0.05
E <sub>1</sub>	1.75 ± 0.10
E <sub>2</sub> min.	14.25
Tmax.	0.6
T <sub>1</sub> max.	0.1
K <sub>0</sub>	0.80 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W <sub>1</sub>	16.4 + 2.0, -0.0
W <sub>2</sub> max.	22.4

## EIA Tape Component Dimensions



## EIA Reel Dimensions



## Storage And Handling

- Storage conditions : 40°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

## Order information

ASMD	050L	Packaging
Product name	Hold	Tape & Reel Quantity
Size 7555mm/2920 mils	Current	2,000 pcs/reel
SMD : surface mount device	0.50A	

Tape & reel packaging per EIA481-1