ASMD1812 Series

Features
- Surface Mount Devices
- Lead free device
- Size 4532 mm/1812 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. USB hub
- PDAs & Charger, Analog & digital line card
- Digital cameras, Disk drivers, CD-ROMs,

Performance Specification

Pb RoHS

Model	V_{max} (Vdc)	I_{max} (A)	I_{hold} @25°C (A)	I_{trip} @25°C (A)	P_d Typ. (W)	Maximum Time To Trip Current (A)	Maximum Time To Trip Time (Sec)	Resistance $R1_{min}$ (Ω)	Resistance $R1_{max}$ (Ω)
ASMD010-1812	30.0	100	0.10	0.30	0.8	0.5	1.50	0.750	15.000
ASMD014-1812	60.0	100	0.14	0.34	0.8	1.5	0.15	0.650	6.000
ASMD020-1812	30.0	100	0.20	0.40	0.8	8.0	0.02	0.350	5.000
ASMD030-1812	30.0	100	0.30	0.60	0.8	8.0	0.10	0.250	3.000
ASMD050*1812	15.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.000
ASMD075*1812	13.2	40	0.75	1.50	0.8	8.0	0.20	0.090	0.450
ASMD075-16V-1812	16.0	100	0.75	1.50	0.8	8.0	0.20	0.090	0.450
ASMD110*1812	8.0	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250
ASMD110-16V-1812	16.0	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250
ASMD125-1812	16.0	100	1.25	2.50	0.8	8.0	0.40	0.050	0.140
ASMD150*1812	8.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160
ASMD150-12V-1812	12.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160
ASMD150-16V-1812	16.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160
ASMD160*1812	8.0	100	1.60	2.80	0.8	8.0	1.00	0.030	0.130
ASMD200*1812	8.0	100	2.00	4.00	0.8	8.0	2.00	0.020	0.100
ASMD260-1812	8.0	100	2.60	5.00	0.8	8.0	2.50	0.015	0.050
ASMD300-1812	8.0	100	3.00	5.00	0.8	8.0	4.00	0.012	0.040

Ihold = Hold Current. Maximum current device will not trip in 25°C still air.
Itrip = Trip Current. Minimum current at which the device will always trip in 25°C still air.
Vmax = Maximum operating voltage device can withstand without damage at rated current (Imax).
Imax = Maximum fault current device can withstand without damage at rated voltage (Vmax).
Pd = power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.
Rimin/max = Minimum/Maximum device resistance prior to tripping at 25°C.
$R1_{max}$ = 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_{hold} versus temperature

Model	Maximum ambient operating temperature (T_{mao}) vs. hold current (I_{hold}) -40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
ASMD010-1812	0.16	0.14	0.12	0.11	0.08	0.07	0.06	0.05	0.03
ASMD014-1812	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
ASMD020-1812	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
ASMD030-1812	0.44	0.39	0.35	0.30	0.26	0.23	0.21	0.18	0.15
ASMD050-1812	0.59	0.57	0.55	0.50	0.45	0.43	0.35	0.30	0.23
ASMD075-1812	1.10	0.99	0.87	0.75	0.63	0.57	0.49	0.45	0.35
ASMD075-16V-1812	1.09	0.98	0.86	0.75	0.62	0.56	0.48	0.44	0.34
ASMD110-1812	1.60	1.45	1.28	1.10	0.92	0.83	0.71	0.66	0.52
ASMD110-16V-1812	1.59	1.44	1.27	1.10	0.92	0.82	0.70	0.64	0.50
ASMD125-1812	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53
ASMD150-1812	2.30	2.05	1.77	1.50	1.23	1.09	0.95	0.82	0.61
ASMD150-12V-1812	2.29	2.04	1.76	1.50	1.22	1.08	0.94	0.80	0.59
ASMD150-16V-1812	2.28	2.03	1.75	1.50	1.21	1.07	0.93	0.79	0.58
ASMD160-1812	2.10	1.96	1.88	1.60	1.26	1.12	0.98	0.84	0.63
ASMD200-1812	2.88	2.61	2.25	2.00	1.80	1.66	1.45	1.09	0.80
ASMD260-1812	3.90	3.42	2.96	2.60	2.33	2.07	1.94	1.35	1.00
ASMD300-1812	4.15	3.76	3.46	3.00	2.55	2.28	2.01	1.61	1.33

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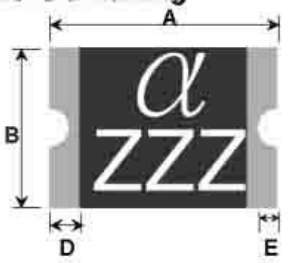
Construction And Dimension (Unit:mm)

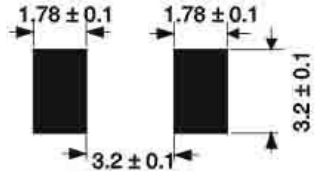
Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
ASMD010-1812	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
ASMD014-1812	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
ASMD020-1812	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
ASMD030-1812	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
ASMD050-1812	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
ASMD075-1812	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
ASMD075-16V-1812	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
ASMD110-1812	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
ASMD110-16V-1812	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
ASMD125-1812	4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
ASMD150-1812	4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
ASMD150-12V-1812	4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
ASMD150-16V-1812	4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
ASMD160-1812	4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
ASMD200-1812	4.37	4.73	3.07	3.41	0.40	0.80	0.30	0.25
ASMD260-1812	4.37	4.73	3.07	3.41	0.50	1.10	0.30	0.25
ASMD300-1812	4.37	4.73	3.07	3.41	0.50	1.20	0.30	0.25

Dimensions & Marking



α = Trademark
ZZZ = Hold current

Recommended pad layout (mm)



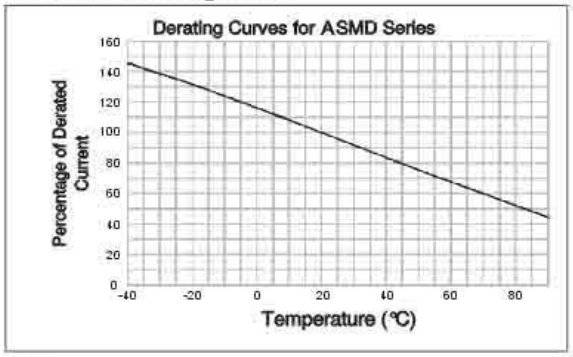
Termination pad characteristics

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

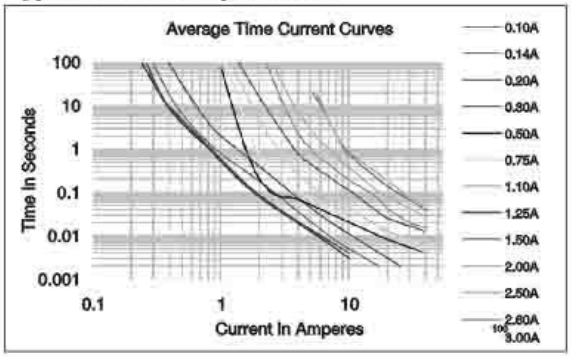
Rework

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

Thermal derating curve



Typical time-to-trip at 25℃



⚠ 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.

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.

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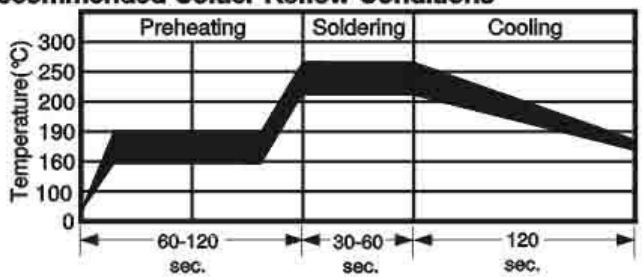
Recommended Solder Reflow Conditions



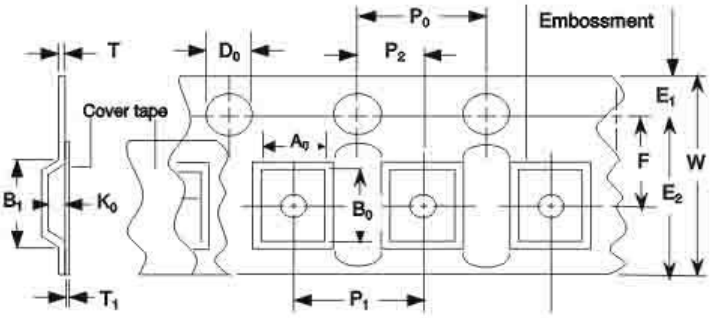
- Recommended reflow methods : IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25 mm (0.010 inch).
- Devices can be cleaned using standard method and solvents.

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

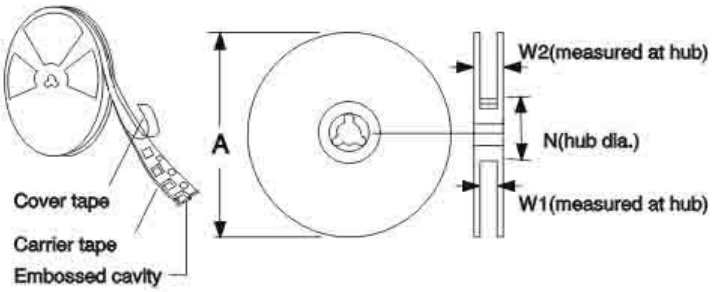
Tape And Reel Specifications (mm)

Governing Specifications	EIA 481-1
W	12 ± 0.3
P_0	4.0 ± 0.10
P_1	8.0 ± 0.10
P_2	2.0 ± 0.05
A_0	3.5 ± 0.23
B_0	5.1 ± 0.15
B_1max.	5.9
D_0	1.5 + 0.1, -0
F	5.5 ± 0.05
E_1	1.75 ± 0.10
E_2min.	10.25
Tmax.	0.6
T_1max.	0.1
K_0	0.9 ± 0.15
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W_1	12.4 + 2.0, -0.0
W_2max.	18.4

EIA Tape Component Dimentions



EIA Reel Dimentions



Storage and handling

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

Order information

ASMD	110	Packaging Tape & Reel Quantity
Product name	Hold	010,014,020,030,260,300 1,500 pcs/reel
Size 4532 mm / 1812 mils	Current	050,075,110,150,160,200 2,000 pcs/reel
SMD : surface mount device	1.10A	

Tape & reel packaging per EIA481-1