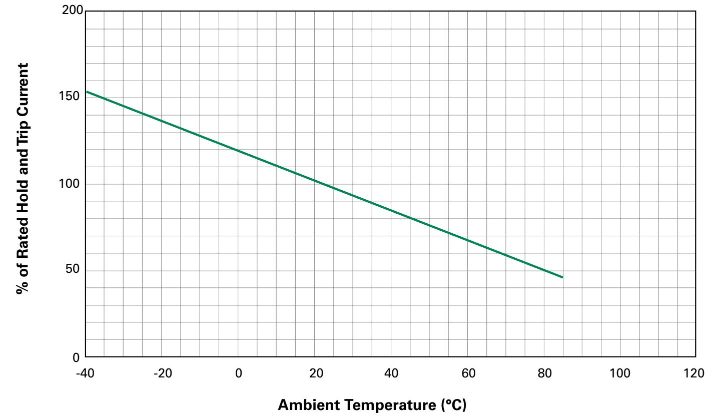
Temperature Rerating

Maximum Ambient Temperature										
Part Number	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C
Hold Current (A)										
ASMD – 2920 Size										
ASMD030F	0.35	0.31	0.27	0.23	0.22	0.19	0.17	0.15	0.13	0.11
ASMD050F	0.59	0.53	0.46	0.39	0.37	0.33	0.29	0.26	0.23	0.18
ASMD075F	0.91	0.81	0.71	0.60	0.58	0.50	0.45	0.40	0.35	0.28
ASMD100F	1.37	1.22	1.06	0.90	0.86	0.76	0.68	0.60	0.52	0.41
ASMD125F	1.58	1.40	1.23	1.04	1.00	0.87	0.78	0.70	0.60	0.48
ASMD - 3425 Size										
ASMD150F	1.93	1.70	1.50	1.27	1.22	1.07	0.95	0.85	0.74	0.58
ASMD150F/33	1.96	1.73	1.50	1.26	1.20	1.03	0.91	0.80	0.68	0.51
ASMD185F	2.93	2.58	2.30	1.93	1.85	1.62	1.44	1.30	1.12	0.88
ASMD200F	2.63	2.34	2.04	1.73	1.66	1.45	1.30	1.16	1.00	0.80
ASMD250F	3.00	2.66	2.32	1.97	1.89	1.65	1.48	1.32	1.14	0.91

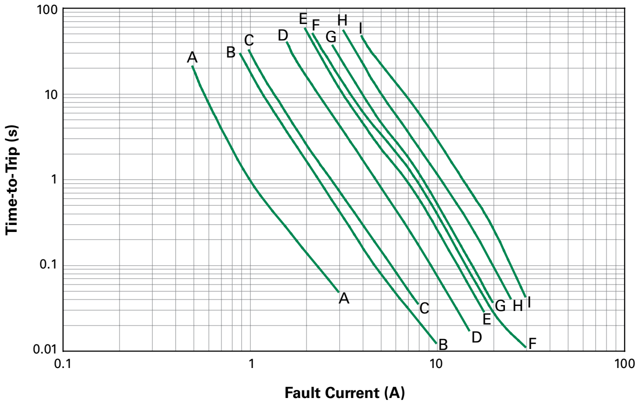
Temperature Rerating Curve



Typical Time-to-Trip Curves at 25°C

ASMD

A = ASMD030F
B = ASMD050F
C = ASMD075F
D = ASMD100F
E = ASMD125F
F = ASMD150F, ASMD150F/33
G = ASMD185F
H = ASMD200F
I = ASMD250F



Note: The average time current curves and Temperature Rerating curve performance is affected by a number or variables, and these curves provided as guidance only. Customer must verify the performance in their application.

Physical Specifications

Terminal Pad Material	98%+ Tin-plated Brass
Soldering Characteristics	Solderability per ANSI-J-STD-002 Category 1
Solder Heat Withstand	per IEC 60068-2-20, Test Tb, Section 5, Method 1a
Flammability Resistance	per IEC 60695-11-5 Needle Flame Test for 20 seconds
Recommended Storage Conditions	40°C max, 70% RH max; Devices May Not Meet Specified Ratings if Storage Conditions are Exceeded
Operation Temperature	-40°C~85°C

Note: See PS400 for other physical specifications.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	60°C, 1000 hrs 85°C, 1000 hrs	±3% Typical ±5% Typical
Humidity Aging	85°C, 85% R.H., 100 hrs	±1.2% Typical
Thermal Shock	85°C, -40°C 20 times 125°C, -55°C 10 times	-33% Typical -33% Typical
Solvent Resistance	Freon Trichloroethane Hydrocarbons	No change No change No change

Note: See PS400 for other environmental specifications.

Moisture Resistance Level	Level 2a, J-STD-020
Storage Conditions	40°C max, 70% RH max; devices should remain in original sealed bags prior to use. Devices may not meet specified values if these storage conditions are exceeded.

Automotive ASMD Series
Surface Mount

Dimension Figures

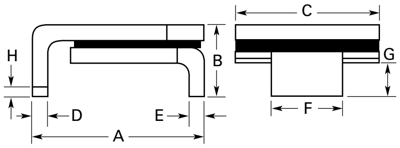


Figure 1

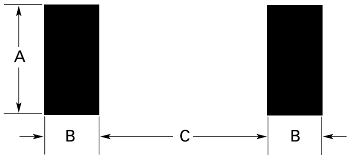
Dimensions

Part Number	Dimensions in Millimeters (Inches)																Figure
	A		B		C		D		E		F		G		H		
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
ASMD – 2920 Size																	
ASMD030F	6.73 (0.265)	7.98 (0.314)	—	3.18 (0.125)	4.8 (0.19)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD050F	6.73 (0.265)	7.98 (0.314)	—	3.18 (0.125)	4.8 (0.19)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD075F	6.73 (0.265)	7.98 (0.314)	—	3.18 (0.125)	4.8 (0.19)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD100F	6.73 (0.265)	7.98 (0.314)	—	3.00 (0.118)	4.8 (0.19)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD125F	6.73 (0.265)	7.98 (0.314)	—	3.00 (0.118)	4.8 (0.19)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD - 3425 Size																	
ASMD150F	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.24)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD150F/33	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.24)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD185F	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.24)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD200F	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.24)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1
ASMD250F	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.24)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)	—	1

Automotive ASMD Series

Surface Mount

Recommended Pad Layout



Packaging and Marking Information

Part Number	Tape and Reel Quantity	Standard Package	Part Marking	Recommended Pad Layout Figures [mm (in)]		
				Dimension A (Min*/Nom)	Dimension B (Nom)	Dimension C (Nom)
ASMD – 2920 Series						
ASMD030F	2,000	10,000	030F	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)
ASMD050F	2,000	10,000	050F	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)
ASMD075F	2,000	10,000	075F	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)
ASMD100F	2,000	10,000	100F	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)
ASMD125F	2,000	10,000	125F	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)
ASMD - 3425 Size						
ASMD150F	1,500	7,500	150F	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)
ASMD150F/33	1,500	7,500	153F	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)
ASMD185F	1,500	7,500	185A	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)
ASMD200F	1,500	7,500	200F	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)
ASMD250F	1,500	7,500	250F	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)

* These devices are intended for use in automotive applications.

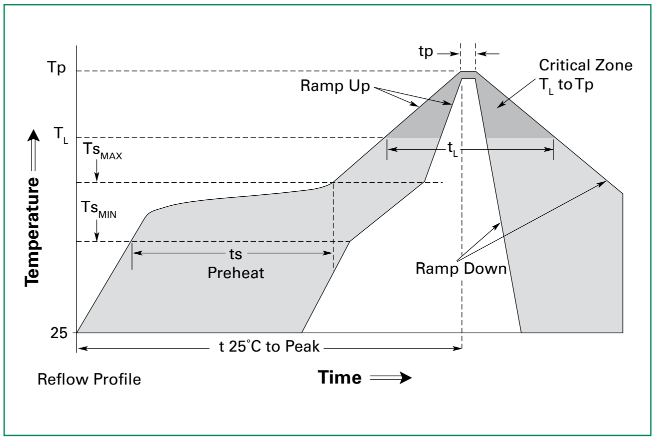
Automotive ASMD Series

Surface Mount

Solder Reflow Recommendations

Profile Feature	Pb-Free Assembly
Average ramp up rate (Ts_{MAX} to Tp)	3°C/s max
Preheat	
• Temperature min (Ts_{MIN})	150°C
• Temperature max (Ts_{MAX})	200°C
• Time (ts_{MIN} to ts_{MAX})	60-120 s
Time maintained above:	
• Temperature (T_L)	217°C
• Time (t_L)	60-150 s
Peak/Classification temperature (Tp)	260°C
Time within 5°C of actual peak temperature	
Time (tp)	30 s max
Ramp down rate	3°C/s max
Time 25°C to peak temperature	8 min max

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



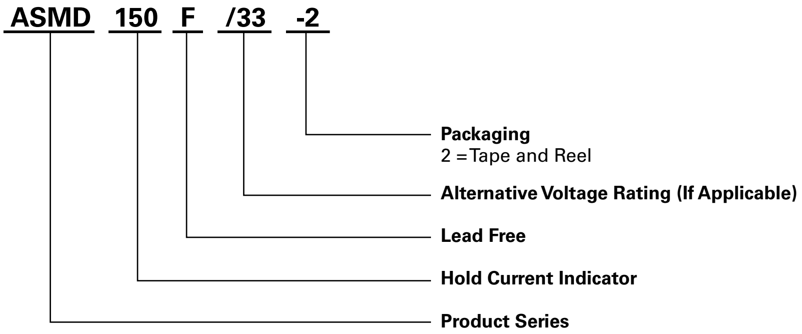
Solder Reflow

- Recommended reflow method: IR, hot air, nitrogen.
- Recommended maximum paste thickness: 0.25mm (0.010in)
- Devices can be cleaned using standard methods and aqueous solvents.
- Experience has shown the optimum conditions for forming acceptable solder fillets occur when a reasonable amount of solder paste is placed underneath each device's termination. As such, we request that customers comply with our recommended solder pad layouts.
- Customer should validate that the solder paste amount and reflow recommendations meet its application.
- We request that customer board layouts refrain from placing raised features (e.g. vias, nomenclature, traces, etc.) underneath PolySwitch devices. It is possible that raised features could negatively impact solderability performance of our devices.

Rework

- Standard industry practices. (Please also avoid direct contact to the device.)

Part Ordering Number System



Tape and Reel Specifications

Description	ASMD EIA 481-2	
	ASMD030F ASMD050F ASMD075F ASMD100F ASMD125F	**ASMD150F ASMD150F/33 ASMD185F ASMD200F ASMD250F**
W	16.0 ± 0.30	16.0 ± 0.30
P_0	4.0 ± 0.10	4.0 ± 0.10
P_1	8.0 ± 0.10	12.0 ± 0.10
P_2	2.0 ± 0.10	2.0 ± 0.10
A_0	5.6 ± 0.23	6.9 ± 0.23
B_0	8.1 ± 0.15	9.6 ± 0.15
B_1 max	12.1	12.1
D_0	1.5 + 0.10/ -.00	1.5 + 0.10/ -.00
F	7.50 ± 0.10	7.50 ± 0.10
E_1	1.75 ± 0.10	1.75 ± 0.10
E_2 min	14.25	14.25
T max	0.4	0.4
T_1 max	0.1	0.1
K_0	3.2 ± 0.15	3.4 ± 0.15
A max	330	330
N min	50	50
W_1	16.4 + 2.0/-.00	16.4 + 2.0/-.00
W_2 max	22.4	22.4

Tape and Reel Diagrams

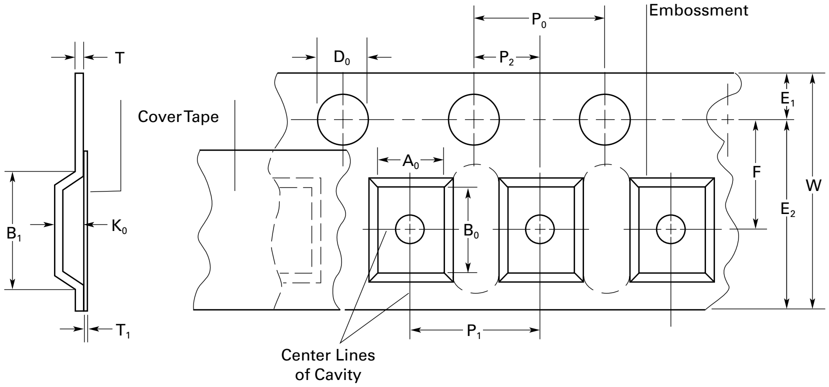


Figure 1

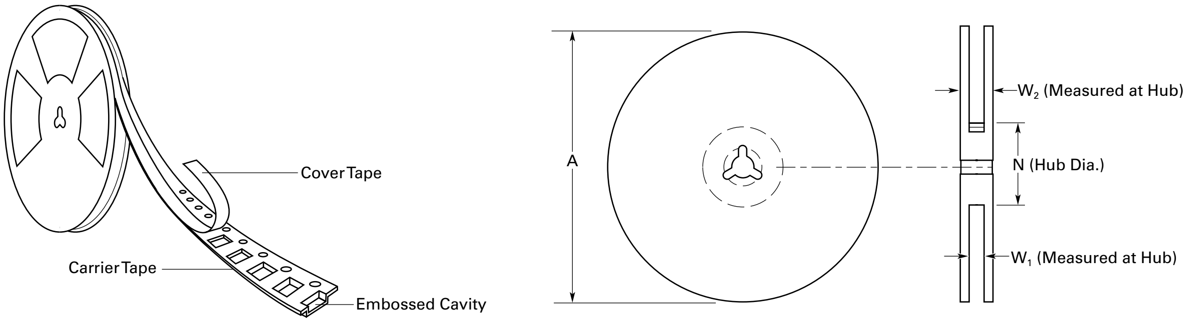


Figure 2

Warning

- Users should independently evaluate the suitability of and test each product selected for their own application.
- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- These devices are intended for protection against damage caused by occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- PPTC devices are not recommended for installation in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
- Operation in circuits with a large inductance can generate a circuit voltage (Ldi/dt) above the rated voltage of the device.