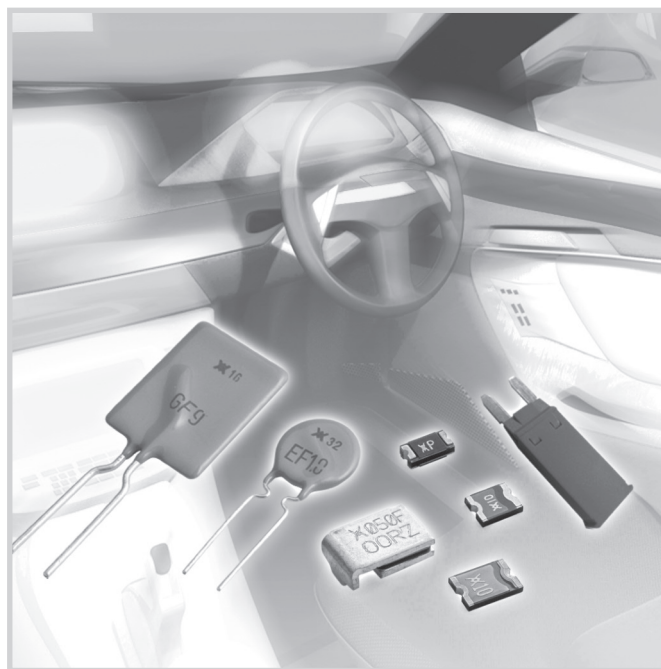


PolySwitch Resettable Devices

Automotive Devices

We have provided PPTC resettable devices for the automotive industry for over 25 years. With the advent of TS16949 and our continued involvement in the automotive industry, TE Circuit Protection developed automotive-specific versions of our PolySwitch PPTC devices (the nanoASMD, microASMD, miniASMD, AHS, ASMD, AHRF, AHEF, AGRF and BD families). These products are qualified and sold under the PS400 specification which is derived from AEC-Q200, the standard for electronic components used in the automotive industry. The key difference between these product families and other protection devices in our circuit protection product portfolio is the qualification process that is followed that includes a series of rigorous tests related to the automotive environment. As a result, they are characterized by specific additional values determined following automotive-related testing.



Benefits

- Expertise from the world's leading resettable overcurrent protection manufacturer
- High-quality products from the world's largest passive component manufacturer
- Worldwide team dedicated to support automotive applications
- Wide range of dedicated automotive surface-mount and radial-leaded resettable overcurrent devices
- High-performance transient voltage protection devices

Features

- RoHS compliant
- Overcurrent and overvoltage circuit protection devices
- Resettable and single-use overcurrent devices
- Wide range of form factor and termination methods
- Products meet applicable automotive industry standards
- Devices compatible with high-volume electronics assembly

Applications

- Motor and motor circuit protection including power door-locks, mirrors, lumbar pumps, seats, sunroofs and windows
- Electronic Control Unit (ECU) I/O protection
- Heating, Ventilation and Cooling (HVAC) motor and I/O protection
- Telematics, infotainment and navigations systems
- Liquid Crystal Display (LCD) back-light heaters
- Power and cigarette lighter outlets, plugs and adapter/chargers
- Powered networks and buses
- Air-flow detection and overcurrent protection in HVAC and cooling fan systems
- Stall detection in express window and sunroof circuits
- Resettable overcurrent protection for power distribution, electrical centers and junction boxes
- Wire downsizing
- Motor electromagnetic interference (EMI) suppression
- Electrostatic discharge (ESD) damage protection
- Load dump and other transient voltage protection

Table A1 Product Series - Current Rating, Voltage Rating / Typical Resistance for PolySwitch Automotive Devices

Voltage Rating	AGRF 16V	AHRF 16V	AHRF 30V	AHEF 32V	AHS 16V	ASMD 16V	ASMD 30V	ASMD 60V	BD 14V
Hold Current (A)									
0.30	—	—	—	—	—	—	—	2.90Ω	—
0.50	—	—	0.565Ω	0.5650Ω	—	—	—	0.90Ω	—
0.70	—	—	0.385Ω	0.3850Ω	—	—	—	—	—
0.75	—	—	—	—	—	—	0.60Ω	—	—
0.80	—	—	—	—	0.250Ω	—	—	—	—
1.00	—	—	0.225Ω	0.2250Ω	—	—	0.30Ω	—	—
1.20	—	—	—	—	0.245Ω	—	—	—	—
1.25	—	—	—	—	—	0.160Ω	—	—	—
1.50	—	—	—	—	—	0.140Ω	—	—	—
1.60	—	—	—	—	0.100Ω	—	—	—	—
1.85	—	—	—	—	—	0.079Ω	—	—	—
2.00	—	0.0565Ω	—	—	0.070Ω	0.090Ω	—	—	—
2.50	—	—	—	—	—	0.060Ω	—	—	—
3.00	—	0.0410Ω	—	0.0520Ω	0.050Ω	—	—	—	—
4.00	0.0300Ω	0.0305Ω	—	—	—	—	—	—	—
4.50	—	0.0290Ω	—	—	—	—	—	—	—
5.00	0.0192Ω	—	—	0.0200Ω	—	—	—	—	—
5.50	—	0.0190Ω	—	—	—	—	—	—	—
6.00	0.0145Ω	0.0180Ω	—	—	—	—	—	—	—
6.50	—	0.0140Ω	—	—	—	—	—	—	—
7.00	0.0105Ω	0.0126Ω	—	—	—	—	—	—	—
7.50	—	0.0120Ω	—	0.0120Ω	—	—	—	—	—
8.00	0.0086Ω	0.0104Ω	—	—	—	—	—	—	0.01150Ω
9.00	0.0070Ω	0.0100Ω	—	—	—	—	—	—	—
10.00	0.0056Ω	0.0083Ω	—	0.0083Ω	—	—	—	—	—
11.00	0.0050Ω	0.0069Ω	—	—	—	—	—	—	—
12.00	0.0046Ω	—	—	—	—	—	—	—	0.00600Ω
13.00	—	0.0055Ω	—	—	—	—	—	—	—
14.00	0.0040Ω	0.0050Ω	—	—	—	—	—	—	—
15.00	—	0.0050Ω	—	—	—	—	—	—	—
16.00	—	—	—	—	—	—	—	—	0.00365Ω
20.00	—	—	—	—	—	—	—	—	0.00285Ω
21.00	—	—	—	—	—	—	—	—	0.00260Ω

Voltage Rating	nanoASMD 48V	nanoASMD 24V	nanoASMD 16V	microASMD 30V	miniASMD 60V	miniASMD 30V	miniASMD 24V	miniASMD 16V
Hold Current (A)								
0.05	—	—	—	26.80Ω	—	—	—	—
0.10	—	—	—	8.55Ω	6.70Ω	—	—	—
0.12	3.95Ω	—	—	—	—	—	—	—
0.14	—	—	—	—	3.75Ω	—	—	—
0.16	3.05Ω	—	—	—	—	—	—	—
0.20	—	1.875Ω	—	—	—	1.950Ω	—	—
0.30	—	—	—	—	—	0.975Ω	—	—
0.35	—	—	0.90Ω	—	—	—	—	—
0.50	—	—	—	—	—	—	0.575Ω	—
0.75	—	—	—	—	—	—	0.190Ω	—
1.10	—	—	—	—	—	—	0.120Ω	0.1200Ω
1.25	—	—	—	—	—	—	—	0.0950Ω
1.50	—	—	—	—	—	—	0.080Ω	0.0750Ω
2.60	—	—	—	—	—	—	—	0.0325Ω

Table A2 Thermal Derating for PolySwitch Automotive Devices
[Hold Current (A) at Ambient Temperature (°C)]

Part Number	Maximum Ambient Temperature										
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C	125°C
AGRF											
16V — Radial-leaded											
AGRF400	5.9	5.3	4.8	4.1	4.0	3.5	3.2	2.8	2.5	1.9	—
AGRF500	7.3	6.6	6.0	5.2	5.0	4.4	4.0	3.6	3.1	2.4	—
AGRF600	8.8	8.0	7.2	6.2	6.0	5.2	4.8	4.2	3.8	2.8	—
AGRF700	10.3	9.3	8.4	7.3	7.0	6.2	5.6	5.0	4.4	3.3	—
AGRF800	11.7	10.7	9.6	8.3	8.0	6.9	6.4	5.6	5.1	3.7	—
AGRF900	13.2	11.9	10.7	9.4	9.0	7.9	7.2	6.4	5.6	4.2	—
AGRF1000	14.7	13.3	12.0	10.3	10.0	8.7	8.0	7.0	6.3	4.7	—
AGRF1100	16.1	14.6	13.1	11.5	11.0	9.7	8.8	7.8	6.9	5.2	—
AGRF1200	17.6	16.0	14.4	12.4	12.0	10.4	9.6	8.4	7.6	5.6	—
AGRF1400	20.5	18.7	16.8	14.5	14.0	12.1	11.2	9.8	8.9	6.5	—
AHRF (High Temperature)											
30V — Radial-leaded											
AHRF050	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.1
AHRF070	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.2
AHRF100	1.4	1.2	1.1	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.2
AHRF (High Temperature)											
16V — Radial-leaded											
AHRF200	2.7	2.5	2.3	2.1	2.0	1.8	1.6	1.5	1.3	1.1	0.5
AHRF300	4.1	3.7	3.4	3.1	3.0	2.7	2.4	2.2	2.0	1.7	0.7
AHRF400	5.6	5.1	4.7	4.2	4.0	3.6	3.3	3.0	2.7	2.3	1.0
AHRF450	6.1	5.6	5.1	4.6	4.5	4.0	3.6	3.3	3.0	2.5	1.1
AHRF550	7.5	6.9	6.2	5.7	5.5	4.9	4.4	4.0	3.7	3.1	1.4
AHRF600	8.2	7.5	6.8	6.2	6.0	5.3	4.9	4.4	4.0	3.3	1.5
AHRF650	8.8	8.1	7.4	6.7	6.5	5.7	5.3	4.8	4.3	3.6	1.6
AHRF700	9.5	8.7	8.0	7.2	7.0	6.2	5.6	5.2	4.7	3.9	1.7
AHRF750	10.2	9.4	8.6	7.7	7.5	6.6	6.1	5.6	5.0	4.1	1.9
AHRF800	10.9	10.0	9.1	8.2	8.0	7.1	6.4	5.9	5.3	4.4	2.0
AHRF900	12.2	11.2	10.2	9.3	9.0	8.0	7.2	6.6	6.0	5.0	2.2
AHRF1000	13.6	12.5	11.4	10.3	10.0	8.8	8.1	7.4	6.6	5.5	2.5
AHRF1100	14.9	13.7	12.5	11.3	11.0	9.7	8.8	8.1	7.3	6.1	2.7
AHRF1300	17.7	16.3	14.8	13.4	13.0	11.4	10.5	9.6	8.6	7.2	3.3
AHRF1400	19.0	17.5	15.9	14.4	14.0	12.4	11.2	10.3	9.3	7.8	3.5
AHRF1500	20.4	18.8	17.1	15.5	15.0	13.2	12.1	11.1	9.9	8.3	3.8
AHEF (High Temperature)											
32V — Radial-leaded											
AHEF050	0.7	0.6	0.60	0.5	0.5	0.4	0.400	0.40	0.30	0.300	0.1
AHEF070	1.0	0.9	0.80	0.7	0.7	0.6	0.600	0.50	0.50	0.400	0.2
AHEF100	1.4	1.2	1.10	1.0	1.0	0.9	0.800	0.70	0.70	0.600	0.2
AHEF300	4.1	3.8	3.42	3.1	3.0	2.7	2.430	2.22	1.98	1.650	0.6
AHEF500	6.8	6.3	5.70	5.2	5.0	4.5	4.050	3.70	3.30	2.750	1.0
AHEF750	10.2	9.4	8.55	7.7	7.5	6.7	6.075	5.55	4.95	4.125	1.5
AHEF1000	13.6	12.5	11.40	10.3	10.0	8.9	8.100	7.40	6.60	5.500	2.0
AHS (High Temperature)											
16V — Surface-mount											
AHS080-2018	1.20	1.04	0.90	0.8	0.77	0.68	0.62	0.60	0.53	0.46	0.26
NEW AHS120	1.72	1.54	1.36	1.2	1.14	1.01	0.92	0.83	0.74	0.61	0.25
AHS160	2.15	1.96	1.78	1.6	1.55	1.42	1.33	1.24	1.15	1.01	0.64
AHS200	2.90	2.50	2.20	2.0	1.94	1.80	1.75	1.70	1.40	1.18	0.67
AHS300	4.20	3.80	3.70	3.0	2.92	2.63	2.44	2.10	2.00	1.76	1.00

Table A2 Thermal Derating for PolySwitch Automotive Devices
[Hold Current (A) at Ambient Temperature (°C)]

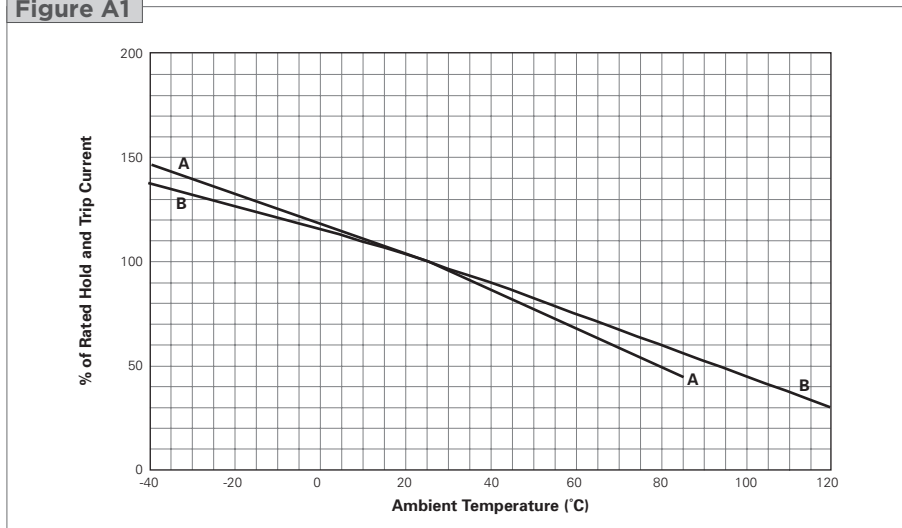
Cont'd

Part Number	Maximum Ambient Temperature										
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C	125°C
ASMD											
16-60V — Surface-mount											
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	—
ASMD150F	1.93	1.70	1.50	1.27	1.22	1.07	0.95	0.85	0.74	0.58	—
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	—
nanoASMD											
16-48V — Surface-mount											
nanoASMD012F	0.20	0.17	0.15	0.13	0.12	0.11	0.10	0.09	0.08	0.07	—
nanoASMD016F	0.21	0.20	0.18	0.16	0.16	0.14	0.13	0.12	0.11	0.09	—
nanoASMD020F	0.34	0.30	0.26	0.22	0.20	0.17	0.15	0.13	0.11	0.08	—
nanoASMD035F	0.58	0.51	0.44	0.38	0.35	0.31	0.28	0.24	0.21	0.16	—
microASMD											
30V — Surface-mount											
microASMD005F	0.08	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	—
microASMD010F	0.15	0.13	0.12	0.10	0.10	0.09	0.08	0.06	0.06	0.05	—
miniASMD											
16-60V — Surface-mount											
miniASMD010F	0.17	0.15	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.04	—
miniASMD014F	0.23	0.20	0.17	0.14	0.13	0.11	0.10	0.09	0.07	0.05	—
miniASMD020F	0.30	0.27	0.23	0.20	0.19	0.17	0.15	0.13	0.12	0.09	—
miniASMD030F	0.49	0.44	0.39	0.32	0.30	0.27	0.24	0.22	0.18	0.14	—
miniASMD050F	0.59	0.57	0.55	0.50	0.48	0.45	0.43	0.35	0.30	0.23	—
miniASMD075F/24	1.50	1.25	1.00	0.75	0.73	0.65	0.60	0.55	0.50	0.43	—
miniASMD0110F/16	1.68	1.49	1.30	1.10	1.05	0.92	0.83	0.75	0.64	0.50	—
miniASMD0110F/24	2.00	1.70	1.40	1.10	1.06	0.95	0.88	0.80	0.73	0.61	—
miniASMD0125F/16	2.00	1.69	1.47	1.25	1.17	1.03	0.92	0.90	0.69	0.53	—
miniASMD0150F/16	2.40	2.10	1.80	1.50	1.44	1.25	1.13	1.00	0.88	0.69	—
miniASMD0150F/24	2.10	1.90	1.70	1.50	1.44	1.25	1.13	1.00	0.88	0.69	—
miniASMD0260F/16	3.50	3.20	3.00	2.60	2.53	2.30	2.15	2.00	1.85	1.63	—
BD											
14V — Bladed Device											
BD280-1130-10/16	12.4	11.0	9.7	8.3	8.0	7.0	6.3	5.6	5.0	4.0	—
BD280-1130-15/16	17.4	15.7	14.1	12.4	12.0	10.8	9.9	9.1	8.3	7.0	—
BD280-1130-20/16	24.0	21.6	19.1	16.6	16.0	14.1	12.9	11.7	10.4	8.6	—
BD280-1927-25/16-W	32.0	28.3	24.6	20.9	20.0	17.2	15.4	13.5	11.7	8.9	—
BD280-1927-30/16-W	34.1	30.1	26.0	22.0	21.0	18.0	16.0	14.0	11.9	9.1	—

Figures A1-A4 Thermal Derating Curves for PolySwitch Automotive Devices

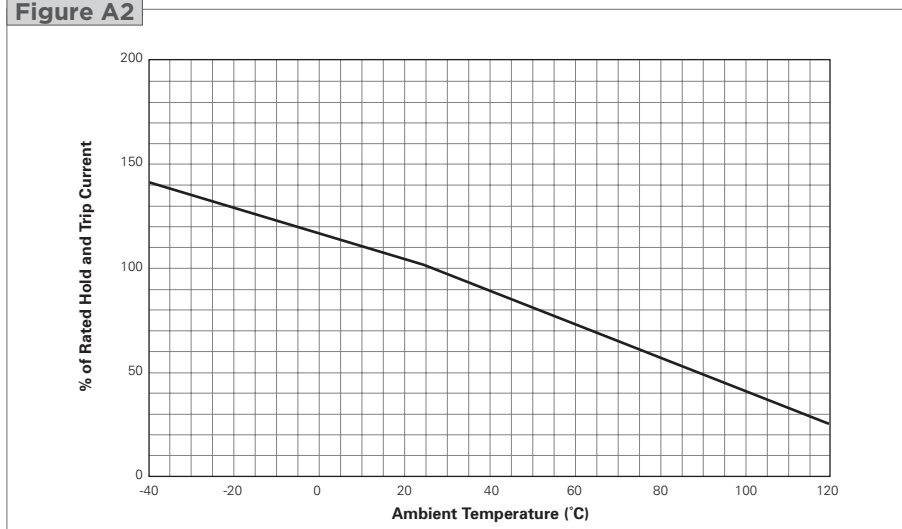
A = AGRF
B = AHRF

Figure A1



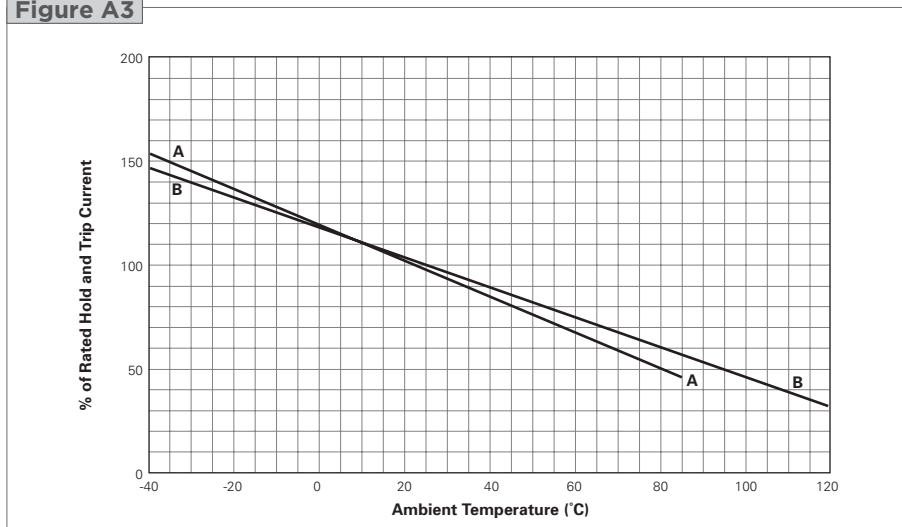
AHEF

Figure A2



A = ASMD, nanoASMD, microASMD, miniASMD
B = AHS

Figure A3



BD

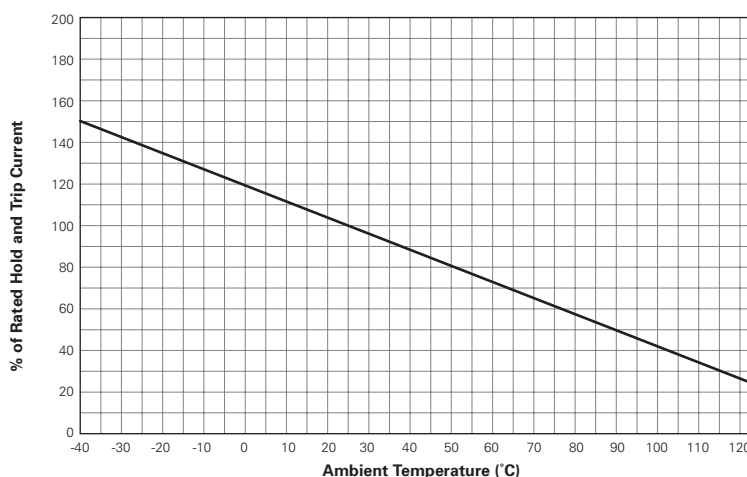
Figure A4

Table A3 Electrical Characteristics for PolySwitch Automotive Devices

Table A3 Electrical Characteristics for PolySwitch Automotive Devices

Cont'd

Part Number	$I_H(A)@R_{1MAX}$	$I_H(A)@R_{aMAX}$	$I_T(A)$	$V_{MAX}(V_{DC})$	$I_{MAX}(A)$	$P_{D Typ}(W)$	Max. Time-to-trip (A) (s)		$R_{MIN}(\Omega)$	$R_{1MAX}(\Omega)$	$R_{aMAX}(\Omega)$	Figure for Dimensions		
AHEF (High Temperature)														
32V — Radial-leaded														
AHEF050	0.5	0.5	1.0	32	100	0.9	2.5	3.0	0.3500	1.100	1.100	A8, A9, A10		
AHEF070	0.7	0.7	1.4	32	100	0.9	3.5	3.2	0.2300	0.800	0.800	A8, A9, A11		
AHEF100	1.0	1.0	1.9	32	100	1.4	5.0	6.2	0.1500	0.430	0.430	A8, A9, A10		
AHEF300	3.0	3.0	6.0	32	100	3.2	15.0	5.0	0.0350	0.110	0.110	A8, A9, A12		
AHEF500	5.0	5.0	10.0	32	100	5.3	25.0	9.0	0.0150	0.040	0.040	A8, A9, A12		
AHEF750	7.5	7.5	15.0	32	100	6.5	37.5	13.0	0.0074	0.023	0.023	A8, A9, A12		
AHEF1000	10.0	10.0	20.0	32	100	7.0	50.0	15.0	0.0060	0.016	0.016	A8, A9, A12		
AHS (High Temperature)														
16V — Surface-mount														
AHS080-2018	0.80	0.80	2.00	16	70	1.5	8.0	9.0	0.130	0.550	0.550	A6		
NEW AHS120	1.20	1.20	2.30	16	50	2.2	8.0	2.0	0.150	0.340	0.340	A7		
AHS160	1.60	1.60	3.20	16	70	2.2	8.0	15.0	0.050	0.150	0.150	A7		
AHS200	2.00	2.00	4.00	16	70	2.3	8.0	13.4	0.050	0.140	0.140	A7		
AHS300	3.00	3.00	6.00	16	70	3.0	15.0	8.0	0.024	0.083	0.083	A7		
ASMD														
16-60V — Surface-mount														
ASMD030F	0.23	0.23	0.59	60	10	1.1	1.15	12.0	0.980	4.800	4.800	A7		
ASMD050F	0.37	0.37	0.98	60	10	1.7	1.95	20.0	0.290	1.400	1.400	A7		
ASMD075F	0.60	0.60	1.48	30	40	1.1	3.00	20.0	0.290	1.000	1.000	A7		
ASMD100F	0.90	0.90	2.16	30	40	1.1	4.50	20.0	0.098	0.480	0.480	A7		
ASMD125F	1.04	1.04	2.46	16	40	1.1	5.20	20.0	0.057	0.250	0.250	A7		
ASMD150F	1.27	1.27	2.95	16	40	1.2	6.35	25.0	0.049	0.250	0.250	A7		
ASMD185F	1.85	1.85	3.70	16	40	1.5	9.25	11.3	0.032	0.126	0.126	A7		
ASMD200F	1.73	1.73	3.93	16	40	1.2	8.65	30.0	0.050	0.120	0.120	A7		
ASMD250F	1.97	1.97	5.00	16	40	1.2	9.85	30.0	0.035	0.085	0.085	A7		
nanoASMD														
16-48V — Surface-mount														
nanoASMD012F	0.12	0.12	0.39	48	10	0.5	1.0	0.2	1.40	6.50	6.50	A15		
nanoASMD016F	0.16	0.16	0.45	48	10	0.5	1.0	0.3	1.10	5.00	5.00	A15		
nanoASMD020F	0.20	0.20	0.42	24	100	0.6	8.0	0.1	0.65	3.10	3.10	A15		
nanoASMD035F	0.35	0.75	0.75	16	20	0.6	3.5	0.1	0.45	1.35	1.35	A15		
microASMD														
30V — Surface-mount														
microASMD005F	0.05	0.05	0.15	30	10	1.0	0.25	1.5	3.6	50.0	50.0	A15		
microASMD010F	0.10	0.10	0.25	30	10	0.8	0.50	1.0	2.1	15.0	15.0	A15		
miniASMD														
16-60V — Surface-mount														
miniASMD010F	0.10	0.10	0.30	60	40	0.75	0.5	5.000	0.700	12.70	12.70	A15		
miniASMD014F	0.14	0.14	0.28	60	10	0.75	8.0	0.008	1.500	6.00	6.00	A15		
miniASMD020F	0.20	0.20	0.40	30	10	0.80	8.0	0.020	0.600	3.30	3.30	A15		
miniASMD030F	0.30	0.30	0.60	30	40	0.80	8.0	0.100	0.200	1.75	1.75	A15		
miniASMD050F	0.50	0.50	1.00	24	100	0.80	8.0	0.150	0.150	1.00	1.00	A15		
miniASMD075F/24	0.75	0.75	1.50	24	40	0.80	8.0	0.300	0.090	0.29	0.29	A15		
miniASMD0110F/16	1.10	1.10	2.20	16	100	0.80	8.0	0.300	0.060	0.18	0.18	A15		
miniASMD0110F/24	1.10	1.10	2.20	24	20	0.80	8.0	0.500	0.060	0.18	0.18	A15		
miniASMD0125F/16	1.25	1.25	2.50	16	100	0.80	8.0	0.400	0.050	0.14	0.14	A15		
miniASMD0150F/16	1.50	1.50	2.80	16	100	0.80	8.0	0.500	0.040	0.11	0.11	A15		
miniASMD0150F/24	1.50	1.50	3.00	24	20	1.00	8.0	1.500	0.040	0.12	0.12	A15		
miniASMD0260F/16	2.60	2.60	5.00	16	100	1.20	8.0	5.000	0.015	0.05	0.05	A15		

Table A3 Electrical Characteristics for PolySwitch Automotive Devices

Cont'd

Part Number	$I_H(A)@$ R_{1MAX}	$I_H(A)@$ R_{aMAX}	I_T (A)	V_{MAX} (V _{DC})	I_{MAX} (A)	$P_{D\ Typ}$ (W)	Max. Time-to-trip		R_{MIN} (Ω)	R_{1MAX} (Ω)	R_{aMAX} (Ω)	Figure for Dimensions
							(A)	(s)				
BD												
14V — Bladed Device												
BD280-1130-10/16	8	8	13	14	100	4.4	40	8	0.0095	0.0185	0.0185	A13
BD280-1130-15/16	12	12	20	14	100	4.5	60	8	0.0050	0.0070	0.0070	A13
BD280-1130-20/16	16	16	26	14	100	5.2	80	10	0.0028	0.0064	0.0064	A13
BD280-1927-25/16-W	20	20	32	14	100	6.0	100	13	0.0024	0.0042	0.0042	A14
BD280-1927-30/16-W	21	21	38	14	100	6.2	120	13	0.0021	0.0043	0.0043	A14

Notes:
 I_H : Hold current: maximum current device will pass without interruption in 25°C, unless otherwise specified (20°C for ASMD).

 I_T : Trip current: minimum current that will switch the device from low-resistance to high-resistance in 25°C still air, unless otherwise specified.

 V_{MAX} : Maximum voltage device can withstand without damage at rated current.

 I_{MAX} : Maximum fault current device can withstand without damage at rated voltage.

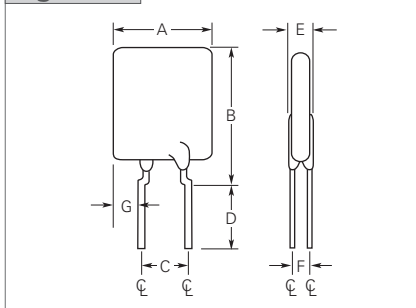
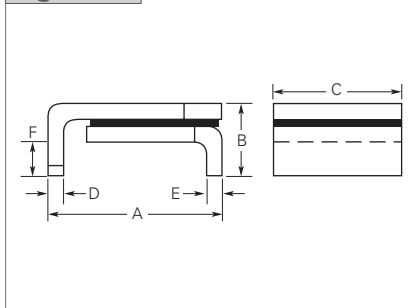
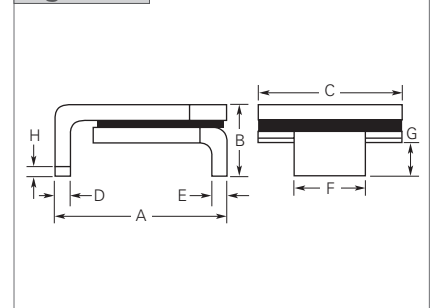
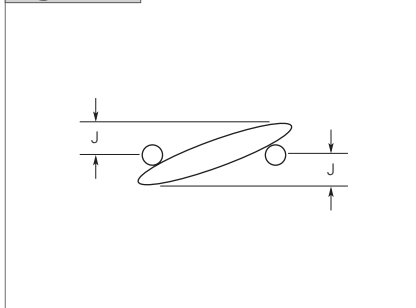
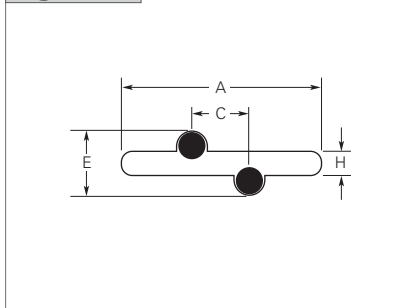
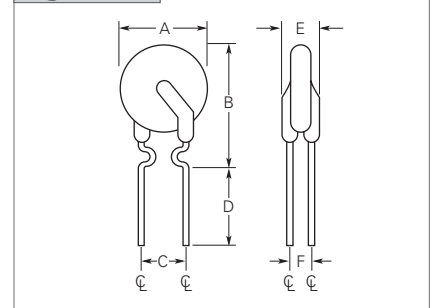
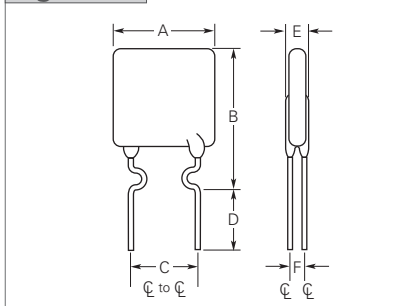
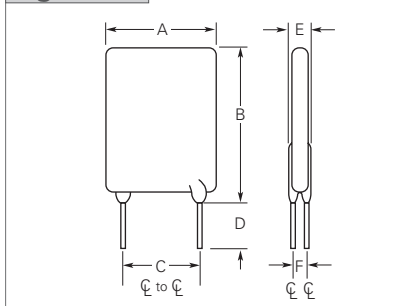
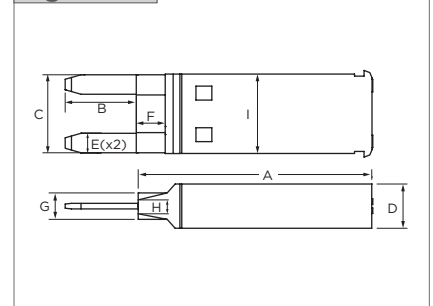
 P_D : Power dissipated from device when in the tripped state in 25°C still air, unless otherwise specified.

 R_{MIN} : Minimum resistance of device as supplied at 25°C, unless otherwise specified.

 R_{1MAX} : Maximum resistance of device when measured one hour post reflow (surface-mount device) or one hour post trip (radial-leaded device) at 25°C unless otherwise specified.

 R_{aMAX} : Maximum functional resistance of device after being subjected to the stresses described in PS400 at 25°C, unless otherwise specified.

 R_{aMIN} : Minimum functional resistance of device after being subjected to the stresses described in PS400 at 25°C, unless otherwise specified.

Figures A5-A15 Dimension Figures for PolySwitch Automotive Devices
Figure A5

Figure A6

Figure A7

Figure A8

Figure A9

Figure A10

Figure A11

Figure A12

Figure A13


Figures A5-A15 Dimension Figures for PolySwitch Automotive Devices

Cont'd

Figure A14

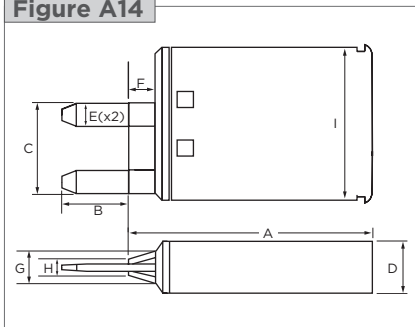


Figure A15

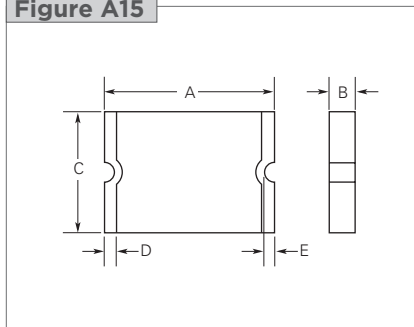


Table A4 Dimensions for PolySwitch Automotive Devices in Millimeters and (Inches)

Part Number	A		B		C		D		E		F		G		H		J	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Typ	Max	Figure	
AGRF																		
16V — Radial-leaded																		
AGRF400	—	8.9 (0.350)	—	14.1 (0.56)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.15)	—	—	3.10 (0.120)	1.24 (0.049)	1.4 (0.06)	A5, A8, A9	
AGRF500	—	10.4 (0.410)	—	15.6 (0.61)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3.94 (0.155)	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AGRF600	—	10.7 (0.420)	—	18.4 (0.73)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	4.07 (0.160)	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AGRF700	—	11.2 (0.440)	—	21.0 (0.73)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	4.49 (0.177)	1.24 (0.049)	1.7 (0.07)	A5, A8, A9	
AGRF800	—	12.7 (0.500)	—	22.2 (0.88)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	5.08 (0.200)	1.24 (0.049)	1.8 (0.07)	A5, A8, A9	
AGRF900	—	14.0 (0.550)	—	23.0 (0.91)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	5.69 (0.224)	1.24 (0.049)	2.0 (0.08)	A5, A8, A9	
AGRF1000	—	16.51 (0.650)	—	25.7 (1.01)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	6.96 (0.274)	1.24 (0.049)	2.0 (0.08)	A5, A8, A9	
AGRF1100	—	17.5 (0.690)	—	26.5 (1.04)	4.3 (0.17)	5.8 (0.20)	7.6 (0.3)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	7.47 (0.294)	1.24 (0.049)	2.4 (0.09)	A5, A8, A9	
AGRF1200	—	17.5 (0.690)	—	28.8 (1.14)	9.4 (0.37)	10.9 (0.43)	7.6 (0.3)	—	—	3.5 (0.14)	1.4 (0.06)	—	—	4.83 (0.190)	1.45 (0.057)	1.5 (0.06)	A5, A8, A9	
AGRF1400	—	23.5 (0.925)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.3)	—	—	3.5 (0.14)	1.4 (0.06)	—	—	7.82 (0.308)	1.45 (0.057)	1.9 (0.07)	A5, A8, A9	
AHRF (High Temperature)																		
30V — Radial-leaded																		
AHRF050	—	7.4 (0.29)	—	12.7 (0.50)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.3 (0.13)	1.2 (0.05)	—	—	— (0.049)	1.24 (0.06)	1.6 (0.06)	A8, A9, A10	
AHRF070	—	6.9 (0.27)	—	10.8 (0.43)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.3 (0.13)	1.2 (0.05)	—	—	— (0.049)	1.24 (0.06)	1.6 (0.06)	A8, A9, A11	
AHRF100	—	9.7 (0.38)	—	13.6 (0.54)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	— (0.049)	1.24 (0.06)	1.6 (0.06)	A8, A9, A10	

Table A4 Dimensions for PolySwitch Automotive Devices in Millimeters and (Inches)

Cont'd

Part Number	A		B		C		D		E		F		G		H	J	Figure	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Typ	Max		
AHRF (High Temperature)																		
16V — Radial-leaded																		
AHRF200	—	9.4 (0.37)	—	14.4 (0.57)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A8, A9, A10	
AHRF300	—	8.8 (0.35)	—	13.8 (0.55)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF400	—	10.0 (0.39)	—	15.0 (0.59)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF450	—	10.4 (0.41)	—	15.6 (0.61)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3.94 (0.155)	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF550	—	11.2 (0.44)	—	18.9 (0.74)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF600	—	11.2 (0.44)	—	21.0 (0.73)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	4.49 (0.177)	1.24 (0.049)	1.7 (0.07)	A5, A8, A9	
AHRF650	—	12.7 (0.50)	—	22.2 (0.88)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	5.08 (0.200)	1.24 (0.049)	1.8 (0.07)	A5, A8, A9	
AHRF700	—	14.0 (0.55)	—	21.9 (0.86)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF750	—	14.0 (0.55)	—	23.5 (0.93)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	5.69 (0.224)	1.24 (0.049)	2.0 (0.08)	A5, A8, A9	
AHRF800	—	16.5 (0.65)	—	22.5 (0.88)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF900	—	16.5 (0.65)	—	25.7 (1.01)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	—	—	A5, A8, A9	
AHRF1000	—	17.5 (0.69)	—	26.5 (1.04)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	7.47 (0.294)	1.24 (0.049)	1.5 (0.06)	A5, A8, A9	
AHRF1100	—	21.0 (0.83)	—	26.1 (1.03)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF1300	—	23.5 (0.925)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.5 (0.14)	1.4 (0.06)	—	—	7.82 (0.308)	1.45 (0.057)	1.9 (0.08)	A5, A8, A9	
AHRF1400	—	23.5 (0.93)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.6 (0.14)	1.4 (0.06)	—	—	—	1.24 (0.049)	1.6 (0.06)	A5, A8, A9	
AHRF1500	—	23.5 (0.93)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.5 (0.14)	1.4 (0.06)	—	—	7.82 (0.308)	—	—	A5, A8, A9	
AHEF (High Temperature)																		
32V — Radial-leaded																		
AHEF050	—	7.4 (0.29)	—	12.7 (0.50)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.3 (0.13)	—	—	—	—	—	—	A8, A9, A10	
AHEF070	—	6.9 (0.27)	—	10.8 (0.43)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	—	—	—	—	—	—	A8, A9, A11	
AHEF100	—	9.7 (0.38)	—	13.6 (0.54)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	—	—	—	—	—	—	A8, A9, A10	
AHEF300	—	10.2 (0.40)	—	15.5 (0.61)	4.32 (0.17)	5.84 (0.23)	7.6 (0.30)	—	—	3.8 (0.15)	—	—	—	—	—	—	A8, A9, A12	
AHEF500	—	14.0 (0.55)	—	24.1 (0.95)	4.3 (0.17)	5.8 (0.23)	11.5 (0.45)	—	—	3.8 (0.15)	—	—	—	—	—	—	A8, A9, A12	
AHEF750	—	21.1 (0.83)	—	24.9 (0.98)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.8 (0.15)	—	—	—	—	—	—	A8, A9, A12	
AHEF1000	—	23.5 (0.93)	—	27.9 (1.10)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	4.0 (0.16)	—	—	—	—	—	—	A8, A9, A12	

Table A4 Dimensions for PolySwitch Automotive Devices in Millimeters and (Inches)

Cont'd

Part Number	A		B		C		D		E		F		G		H		Figure	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
AHS (High Temperature)																		
16V — Surface-mount																		
AHS080-2018	4.72 (0.186)	5.44 (0.214)	—	1.52 (0.060)	4.22 (0.166)	4.93 (0.194)	0.25 (0.010)	0.36 (0.014)	0.25 (0.010)	0.36 (0.014)	0.30 (0.012)	0.46 (0.018)	—	—	—	—	A6	
NEW AHS120	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)	—	A7	
AHS160	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)	—	A7	
AHS200	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.240)	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)	—	A7	
AHS300	8.00 (0.315)	9.40 (0.370)	—	3.00 (0.118)	6.0 (0.240)	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)	—	A7	
ASMD																		
16-60V — Surface-mount																		
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
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)	—	A7	
Part Number	A		B		C		D		E		F		G		H		Figure	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
nanoASMD																		
30V — Surface-mount																		
nanoASMD012F	—	—	3.00 (0.118)	3.40 (0.134)	0.62 (0.024)	1.00 (0.039)	1.37 (0.054)	1.80 (0.071)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	
nanoASMD016F	—	—	3.00 (0.118)	3.40 (0.134)	0.62 (0.024)	1.00 (0.039)	1.37 (0.054)	1.80 (0.071)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	
nanoASMD020F	—	—	3.00 (0.118)	3.40 (0.134)	0.58 (0.023)	0.82 (0.032)	1.37 (0.054)	1.80 (0.071)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	
nanoASMD035F	—	—	3.00 (0.118)	3.40 (0.134)	0.58 (0.023)	0.82 (0.032)	1.37 (0.054)	1.80 (0.071)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	
microASMD																		
30V — Surface-mount																		
microASMD005F	—	—	3.0 (0.118)	3.43 (0.135)	0.50 (0.019)	0.85 (0.034)	2.35 (0.092)	2.80 (0.110)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	
microASMD010F	—	—	3.0 (0.118)	3.43 (0.135)	0.50 (0.019)	0.85 (0.034)	2.35 (0.092)	2.80 (0.110)	0.25 (0.010)	0.75 (0.030)	0.076 (0.003)	—	—	—	—	—	A15	

Table A4 Dimensions for PolySwitch Automotive Devices in Millimeters and (Inches)

Cont'd

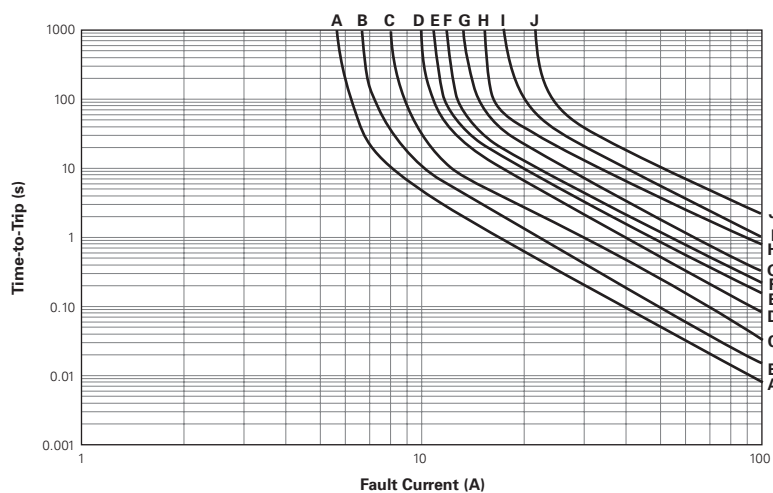
Part Number	A		B		C		D		E(x2)		F		G		H		I		Figure	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
BD																				
14V — Bladed Device																				
BD280-1130-10/16	29.50 (1.173)	30.10 (1.185)	8.70 (0.343)	9.30 (0.366)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	3.30 (0.130)	3.90 (0.154)	3.40 (0.134)	4.00 (0.157)	1.70 (0.067)	2.30 (0.091)	10.90 (0.429)	11.50 (0.453)	A13	
BD280-1130-15/16	29.50 (1.173)	30.10 (1.185)	8.70 (0.343)	9.30 (0.366)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	3.30 (0.130)	3.90 (0.154)	3.40 (0.134)	4.00 (0.157)	1.70 (0.067)	2.30 (0.091)	10.90 (0.429)	11.50 (0.453)	A13	
BD280-1130-20/16	29.50 (1.173)	30.10 (1.185)	8.70 (0.343)	9.30 (0.366)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	3.30 (0.130)	3.90 (0.154)	3.40 (0.134)	4.00 (0.157)	1.70 (0.067)	2.30 (0.091)	10.90 (0.429)	11.50 (0.453)	A13	
BD280-1927-25/16-W	26.65 (1.049)	27.35 (1.077)	8.60 (0.339)	9.20 (0.362)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	1.80 (0.071)	2.20 (0.087)	3.50 (0.138)	3.90 (0.154)	1.70 (0.067)	2.30 (0.091)	19.00 (0.748)	19.40 (0.764)	A14	
BD280-1927-30/16-W	26.65 (1.049)	27.35 (1.077)	8.60 (0.339)	9.20 (0.362)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	1.80 (0.071)	2.20 (0.087)	3.50 (0.138)	3.90 (0.154)	1.70 (0.067)	2.30 (0.091)	19.00 (0.748)	19.40 (0.764)	A14	

Figures A16-A24 Typical Time-to-Trip at 25°C for PolySwitch Automotive Devices

AGRF

- A = AGRF400
- B = AGRF500
- C = AGRF600
- D = AGRF700
- E = AGRF800
- F = AGRF900
- G = AGRF1000
- H = AGRF1100
- I = AGRF1200
- J = AGRF1400

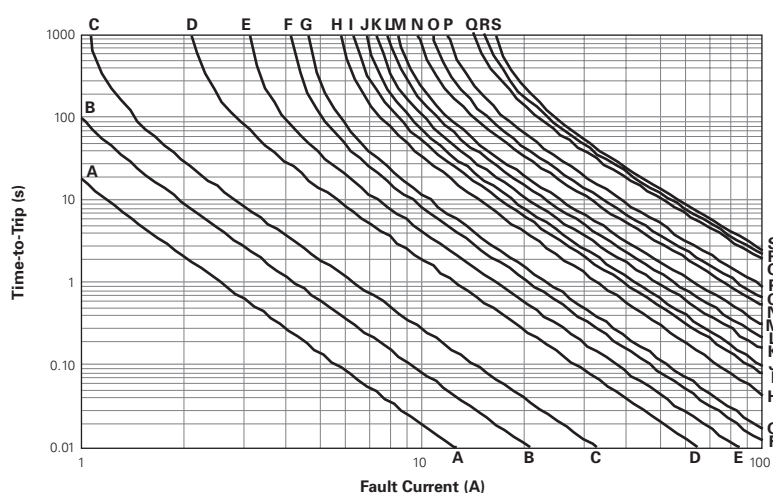
Figure A16



AHRF

- A = AHRF050
- B = AHRF070
- C = AHRF100
- D = AHRF200
- E = AHRF300
- F = AHRF400
- G = AHRF450
- H = AHRF550
- I = AHRF600
- J = AHRF650
- K = AHRF700
- L = AHRF750
- M = AHRF800
- N = AHRF900
- O = AHRF1000
- P = AHRF1100
- Q = AHRF1300
- R = AHRF1400
- S = AHRF1500

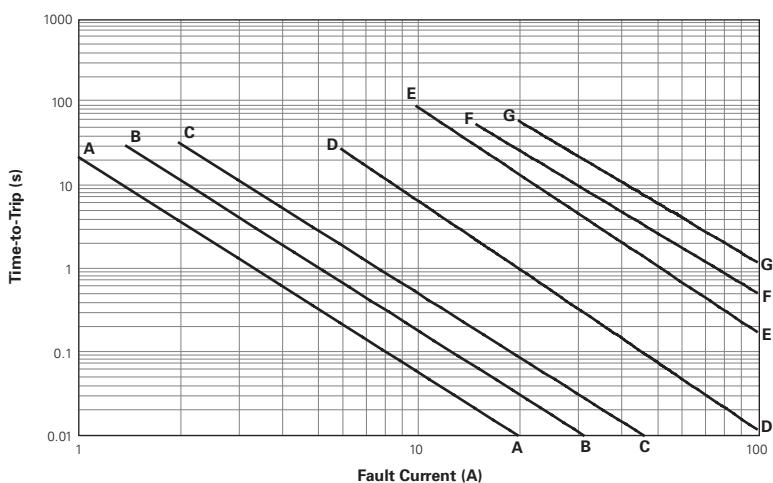
Figure A17



AHEF

- A = AHEF050
- B = AHEF070
- C = AHEF100
- D = AHEF300
- E = AHEF500
- F = AHEF750
- G = AHEF1000

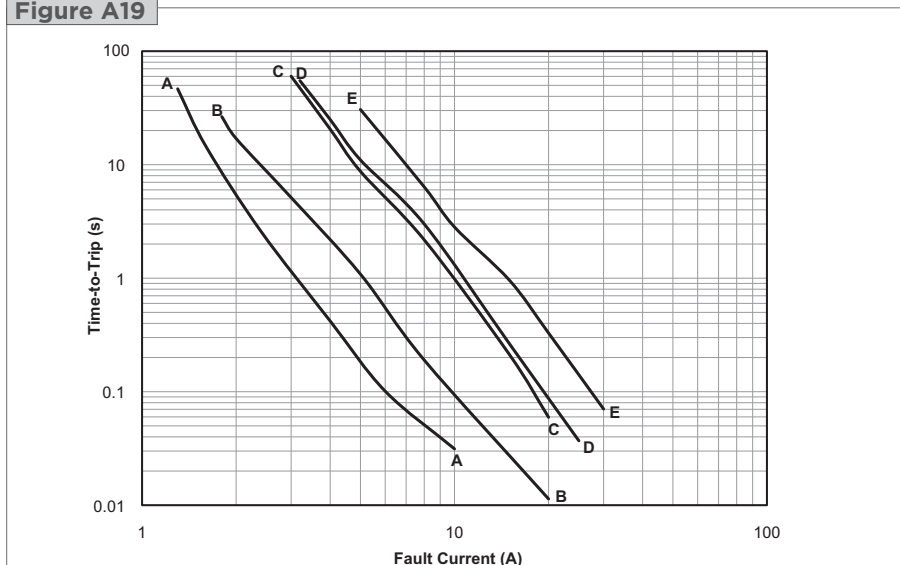
Figure A18



AHS

- A = AHS080-2018
- B = AHS120
- C = AHS160
- D = AHS200
- E = AHS300

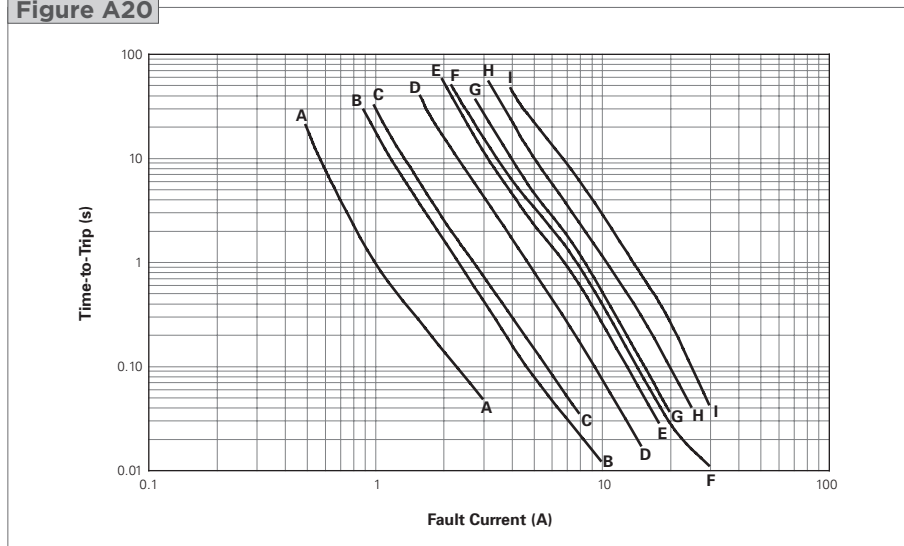
Figure A19



ASMD

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

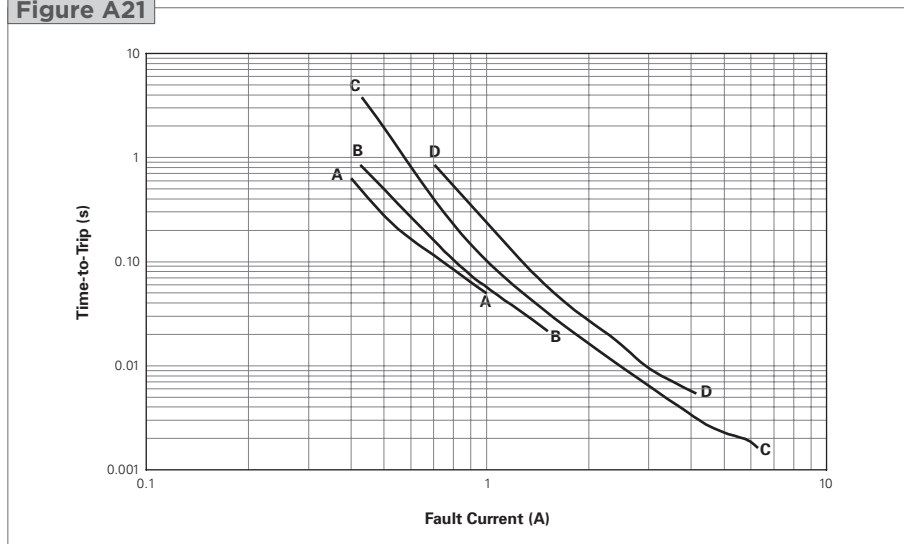
Figure A20



nanoASMD

- A = nanoASMD012F
- B = nanoASMD016F
- C = nanoASMD020F
- D = nanoASMD035F

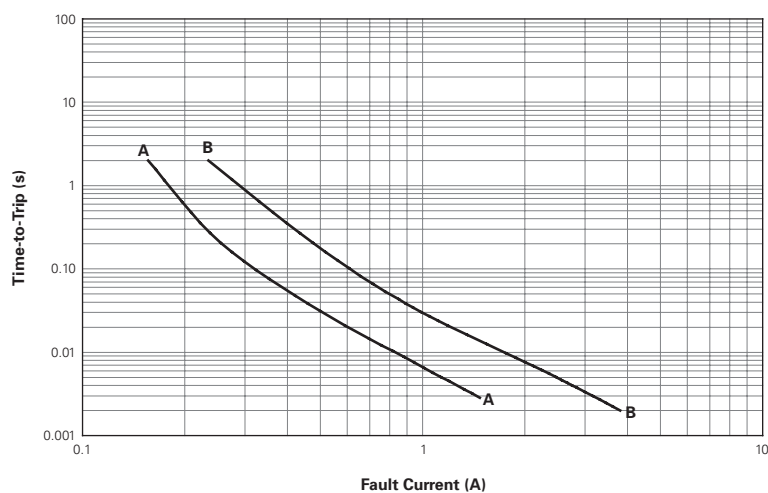
Figure A21



microASMD

- A = microASMD005F
- B = microASMD010F

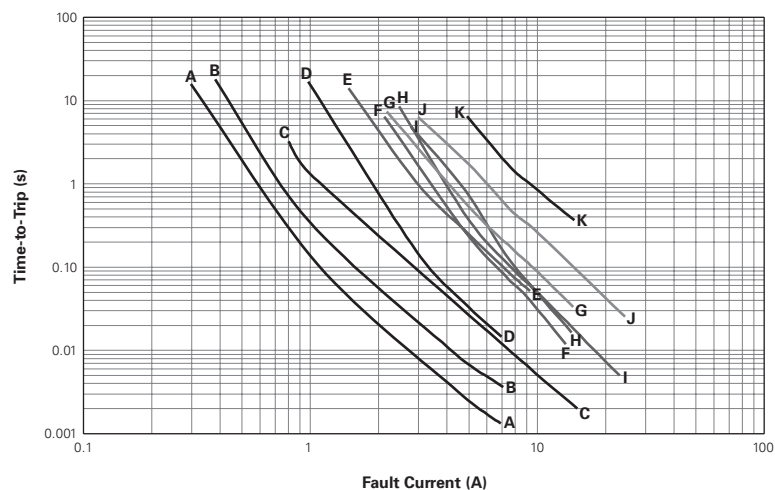
Figure A22



miniASMDC

- A = miniASMDC010F, miniASMDC014F
- B = miniASMDC020F
- C = miniASMDC030F
- D = miniASMDC050F
- E = miniASMDC075F/24
- F = miniASMDC110F/16
- G = miniASMDC110F/24
- H = miniASMDC125F/16
- I = miniASMDC150F/16
- J = miniASMDC150F/24
- K = miniASMDC260F/16

Figure A23



BD

- A = BD30A
- B = BD25A
- C = BD20A
- D = BD15A
- E = BD10A

Figure A24

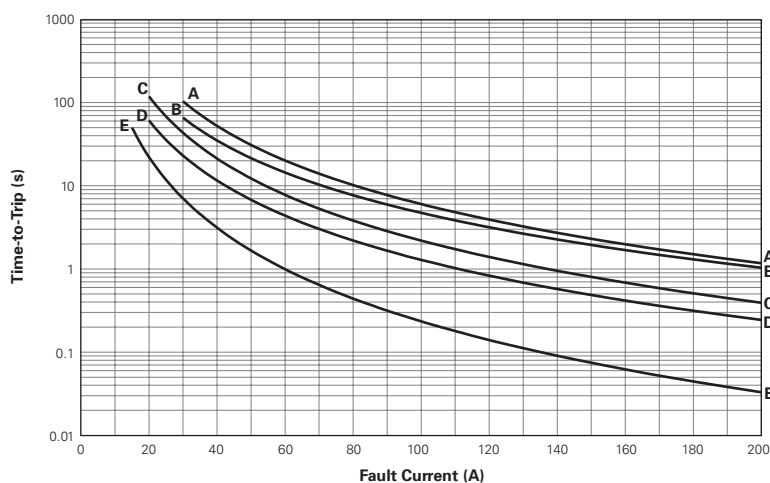


Table A5 Physical Characteristics and Environmental Specifications for PolySwitch Automotive Devices
AGRF
Physical Characteristics

Lead Material	AGRF400 to AGRF1100 : Tin-plated Copper, 0.52mm ² (20AWG) ø 0.8 mm/0.032in AGRF1200 to AGRF1400 : Tin-plated Copper, 0.82mm ² (18AWG) ø 1.0mm/0.040in
Soldering Characteristics	Solderability per ANSI/J-STD-002 Category 3
Solder Heat Withstand	AGRF400: per IEC68-2-20 Test Tb, Method 1A, Condition A: Can Withstand 5 s at 260°C ± 5°C AGRF500-AGRF1400: per IEC68-2-20 Test Tb, Method 1A, Condition B: Can Withstand 10 s at 260°C ± 5°C
Insulating Material	Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0
Operation Temperature	-40°C~85°C

Note: See PS400 for other physical characteristics.
Devices are not intended to be placed through a reflow process.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	70°C, 1000 hrs	±5%
	85°C, 1000 hrs	±5%
Humidity Aging	85°C, 85% RH, 1000 hrs	±5%
Thermal Shock	85°C, -40°C (10 Times)	±5%
Solvent Resistance	MIL-STD-202, Method 215F	No Change

Note: See PS400 for other environmental specifications.

AHRF
Physical Characteristics

Lead material	AHRF050 to AHRF200 : Tin-plated Copper-clad Steel, 0.205mm ² (24 AWG), ø 0.51mm/0.020in AHRF300 to AHRF1100 : Tin-plated Copper 0.52mm ² (20 AWG), ø 0.81mm/0.032in AHRF1300 to AHRF1500 : Tin-plated Copper 0.82mm ² (18 AWG), ø 1.0mm/0.04in
Soldering Characteristics	Solderability per ANSI/J-STD 002 Category 3
Solder Heat Withstand	Per IEC 68-2-20, Test Tb, Method 1A, Condition B; Can Withstand 10 s at 260°C ± 5°C
Insulating Material	Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0 Requirements
Operation Temperature	-40°C~125°C

Note: See PS400 for other physical characteristics.
Devices are not intended to be placed through a reflow process.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	70°C, 1000 hrs	±5%
	85°C, 1000 hrs	±5%
Humidity Aging	85°C, 85% RH, 1000 hrs	±5%
Thermal Shock	125°C, -40°C (10 Times)	±5%
Solvent Resistance	MIL-STD-202, Method 215F	No Change

Note: See PS400 for other environmental specifications.

AHEF
Physical Characteristics

Lead Material	AHEF050 to AHEF100 : Tin-plated Copper-clad Steel, 0.205mm ² (24 AWG), ø 0.51mm/0.020in. AHEF300 to AHEF750 : Tin-plated Copper 0.52mm ² (20 AWG), ø 0.81mm/0.032in AHEF1000 : Tin-plated Copper 0.82mm ² (18 AWG), ø 1.0mm/0.04in
Soldering Characteristics	Solderability per ANSI/J-STD 002 Category 3
Solder Heat Withstand	Per IEC 68-2-20, Test Tb, Method 1A, Condition B; Can Withstand 10 s at 260°C ± 5°C
Insulating Material	Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0 Requirements
Operation Temperature	-40°C~125°C

Note: See PS400 for other physical characteristics.
Devices are not intended to be placed through a reflow process.

Table A5 Physical Characteristics and Environmental Specifications for PolySwitch Automotive Devices Cont'd

AHEF
Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	70°C, 1000 hrs	±5%
	85°C, 1000 hrs	±5%
Humidity Aging	85°C, 85% RH, 1000 hrs	±5%
Thermal Shock	125°C, -40°C (10 Times)	±5%
Solvent Resistance	MIL-STD-202, Method 215F	No Change

Note: See PS400 for other environmental specifications.

AHS
Physical Characteristics

Lead Material	Tin-plated Brass to MIL-T-10727B
Soldering Characteristics	Solderability per ANSI-J-STD-002 Category 1
Solder Heat Withstand	Per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A
Flammability	Per IEC 695-2-2 Needle Flame Test for 20 s
Operation Temperature	-40°C~125°C

Note: See PS400 for other physical characteristics.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	70°C, 1000 hrs	±3% Typical
	85°C, 1000 hrs	±5% Typical
Humidity Aging	85°C, 85% RH, 1000 hrs	±1.2% Typical
Thermal Shock	125°C, -40°C (20 Times)	-33% Typical
Solvent Resistance	Freon	No Change
	Trichloroethane	No Change
	Hydrocarbons	No Change

Note: See PS400 for other environmental specifications.

ASMD
Physical Characteristics

Terminal Pad Material	98%+ Tin-plated Brass
Soldering Characteristics	Solderability per ANSI-J-STD-002 Category 1
Solder Heat Withstand	Per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A
Flammability Resistance	Per IEC 695-2-2 Needle Flame Test for 20 s
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 characteristics.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	60°C, 1000 hrs	±3% Typical
	85°C, 1000 hrs	±5% Typical
Humidity Aging	85°C, 85% RH, 100 hrs	±1.2% Typical
Thermal Shock	85°C, -40°C (20 Times)	-33% Typical
	125°C, -55°C (10 Times)	-33% Typical
Solvent Resistance	Freon	No Change
	Trichloroethane	No Change
	Hydrocarbons	No Change

Note: See PS400 for other environmental specifications.

Table A5 Physical Characteristics and Environmental Specifications for PolySwitch Automotive Devices Cont'd

nanoASMDC/microASMD/miniASMDC
Physical Characteristics

Terminal Pad Material	100% Matte Tin with Nickel Underplate
Soldering Characteristics	Solderability per ANSI-J-STD-002 Category 3
Solder Heat Withstand	Per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A
Flammability Resistance	Per IEC 695-2-2 Needle Flame Test for 20 s
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 characteristics.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	60°C, 1000 hrs	±3% Typical
	85°C, 1000 hrs	±5% Typical
Humidity Aging	85°C, 85% RH, 100 hrs	±1.2% Typical
Thermal Shock	85°C, -40°C (20 Times)	-33% Typical
	125°C, -55°C (10 Times)	-33% Typical
Solvent Resistance	Freon	No Change
	Trichloroethane	No Change
	Hydrocarbons	No Change

Note: See PS400 for other environmental specifications.

BD
Physical Characteristics

Lead Material	Brass H65, Thickness: 0.8mm, Tin Plating Thickness: 5µm
Soldering Characteristics	NA
Solder Heat Withstand	NA
Insulating Material	Colored PBT, Meets UL94V-0 Requirements
Operation Temperature	-40°C~125°C

Note: See PS400 for other physical characteristics.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	85°C, 1000 hrs	±5%
Humidity Aging	85°C, 85% RH, 1000 hrs	±5%
	85°C, 85% RH (with 10% I _{HOLD}), 500 hrs	±5%
Thermal Shock	85°C to -40°C (5 Times)	Meet SCD
Solvent Resistance	MIL-STD-202, Method 215F	No Change

Note: See PS400 for other environmental specifications.

Table A6 Packaging and Marking Information for PolySwitch Automotive Devices

Part Number	Bag Quantity	Tape and Reel Quantity	Ammo Pack Quantity	Standard Package Quantity	Part Marking	Agency Recognition
AGRF						
Radial-leaded						
AGRF400	500	—	—	10,000	G4	*
AGRF400-2	—	2,500	—	12,500	G4	*
AGRF400-AP	—	—	2,000	10,000	G4	*
AGRF500	500	—	—	10,000	G5	*
AGRF500-2	—	2,000	—	10,000	G5	*
AGRF500-AP	—	—	2,000	10,000	G5	*
AGRF600	500	—	—	10,000	G6	*
AGRF600-2	—	2,000	—	10,000	G6	*
AGRF600-AP	—	—	2,000	10,000	G6	*
AGRF700	500	—	—	10,000	G7	*
AGRF700-2	—	1,500	—	7,500	G7	*
AGRF700-AP	—	—	1,500	7,500	G7	*
AGRF800	500	—	—	10,000	G8	*
AGRF800-2	—	1,000	—	5,000	G8	*
AGRF800-AP	—	—	1,000	5,000	G8	*
AGRF900	500	—	—	10,000	G9	*
AGRF900-2	—	1,000	—	5,000	G9	*
AGRF900-AP	—	—	1,000	5,000	G9	*
AGRF1000	250	—	—	5,000	G10	*
AGRF1000-2	—	1,000	—	5,000	G10	*
AGRF1000-AP	—	—	1,000	5,000	G10	*
AGRF1100	250	—	—	5,000	G11	*
AGRF1100-2	—	1,000	—	5,000	G11	*
AGRF1100-AP	—	—	1,000	5,000	G11	*
AGRF1200	250	—	—	5,000	G12	*
AGRF1200-2	—	1,000	—	5,000	G12	*
AGRF1200-AP	—	—	1,000	5,000	G12	*
AGRF1400	250	—	—	5,000	G14	*
AGRF1400-2	—	1,000	—	5,000	G14	*
AGRF1400-AP	—	—	1,000	5,000	G14	*
AHRF (High Temperature)						
Radial-leaded						
AHRF050	500	—	—	10,000	H0.5	*
AHRF050-2	—	2,500	—	12,500	H0.5	*
AHRF050-AP	—	—	2,500	12,500	H0.5	*
AHRF070	500	—	—	10,000	H0.7	*
AHRF070-2	—	2,500	—	12,500	H0.7	*
AHRF070-AP	—	—	2,500	12,500	H0.7	*
AHRF100	500	—	—	10,000	H1	*
AHRF100-2	—	2,500	—	12,500	H1	*
AHRF100-AP	—	—	2,500	12,500	H1	*
AHRF200	500	—	—	10,000	H2	*
AHRF200-2	—	2,500	—	12,500	H2	*
AHRF200-AP	—	—	2,500	12,500	H2	*
AHRF300	500	—	—	10,000	H3	*
AHRF300-2	—	2,000	—	10,000	H3	*
AHRF300-AP	—	—	2,000	10,000	H3	*
AHRF400	500	—	—	10,000	H4	*
AHRF400-2	—	1,500	—	7,500	H4	*
AHRF400-AP	—	—	1,500	7,500	H4	*

* These devices are intended for use in automotive applications.

For commercial alternatives to these products please see the radial-leaded devices section or surface-mount devices section.

Table A6 Packaging and Marking Information for PolySwitch Automotive Devices

Cont'd

Part Number	Bag Quantity	Tape and Reel Quantity	Ammo Pack Quantity	Standard Package Quantity	Part Marking	Agency Recognition
AHRF (High Temperature)						
Radial-leaded						
AHRF450	500	—	—	10,000	H4.5	*
AHRF450-2	—	1,500	—	7,500	H4.5	*
AHRF450-AP	—	—	1,500	7,500	H4.5	*
AHRF550	500	—	—	10,000	H5.5	*
AHRF550-2	—	2,000	—	10,000	H5.5	*
AHRF550-AP	—	—	2,000	10,000	H5.5	*
AHRF600	500	—	—	10,000	H6	*
AHRF600-2	—	2,000	—	10,000	H6	*
AHRF600-AP	—	—	2,000	10,000	H6	*
AHRF650	500	—	—	10,000	H6.5	*
AHRF650-2	—	1,500	—	7,500	H6.5	*
AHRF650-AP	—	—	1,500	7,500	H6.5	*
AHRF700	500	—	—	10,000	H7	*
AHRF700-2	—	1,500	—	7,500	H7	*
AHRF700-AP	—	—	1,500	7,500	H7	*
AHRF750	500	—	—	10,000	H7.5	*
AHRF750-2	—	1,000	—	5,000	H7.5	*
AHRF750-AP	—	—	1,000	5,000	H7.5	*
AHRF800	500	—	—	10,000	H8	*
AHRF800-2	—	1,000	—	5,000	H8	*
AHRF800-AP	—	—	1,000	5,000	H8	*
AHRF900	250	—	—	5,000	H9	*
AHRF900-2	—	1,000	—	5,000	H9	*
AHRF900-AP	—	—	1,000	5,000	H9	*
AHRF1000	250	—	—	5,000	H10	*
AHRF1000-2	—	1,000	—	5,000	H10	*
AHRF1000-AP	—	—	1,000	5,000	H10	*
AHRF1100	250	—	—	5,000	H11	*
AHRF1100-2	—	1,000	—	5,000	H11	*
AHRF1100-AP	—	—	1,000	5,000	H11	*
AHRF1300	250	—	—	5,000	H13	*
AHRF1300-2	—	1,000	—	5,000	H13	*
AHRF1300-AP	—	—	1,000	5,000	H13	*
AHRF1400	250	—	—	5,000	H14	*
AHRF1400-2	—	1,000	—	5,000	H14	*
AHRF1400-AP	—	—	1,000	5,000	H14	*
AHRF1500	250	—	—	5,000	H15	*
AHRF1500-2	—	1,000	—	5,000	H15	*
AHRF1500-AP	—	—	1,000	5,000	H15	*
AHEF (High Temperature)						
Radial-leaded						
AHEF050	500	—	—	10,000	E0.5	*
AHEF070	500	—	—	10,000	E0.7	*
AHEF100	500	—	—	10,000	E1	*
AHEF300	500	—	—	10,000	E3	*
AHEF500	250	—	—	5,000	E5	*
AHEF750	250	—	—	5,000	E7.5	*
AHEF1000	250	—	—	5,000	E10	*

* These devices are intended for use in automotive applications.

For commercial alternatives to these products please see the radial-leaded devices section or surface-mount devices section.

Table A6 Packaging and Marking Information for PolySwitch Automotive Devices

Cont'd

Part Number	Tape and Reel Quantity	Standard Package Quantity	Part Marking	Recommended Pad Layouts [mm(in)] See Figure A25]			Agency Recognition				
				Dimension A (Min*/Nom)	Dimension B (Nom)	Dimension C (Nom)					
AHS (High Temperature)											
Surface-mount											
AHS080-2018	4,000	20,000	H08	4.6 (0.18)	1.5 (0.06)	3.4 (0.134)	*				
NEW AHS120	2,000	10,000	H12	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	*				
AHS160	1,500	7,500	160	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)	*				
AHS200	1,500	7,500	H200	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)	*				
AHS300	1,500	7,500	H300	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)	*				
ASMD											
Surface-mount											
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)	*				
ASMD150F	1,500	7,500	150F	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)	*				
nanoASMD											
Surface-mount											
nanoASMD012F	3,000	15,000	P	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*				
nanoASMD016F	3,000	15,000	N	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*				
nanoASMD020F	3,000	15,000	02	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*				
nanoASMD035F	3,000	15,000	03	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*				
microASMD											
Surface-mount											
microASMD005F	4,000	20,000	05	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	*				
microASMD010F	4,000	20,000	10	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	*				
miniASMD											
Surface-mount											
miniASMD010F	2,000	10,000	10	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD014F	2,000	10,000	14	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD020F	2,000	10,000	2	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD030F	2,000	10,000	3	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD050F	2,000	10,000	5	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD075F/24	1,500	7,500	075F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0110F/16	2,000	10,000	110F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0110F/24	1,500	7,500	110F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0125F/16	2,000	10,000	125F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0150F/16	2,000	10,000	150 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0150F/24	1,000	5,000	150F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				
miniASMD0260F/16	1,500	7,500	260F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*				

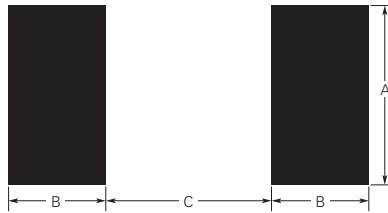
* These devices are intended for use in automotive applications.

For commercial alternatives to these products please see the radial-leaded devices section or surface-mount devices section.

Part Number	Bag Quantity	Standard Package Quantity	Part Marking	Agency Recognition
BD				
Bladed Device				
BD280-1130-10/16	200	1600	BD280-1130-10	*
BD280-1130-15/16	200	1600	BD280-1130-15	*
BD280-1130-20/16	200	1600	BD280-1130-20	*
BD280-1927-25/16-W	200	1600	BD280-1927-25	*
BD280-1927-30/16-W	200	1600	BD280-1927-30	*

* These devices are intended for use in automotive applications.

For commercial alternatives to these products please see the radial-leaded devices section or surface-mount devices section.

Figure A25 Recommended Pad Layout for PolySwitch Automotive Devices

Table A7 Tape and Reel Specifications for AGRF/AHRF/AHEF PolySwitch Automotive Devices

AGRF, AHRF and AHEF devices are available in tape and reel packaging per EIA468-B/IEC286-2 and EIA 481-2 standards.
See Figures A26 and A27 for details.

Description	EIA Mark	Dimension (mm)	Tolerance
Carrier Tape Width	W	18.0	-0.5/+1.0
Hold Down Tape Width	W ₄	11.0	Minimum
Top Distance between Tape Edges	W ₆	3.0	Maximum
Sprocket Hole Position	W ₅	9.0	-0.5/+0.75
Sprocket Hole Diameter	D ₀	4.0	±0.2
Abscissa to Plane (Straight Lead) (AHEF300 to AHEF1000)	H	20.3	±0.5
Abscissa to Plane (Kinked Lead) (AGRF400 to AGRF1400, AHRF050 to AHRF1500, AHEF050 to AHEF1000)	H ₀	16.0	±0.5
Abscissa to Top (AGRF400 to AGRF600, AHRF050 to AHRF450, AHEF050 to AHEF300)	H ₁	32.2	Maximum
Abscissa to Top (AGRF700 to AGRF1400, AHRF550 to AHRF1500*, AHEF500 to AHEF1000)	H ₁	45.0	Maximum
Overall Width with Lead Protrusion (AGRF400 to AGRF600 & AHRF050 to AHRF450, AHEF050 to AHEF300)	C ₁	43.2	Maximum
Overall Width with Lead Protrusion (AGRF700 to AGRF1400, AHRF550 to AHRF1500, AHEF500 to AHEF1000)	C ₁	55.0	Maximum
Overall Width without Lead Protrusion (AGRF400 to AGRF600, AHRF050 to AHRF450, AHEF050 to AHEF300)	C ₂	42.5	Maximum
Overall Width without Lead Protrusion (AGRF700 to AGRF1400, AHRF550 to AHRF1500, AHEF500 to AHEF1000)	C ₂	54.0	Maximum
Lead Protrusion	L ₁	1.0	Maximum
Protrusion of Cut-out	L	11.0	Maximum
Protrusion Beyond Hold-Down Tape	L ₂	Not specified	—
Sprocket Hole Pitch	P ₀	12.7	± 0.3
Device Pitch (AGRF400 to AGRF700, AHRF050 to AHRF600, AHEF050 to AHEF300)	—	12.7	± 0.3
Device Pitch (AGRF800 to AGRF1400, AHRF650 to AHRF1500, AHEF500 to AHEF1000)	—	25.4	± 0.6
Pitch Tolerance	—	20 consec.	± 0.1
Tape Thickness	t	0.9	Maximum
Overall Tape and Lead Thickness (AGRF400 to AGRF1100, AHRF050 to AHRF1100*, AHEF050 to AHEF750)	t ₁	2.0	Maximum
Overall Tape and Lead Thickness (AGRF1200 to AGRF1400, AHRF1300 to AHRF1500*, AHEF1000)	t ₁	2.3	Maximum
Splice Sprocket Hole Alignment	—	0	± 0.3
Body Lateral Deviation	Δh	0	± 1.0
Body Tape Plane Deviation	Δp	0	± 1.3
Ordinate to Adjacent Component Lead (AGRF400 to AGRF1100, AHRF050 to AHRF900, AHEF050 to AHEF500)	P ₁	3.81	± 0.7
Ordinate to Adjacent Component Lead (AGRF1200 to AGRF1400, AHRF1000 to AHRF1500, AHEF750 to AHEF1000)	P ₁	7.62	± 0.7
Lead Spacing (AGRF400 to AGRF1100, AHRF050 to AHRF900*, AHEF050 to AHEF500)	F	5.05	± 0.75
Lead Spacing (AGRF1200 to AGRF1400, AHRF1000 to AHRF1500*, AHEF750 to AHEF1000)	F	10.15	± 0.75
Reel Width (AGRF400 to AGRF600 & AHRF050 to AHRF450, AHEF050 to AHEF300)	w ₂	56.0	Maximum
Reel Width (AGRF700 to AGRF1400, AHRF550 to AHRF1500*, AHEF500 to AHEF1000)	w ₂	63.5	Maximum
Reel Diameter	a	370.0	Maximum
Space between Flanges* (AHEF050 to AHEF300)	w ₁	48.0	Maximum
Space between Flanges* (AHEF500 to AHEF1000)	w ₁	55.0	Maximum
Arbor Hold Diameter	c	26.0	±12.0
Core Diameter*	n	91.0	Maximum
Box	—	64/372/362	Maximum
Consecutive Missing Places	—	None	—
Empty Places per Reel	—	0.1%	Maximum

*Differs from EIA specification.

Figure A26 EIA Referenced Taped Component Dimensions for AGRF/AHRF/AHEF PolySwitch Automotive Devices

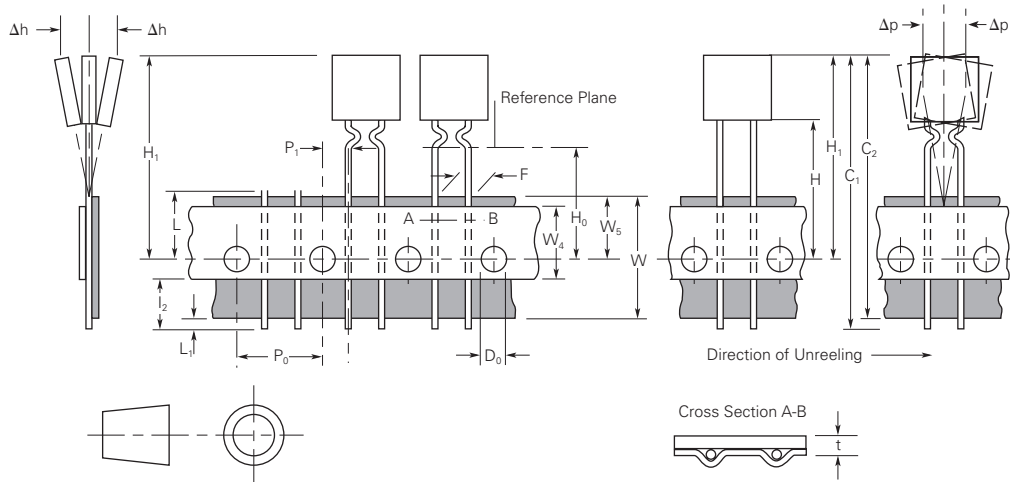


Figure A27 EIA Referenced Reel Dimensions for AGRF/AHRF/AHEF PolySwitch Automotive Devices

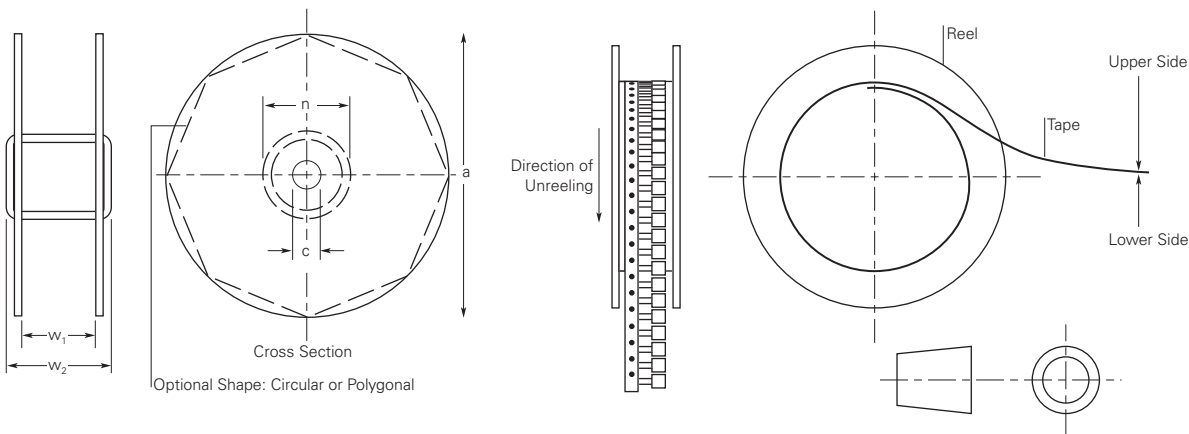


Table A8 Tape and Reel Specifications for AHS/ASMD/nanoASMD/microASMD/miniASMD PolySwitch Automotive Devices (in Millimeters)

Description	nanoASMD EIA 481-1	microASMD EIA 481-1	miniASMD EIA 481-1	AHS080-2018 EIA 481-2	AHS120 ASMD030F~ASMD125F EIA 481-2	AHS160~AHS300 ASMD150F~ASMD250F EIA 481-2
W	8.0 ± 0.30	8.0 ± 0.30	12.0 ± 0.30	16.0 ± 0.30	16.0 ± 0.30	16.0 ± 0.30
P ₀	4.0 ± 0.10	4.0 ± 0.10	4.0 ± 0.10	4.0 ± 0.10	4.0 ± 0.10	4.0 ± 0.10
P ₁	4.0 ± 0.10	4.0 ± 0.10	8.0 ± 0.10	8.0 ± 0.10	8.0 ± 0.10	12.0 ± 0.10
P ₂	2.0 ± 0.05	2.0 ± 0.05	2.0 ± 0.05	2.0 ± 0.10	2.0 ± 0.10	2.0 ± 0.10
A ₀	1.95 ± 0.10	2.9 ± 0.10	Table A9	5.11 ± 0.15	5.6 ± 0.23	6.9 ± 0.23
B ₀	Table A9	3.50 ± 0.10	Table A9	5.6 ± 0.23	8.1 ± 0.15	9.6 ± 0.15
B ₁ max	4.35	4.35	6.15	12.1	12.1	12.1
D ₀	1.55 ± .05	1.55 ± .05	1.5 ± 0.10/-.00	1.5 ± 0.10/-.00	1.5 ± 0.10/-.00	1.5 ± 0.10/-.00
F	3.50 ± 0.05	3.50 ± 0.05	5.50 ± 0.05	7.50 ± 0.10	7.50 ± 0.10	7.50 ± 0.10
E ₁	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10
E ₂ min	6.25	6.25	10.25	14.25	14.25	14.25
T max	0.3	0.3	0.35	0.4	0.4	0.4
T ₁ max	0.1	0.1	0.1	0.1	0.1	0.1
K ₀	Table A9	0.9 ± 0.1	Table A9	1.8 ± 0.15	3.2 ± 0.15	3.4 ± 0.15
Leader min	390	390	390	400	400	400
Trailer min	160	160	160	160	160	160

Table A9 Tape and Reel Specifications for nanoASMDC/miniASMDC PolySwitch Automotive Devices (in Millimeters)

Description	nanoASMDC020F nanoASMDC035F	nanoASMDC012F nanoASMDC016F	miniASMDC010F-050F miniASMDC110F/16 miniASMDC125F/16 miniASMDC150F/16	miniASMDC075F/24 miniASMDC110F/24 miniASMDC260F/16	miniASMDC150F/24
A ₀	1.95 ± 0.1	1.95 ± 0.1	3.5 ± 0.1	3.7 ± 0.1	3.7 ± 0.1
B ₀	3.50 +0.1/-0.08	3.5 ± 0.1	4.95 ± 0.1	4.9 ± 0.1	4.9 ± 0.1
K ₀	0.89 ± 0.1	1.27 ± 0.1	0.9 ± 0.1	1.4 ± 0.1	1.78 ± 0.1

Table A10 Reel Dimensions for AHS/ASMD/nanoASMDC/microASMD/miniASMDC PolySwitch Automotive Devices (in Millimeters)

Description	nanoASMDC microASMD	miniASMDC	AHS ASMD
A max	185	185	330
N min	50	50	50
W ₁	8.4 + 1.5/-0.00	12.4 + 2.0/-0.00	16.4 + 2.0/-0.00
W ₂ max	14.4	18.4	22.4

Figure A28 EIA Referenced Taped Component Dimensions for AHS/ASMD/nanoASMDC/microASMD/miniASMDC PolySwitch Automotive Devices

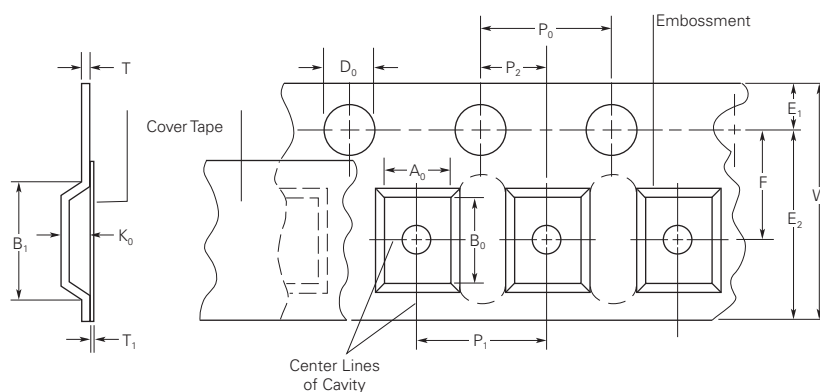
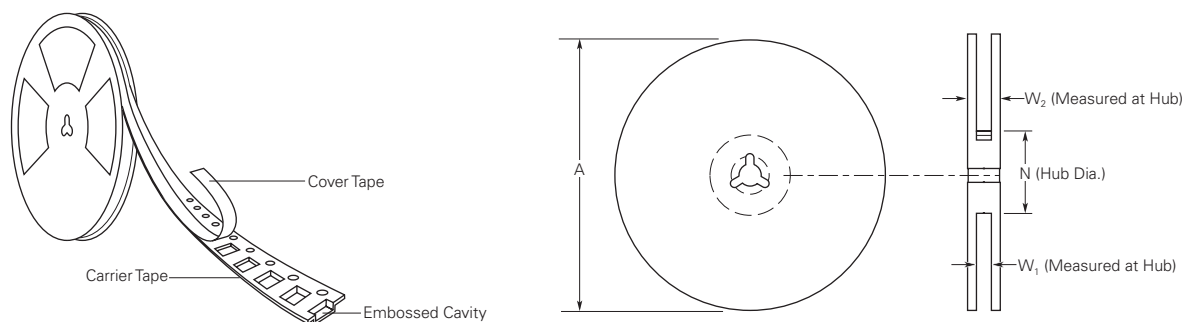
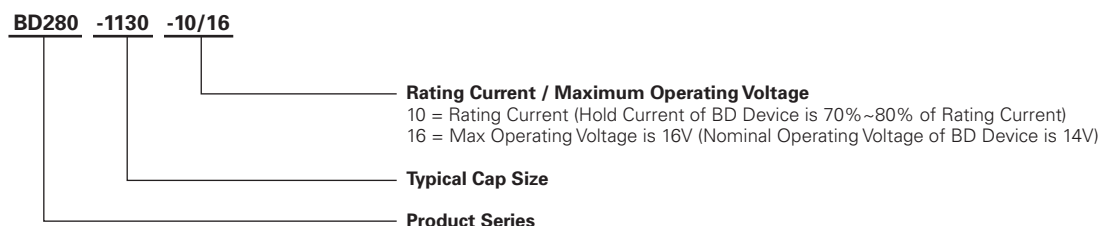
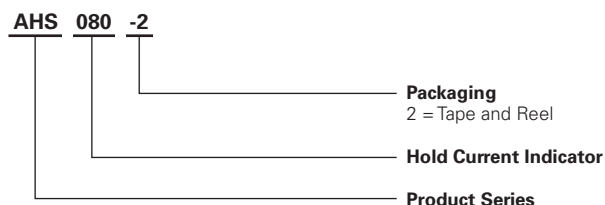
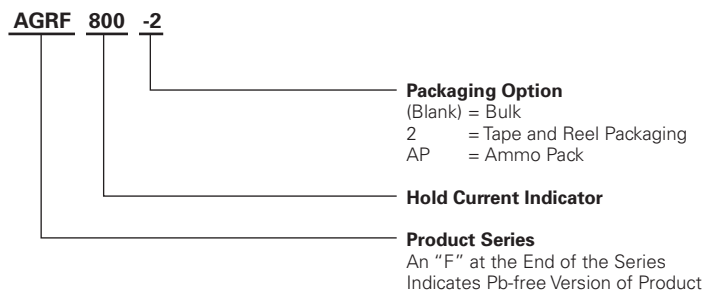


Figure A29 EIA Referenced Reel Dimensions for AHS/ASMD/nanoASMDC/microASMD/miniASMDC PolySwitch Automotive Devices



Part Numbering System for PolySwitch Automotive Devices



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.



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