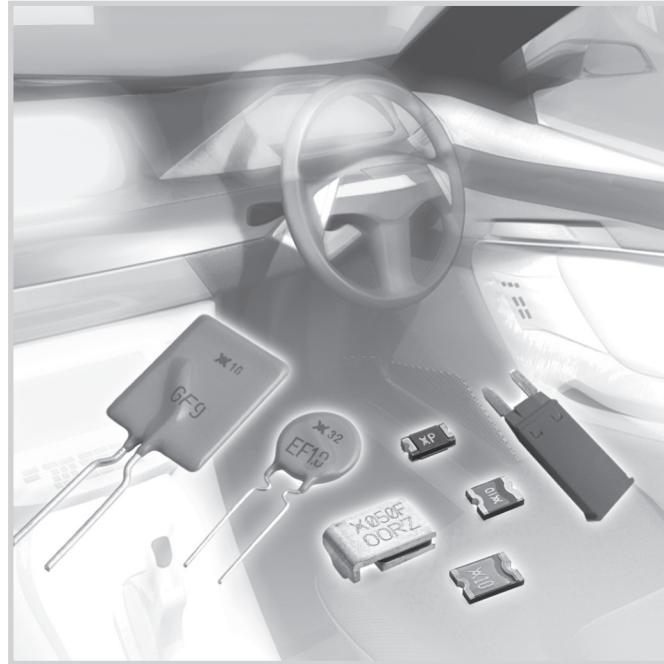




PolySwitch Resettable Devices

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

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 navigation systems
- Liquid Crystal Display (LCD) back-light heaters
- Power and cigarette lighter outlets, plugs and adapter/chargers

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

- 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	AGR ^F 16V	AH ^R F 16V	AH ^R F 30V	AHE ^F 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	nanoASMDC 48V	nanoASMDC 24V	nanoASMDC 16V	microASMD 30V	miniASMDC 60V	miniASMDC 30V	miniASMDC 24V	miniASMDC 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
AGR											
16V — Radial-leaded											
AGR400	5.9	5.3	4.8	4.1	4.0	3.5	3.2	2.8	2.5	1.9	—
AGR500	7.3	6.6	6.0	5.2	5.0	4.4	4.0	3.6	3.1	2.4	—
AGR600	8.8	8.0	7.2	6.2	6.0	5.2	4.8	4.2	3.8	2.8	—
AGR700	10.3	9.3	8.4	7.3	7.0	6.2	5.6	5.0	4.4	3.3	—
AGR800	11.7	10.7	9.6	8.3	8.0	6.9	6.4	5.6	5.1	3.7	—
AGR900	13.2	11.9	10.7	9.4	9.0	7.9	7.2	6.4	5.6	4.2	—
AGR1000	14.7	13.3	12.0	10.3	10.0	8.7	8.0	7.0	6.3	4.7	—
AGR1100	16.1	14.6	13.1	11.5	11.0	9.7	8.8	7.8	6.9	5.2	—
AGR1200	17.6	16.0	14.4	12.4	12.0	10.4	9.6	8.4	7.6	5.6	—
AGR1400	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

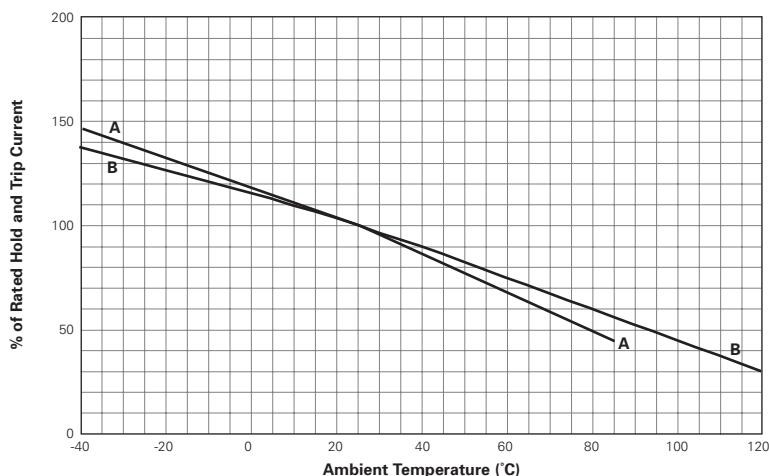
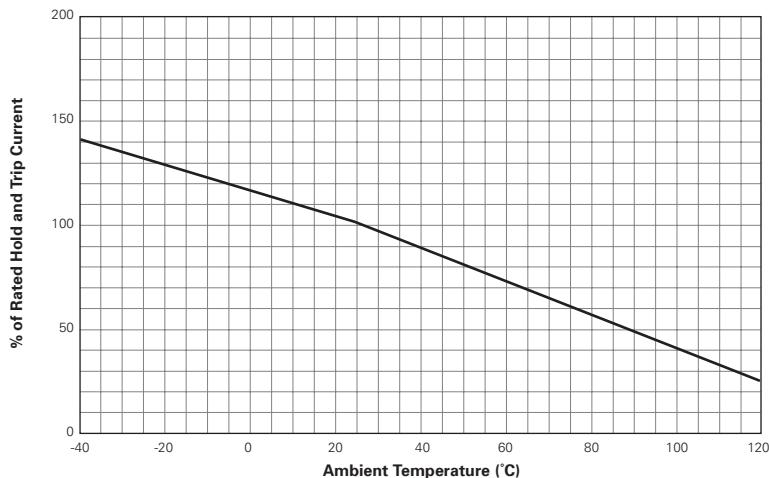
**Table A2 Thermal Derating for PolySwitch Automotive Devices
[Hold Current (A) at Ambient Temperature (°C)]**

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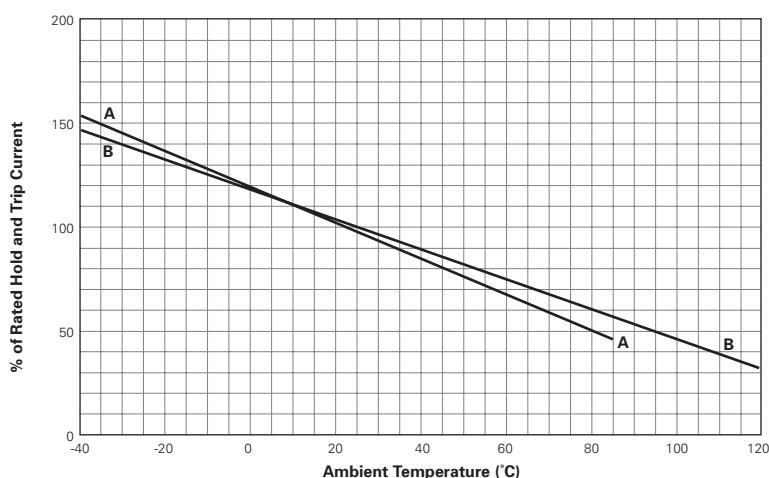
Part Number	Maximum Ambient Temperature										
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C	125°C
ASMD											
16-60V — Surface-mount											
ASMD030F	0.35	0.31	0.27	0.23	0.22	0.19	0.17	0.15	0.13	0.11	—
ASMD050F	0.59	0.53	0.46	0.39	0.37	0.33	0.29	0.26	0.23	0.18	—
ASMD075F	0.91	0.81	0.71	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	—
nanoASMDC											
16-48V — Surface-mount											
nanoASMDC012F	0.20	0.17	0.15	0.13	0.12	0.11	0.10	0.09	0.08	0.07	—
nanoASMDC016F	0.21	0.20	0.18	0.16	0.16	0.14	0.13	0.12	0.11	0.09	—
nanoASMDC020F	0.34	0.30	0.26	0.22	0.20	0.17	0.15	0.13	0.11	0.08	—
nanoASMDC035F	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	—
miniASMDC											
16-60V — Surface-mount											
miniASMDC010F	0.17	0.15	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.04	—
miniASMDC014F	0.23	0.20	0.17	0.14	0.13	0.11	0.10	0.09	0.07	0.05	—
miniASMDC020F	0.30	0.27	0.23	0.20	0.19	0.17	0.15	0.13	0.12	0.09	—
miniASMDC030F	0.49	0.44	0.39	0.32	0.30	0.27	0.24	0.22	0.18	0.14	—
miniASMDC050F	0.59	0.57	0.55	0.50	0.48	0.45	0.43	0.35	0.30	0.23	—
miniASMDC075F/24	1.50	1.25	1.00	0.75	0.73	0.65	0.60	0.55	0.50	0.43	—
miniASMDC110F/16	1.68	1.49	1.30	1.10	1.05	0.92	0.83	0.75	0.64	0.50	—
miniASMDC110F/24	2.00	1.70	1.40	1.10	1.06	0.95	0.88	0.80	0.73	0.61	—
miniASMDC125F/16	2.00	1.69	1.47	1.25	1.17	1.03	0.92	0.90	0.69	0.53	—
miniASMDC150F/16	2.40	2.10	1.80	1.50	1.44	1.25	1.13	1.00	0.88	0.69	—
miniASMDC150F/24	2.10	1.90	1.70	1.50	1.44	1.25	1.13	1.00	0.88	0.69	—
miniASMDC260F/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

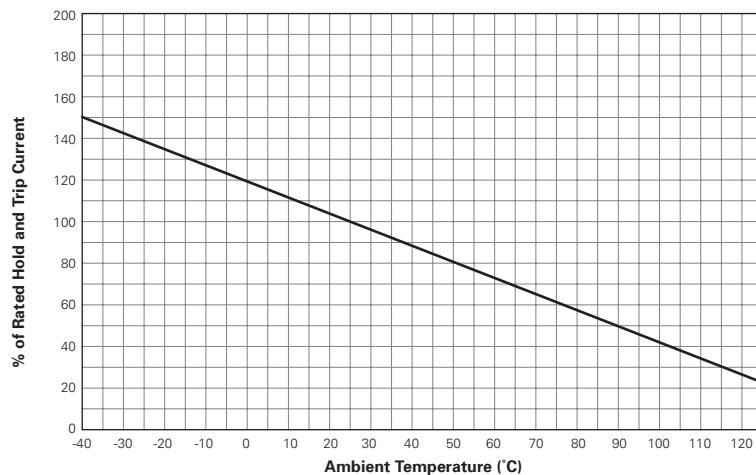
A = AGRF
 B = AHRF

Figure A1

AHEF
Figure A2


A = ASMD, nanoASMDC,
 microASMD, miniASMDC
 B = AHS

Figure A3


BD

Figure A4**Table A3 Electrical Characteristics for PolySwitch Automotive Devices**

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} (Ω)	R _{1MAX} (Ω)	R _{aMAX} (Ω)	Figure for Dimensions
AGRF											
16V — Radial-leaded											
AGRF400	4.0	3.0	7.6	16	100	2.5	20.0	2.0	0.0186	0.0610	0.0850
AGRF500	5.0	4.3	9.4	16	100	2.7	25.0	2.5	0.0140	0.0340	0.0480
AGRF600	6.0	5.3	10.7	16	100	2.8	30.0	3.5	0.0095	0.0280	0.0320
AGRF700	7.0	6.5	13.2	16	100	3.0	35.0	4.0	0.0066	0.0200	0.0220
AGRF800	8.0	7.6	15.0	16	100	3.2	40.0	5.5	0.0049	0.0175	0.0181
AGRF900	9.0	8.6	16.5	16	100	3.4	45.0	6.0	0.0041	0.0135	0.0140
AGRF1000	10.0	9.6	18.5	16	100	3.6	50.0	7.0	0.0034	0.0102	0.0106
AGRF1100	11.0	10.5	20.3	16	100	3.7	55.0	7.5	0.0033	0.0089	0.0093
AGRF1200	12.0	11.5	22.1	16	100	4.2	60.0	8.0	0.0030	0.0086	0.0091
AGRF1400	14.0	13.0	27.3	16	100	4.6	70.0	9.0	0.0022	0.0064	0.0067
AHRF (High Temperature)											
30V — Radial-leaded											
AHRF050	0.5	0.5	1.0	30	40	0.9	2.5	3.0	0.3500	1.100	1.100
AHRF070	0.7	0.7	1.4	30	40	1.4	3.5	3.2	0.2300	0.800	0.800
AHRF100	1.0	1.0	1.9	30	40	1.4	5.0	6.2	0.1500	0.430	0.430
AHRF (High Temperature)											
16V — Radial-leaded											
AHRF200	2.0	2.0	3.8	16	100	1.4	10.0	4.8	0.0390	0.1100	0.1100
AHRF300	3.0	3.0	6.5	16	100	3.0	15.0	5.0	0.0290	0.0790	0.0790
AHRF400	4.0	4.0	7.4	16	100	3.3	20.0	5.0	0.0210	0.0600	0.0600
AHRF450	4.5	4.5	8.7	16	100	3.6	22.5	4.0	0.0170	0.0540	0.0540
AHRF550	5.5	5.5	10.0	16	100	3.5	27.5	6.0	0.0130	0.0370	0.0370
AHRF600	6.0	6.0	12.0	16	100	4.1	30.0	6.5	0.0100	0.0320	0.0320
AHRF650	6.5	6.5	13.7	16	100	4.3	32.5	7.0	0.0090	0.0260	0.0260
AHRF700	7.0	7.0	13.1	16	100	4.0	35.0	7.0	0.0087	0.0250	0.0250
AHRF750	7.5	7.5	14.8	16	100	4.5	37.5	8.0	0.0074	0.0220	0.0220
AHRF800	8.0	8.0	15.0	16	100	4.2	40.0	8.0	0.0072	0.0200	0.0200
AHRF900	9.0	9.0	18.5	16	100	5.0	45.0	11.5	0.0061	0.0170	0.0170
AHRF1000	10.0	10.0	20.5	16	100	5.3	50.0	10.5	0.0051	0.0150	0.0150
AHRF1100	11.0	11.0	21.2	16	100	5.5	55.0	11.0	0.0048	0.0130	0.0130
AHRF1300	13.0	13.0	27.0	16	100	6.9	65.0	15.0	0.0034	0.0100	0.0100
AHRF1400	14.0	14.0	28.3	16	100	6.9	70.0	15.5	0.0029	0.0090	0.0090
AHRF1500	15.0	15.0	33.0	16	100	7.0	75.0	20.0	0.0027	0.0092	0.0092

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)	R _{MIN} (Ω)	R _{1MAX} (Ω)	R _{aMAX} (Ω)	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
AHEF070	0.7	0.7	1.4	32	100	0.9	3.5	3.2	0.2300	0.800	0.800
AHEF100	1.0	1.0	1.9	32	100	1.4	5.0	6.2	0.1500	0.430	0.430
AHEF300	3.0	3.0	6.0	32	100	3.2	15.0	5.0	0.0350	0.110	0.110
AHEF500	5.0	5.0	10.0	32	100	5.3	25.0	9.0	0.0150	0.040	0.040
AHEF750	7.5	7.5	15.0	32	100	6.5	37.5	13.0	0.0074	0.023	0.023
AHEF1000	10.0	10.0	20.0	32	100	7.0	50.0	15.0	0.0060	0.016	0.016
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
NEW AHS120	1.20	1.20	2.30	16	50	2.2	8.0	2.0	0.150	0.340	0.340
AHS160	1.60	1.60	3.20	16	70	2.2	8.0	15.0	0.050	0.150	0.150
AHS200	2.00	2.00	4.00	16	70	2.3	8.0	13.4	0.050	0.140	0.140
AHS300	3.00	3.00	6.00	16	70	3.0	15.0	8.0	0.024	0.083	0.083
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
ASMD050F	0.37	0.37	0.98	60	10	1.7	1.95	20.0	0.290	1.400	1.400
ASMD075F	0.60	0.60	1.48	30	40	1.1	3.00	20.0	0.290	1.000	1.000
ASMD100F	0.90	0.90	2.16	30	40	1.1	4.50	20.0	0.098	0.480	0.480
ASMD125F	1.04	1.04	2.46	16	40	1.1	5.20	20.0	0.057	0.250	0.250
ASMD150F	1.27	1.27	2.95	16	40	1.2	6.35	25.0	0.049	0.250	0.250
ASMD185F	1.85	1.85	3.70	16	40	1.5	9.25	11.3	0.032	0.126	0.126
ASMD200F	1.73	1.73	3.93	16	40	1.2	8.65	30.0	0.050	0.120	0.120
ASMD250F	1.97	1.97	5.00	16	40	1.2	9.85	30.0	0.035	0.085	0.085
nanoASMDC											
16-48V — Surface-mount											
nanoASMDC012F	0.12	0.12	0.39	48	10	0.5	1.0	0.2	1.40	6.50	6.50
nanoASMDC016F	0.16	0.16	0.45	48	10	0.5	1.0	0.3	1.10	5.00	5.00
nanoASMDC020F	0.20	0.20	0.42	24	100	0.6	8.0	0.1	0.65	3.10	3.10
nanoASMDC035F	0.35	0.75	0.75	16	20	0.6	3.5	0.1	0.45	1.35	1.35
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
microASMD010F	0.10	0.10	0.25	30	10	0.8	0.50	1.0	2.1	15.0	15.0
miniASMDC											
16-60V — Surface-mount											
miniASMDC010F	0.10	0.10	0.30	60	40	0.75	0.5	5.000	0.700	12.70	12.70
miniASMDC014F	0.14	0.14	0.28	60	10	0.75	8.0	0.008	1.500	6.00	6.00
miniASMDC020F	0.20	0.20	0.40	30	10	0.80	8.0	0.020	0.600	3.30	3.30
miniASMDC030F	0.30	0.30	0.60	30	40	0.80	8.0	0.100	0.200	1.75	1.75
miniASMDC050F	0.50	0.50	1.00	24	100	0.80	8.0	0.150	0.150	1.00	1.00
miniASMDC075F/24	0.75	0.75	1.50	24	40	0.80	8.0	0.300	0.090	0.29	0.29
miniASMDC110F/16	1.10	1.10	2.20	16	100	0.80	8.0	0.300	0.060	0.18	0.18
miniASMDC110F/24	1.10	1.10	2.20	24	20	0.80	8.0	0.500	0.060	0.18	0.18
miniASMDC125F/16	1.25	1.25	2.50	16	100	0.80	8.0	0.400	0.050	0.14	0.14
miniASMDC150F/16	1.50	1.50	2.80	16	100	0.80	8.0	0.500	0.040	0.11	0.11
miniASMDC150F/24	1.50	1.50	3.00	24	20	1.00	8.0	1.500	0.040	0.12	0.12
miniASMDC260F/16	2.60	2.60	5.00	16	100	1.20	8.0	5.000	0.015	0.05	0.05

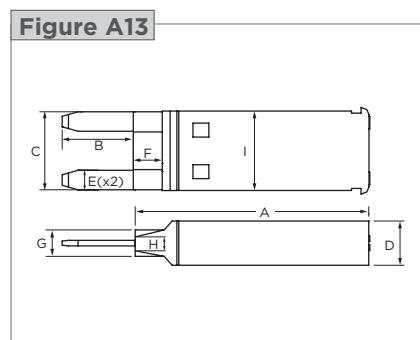
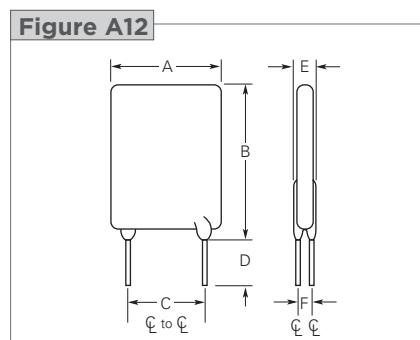
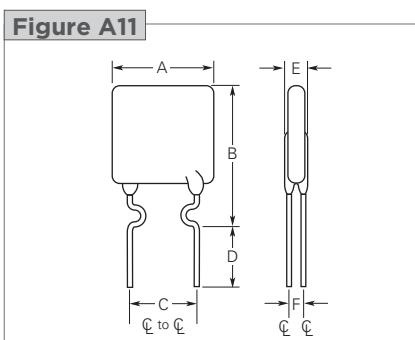
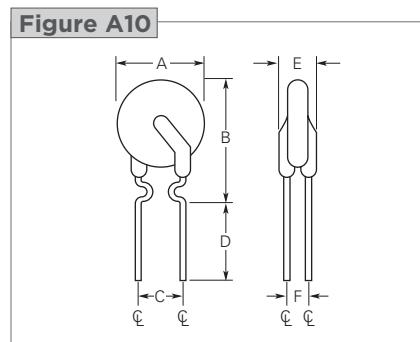
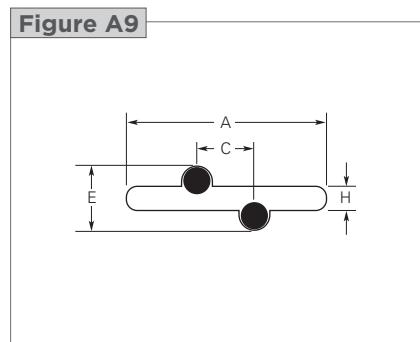
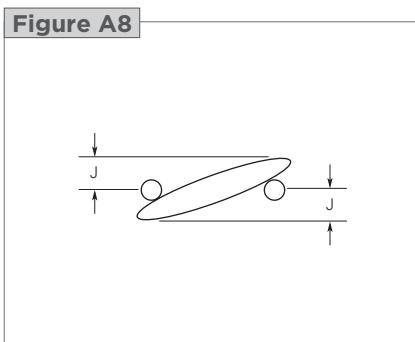
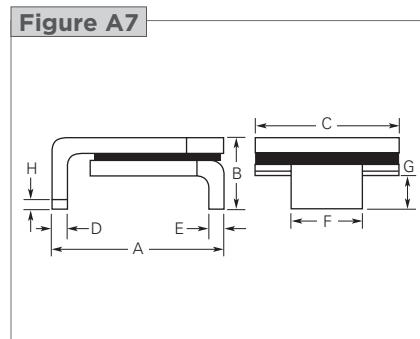
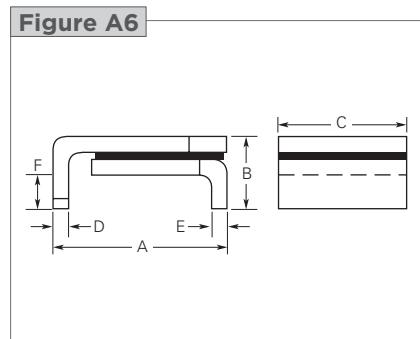
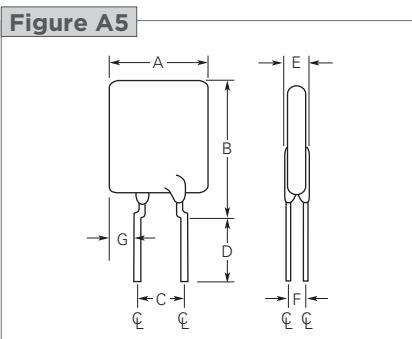
Table A3 Electrical Characteristics for PolySwitch Automotive Devices

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)	Max. Time-to-trip (s)	$R_{MIN}(\Omega)$	$R_{1MAX}(\Omega)$	$R_{aMAX}(\Omega)$	Figure for Dimensions
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

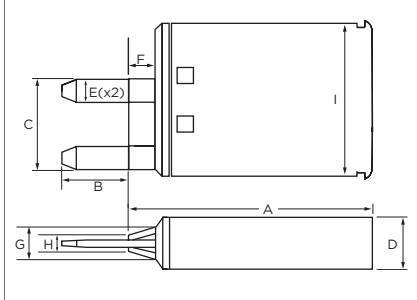
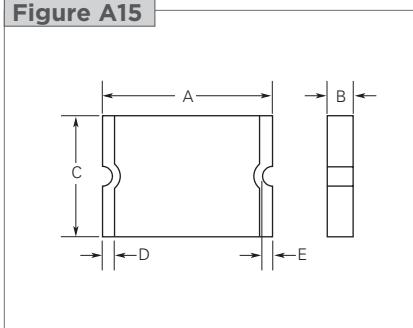
Notes:

- 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


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 Min	A Max	B Min	B Max	C Min	C Max	D Min	D Max	E Min	E Max	F Min	F Max	G Min	G Max	H Typ	J Max	Figure
AGR																	
16V — Radial-leaded																	
AGR400	—	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
AGR500	—	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
AGR600	—	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
AGR700	—	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
AGR800	—	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
AGR900	—	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
AGR1000	—	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
AGR1100	—	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
AGR1200	—	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
AGR1400	—	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)	—	—	1.24 (0.049)	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)	—	—	1.24 (0.049)	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)	—	—	1.24 (0.049)	1.6 (0.06)	A8, A9, A10	

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

Cont'd

Part Number	A Min	A Max	B Min	B Max	C Min	C Max	D Min	D Max	E Min	E Max	F Min	F Max	G Min	G Max	H Typ	J Max	Figure
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 Min Max		B Min Max		C Min Max		D Min Max		E Min Max		F Min Max		G Min Max		H Min Max		Figure																
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 Min Max		B Min Max		C Min Max		D Min Max		E Min Max		F Min Max		G Min Max		H Min Max		Figure																
nanoASMDC																																	
30V — Surface-mount																																	
nanoASMDC012F	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																
nanoASMDC016F	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																
nanoASMDC020F	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																
nanoASMDC035F	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																

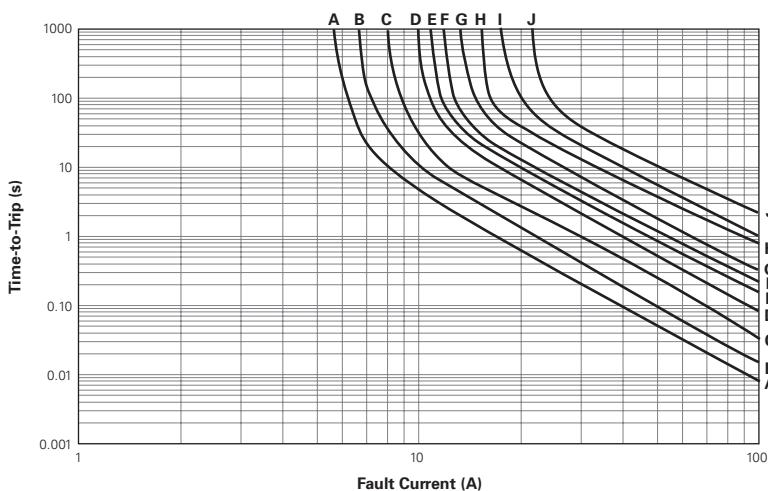
Table A4 Dimensions for PolySwitch Automotive Devices in Millimeters and (Inches) Cont'd

Part Number	A		B		C		D		E		Figure	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
miniASMDC												
16-60V — Surface-mount												
miniASMDC010F	4.37 (0.172)	4.73 (0.186)	0.635 (0.025)	0.89 (0.035)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC014F	4.37 (0.172)	4.73 (0.186)	0.635 (0.025)	0.89 (0.035)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC020F	4.37 (0.172)	4.73 (0.186)	0.635 (0.025)	0.89 (0.035)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC030F	4.37 (0.172)	4.73 (0.186)	0.635 (0.025)	0.89 (0.035)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC050F	4.37 (0.172)	4.73 (0.186)	0.38 (0.015)	0.62 (0.025)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC075F/24	4.37 (0.172)	4.83 (0.190)	0.81 (0.032)	1.46 (0.057)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC110F/16	4.37 (0.172)	4.83 (0.190)	0.28 (0.011)	0.48 (0.019)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC110F/24	4.37 (0.172)	4.83 (0.190)	0.81 (0.032)	1.46 (0.057)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC125F/16	4.37 (0.172)	4.83 (0.190)	0.28 (0.011)	0.48 (0.019)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC150F/16	4.37 (0.172)	4.83 (0.190)	0.28 (0.011)	0.48 (0.019)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC150F/24	4.37 (0.172)	4.83 (0.190)	1.00 (0.040)	1.94 (0.077)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	
miniASMDC260F/16	4.37 (0.172)	4.83 (0.190)	1.02 (0.042)	1.52 (0.060)	3.07 (0.121)	3.41 (0.134)	0.25 (0.010)	0.95 (0.040)	0.20 (0.008)	—	A15	

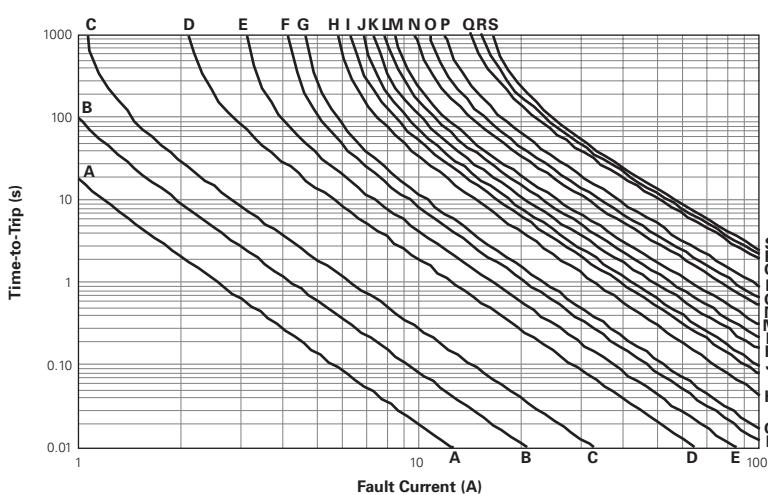
Part Number	A		B		C		D		E(x2)		Figure								
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max									
BD																			
14V — Bladed Device																			
BD280-1130-10/16	29.50 (1.173)	30.10 (1.185)	8.70 (0.343)	9.30 (0.366)	10.75 (0.423)	11.25 (0.443)	6.05 (0.238)	6.65 (0.262)	2.55 (0.100)	3.05 (0.120)	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
AGR

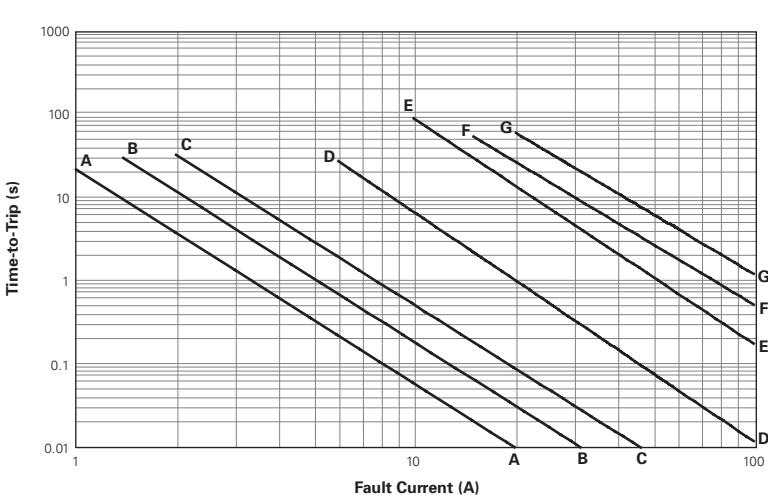
- A = AGRF400
- B = AGRF500
- C = AGRF600
- D = AGRF700
- E = AGRF800
- F = AGRF900
- G = AGRF1000
- H = AGRF1100
- I = AGRF1200
- J = AGRF1400

Figure A16

AHRF

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

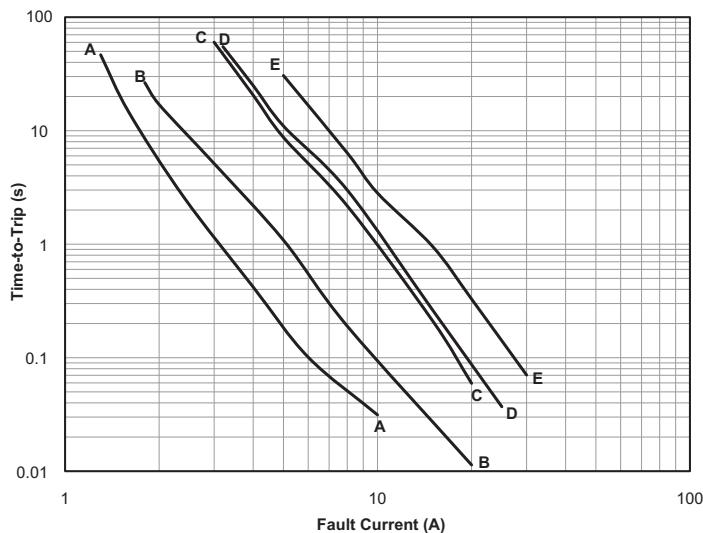
Figure A17

AHEF

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

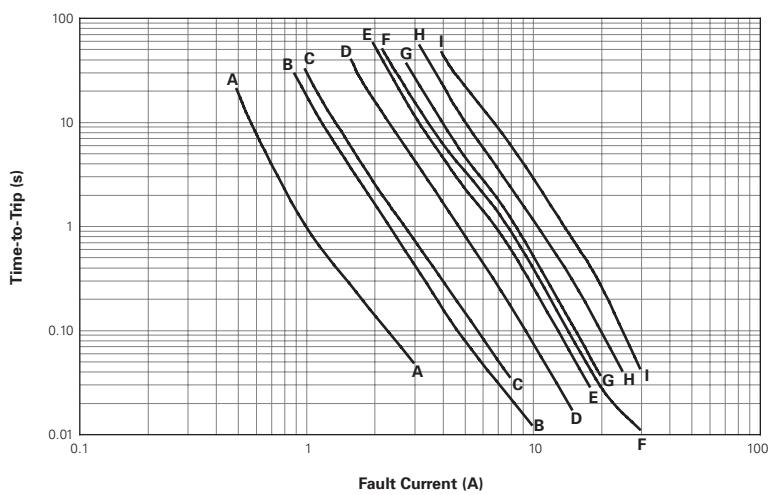
Figure A18


AHS

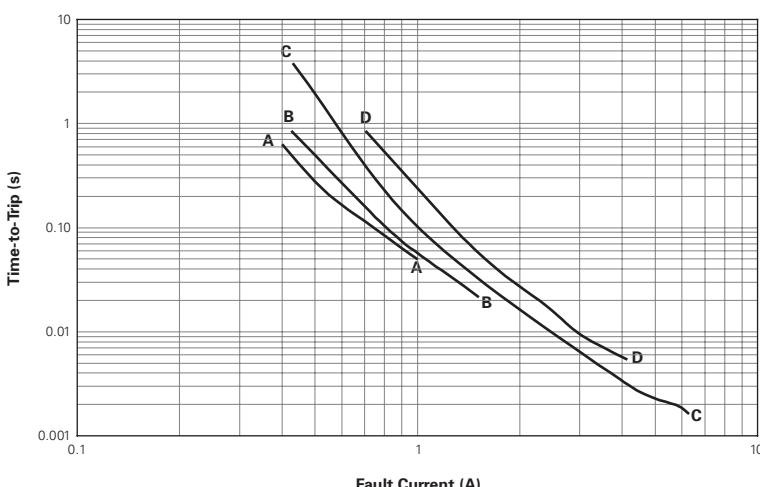
- A = AHS080-2018
- B = AHS120
- C = AHS160
- D = AHS200
- E = AHS300

Figure A19

ASMD

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

Figure A20

nanoASMDc

- A = nanoASMDc012F
- B = nanoASMDc016F
- C = nanoASMDc020F
- D = nanoASMDc035F

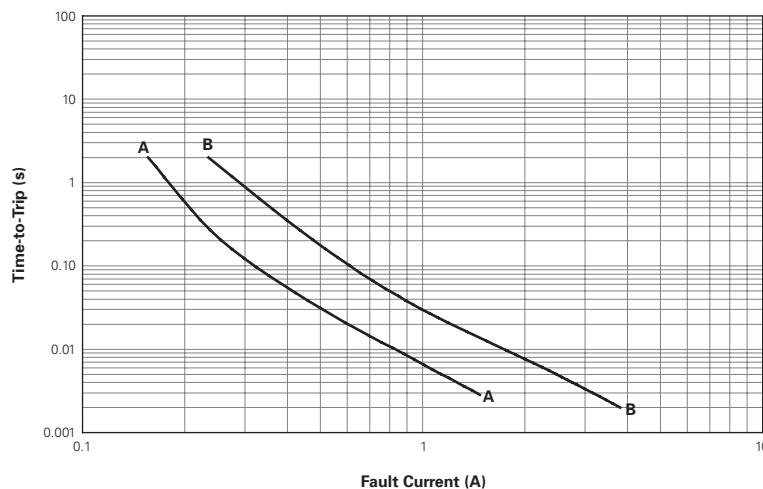
Figure A21


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

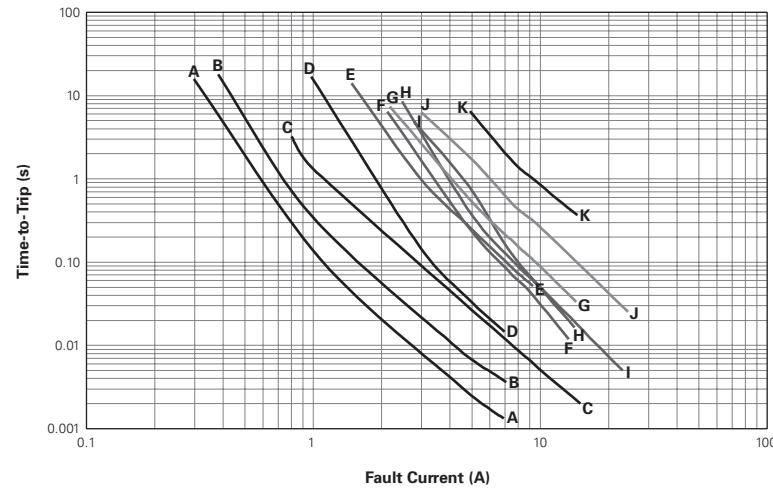
Cont'd

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

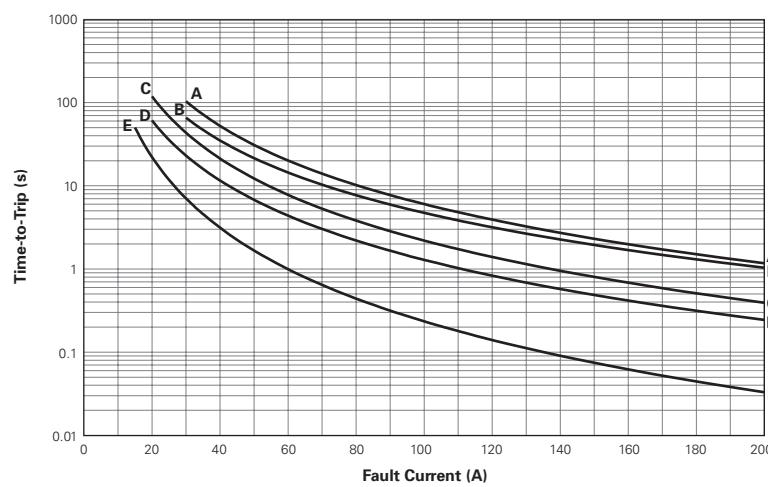
Figure A24

Table A5 Physical Characteristics and Environmental Specifications for PolySwitch Automotive Devices

AGR Physical Characteristics	
Lead Material	AGR400 to AGRF1100 : Tin-plated Copper, 0.52mm ² (20AWG) ø 0.8 mm/0.032in AGR1200 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	AGR400: per IEC68-2-20 Test Tb, Method 1A, Condition A: Can Withstand 5 s at 260°C ± 5°C AGR500-AGR1400: 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 85°C, 1000 hrs	±5% ±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.

AHR

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/0.040in
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 85°C, 1000 hrs	±5% ±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.

AHE

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/0.040in
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 85°C, 1000 hrs	±5% ±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 85°C, 1000 hrs	±3% Typical ±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 Trichloroethane Hydrocarbons	No Change No Change 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 85°C, 1000 hrs	±3% Typical ±5% Typical
Humidity Aging	85°C, 85% RH, 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.

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							
NEW AHS120	4,000	20,000	H08	4.6 (0.18)	1.5 (0.06)	3.4 (0.134)	*
	2,000	10,000	H12	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	*
	1,500	7,500	160	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)	*
	1,500	7,500	H200	4.6 (0.18)	2.3 (0.09)	6.1 (0.240)	*
	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)	*
nanoASMDC Surface-mount							
nanoASMDC012F	3,000	15,000	P	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*
nanoASMDC016F	3,000	15,000	N	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*
nanoASMDC020F	3,000	15,000	02	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	*
nanoASMDC035F	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)	*
miniASMDC Surface-mount							
miniASMDC010F	2,000	10,000	10	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC014F	2,000	10,000	14	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC020F	2,000	10,000	2	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC030F	2,000	10,000	3	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC050F	2,000	10,000	5	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC075F/24	1,500	7,500	075F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC110F/16	2,000	10,000	110F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC110F/24	1,500	7,500	110F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC125F/16	2,000	10,000	125F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC150F/16	2,000	10,000	150 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC150F/24	1,000	5,000	150F 24V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*
miniASMDC260F/16	1,500	7,500	260F 16V	3.15 (0.124)	1.68 (0.066)	3.10 (0.122)	*

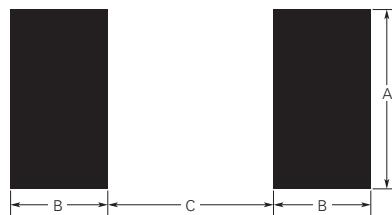
* These devices are intended for use in automotive applications.

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				
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.

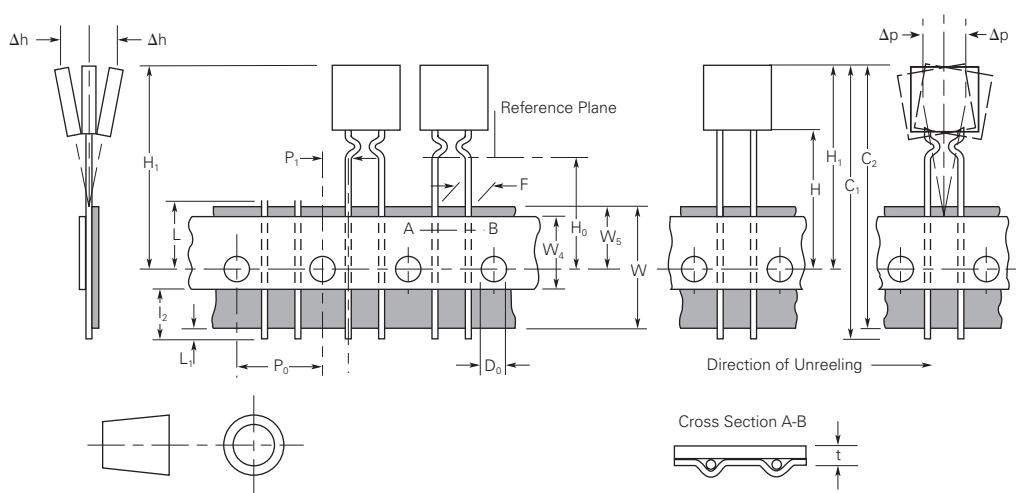
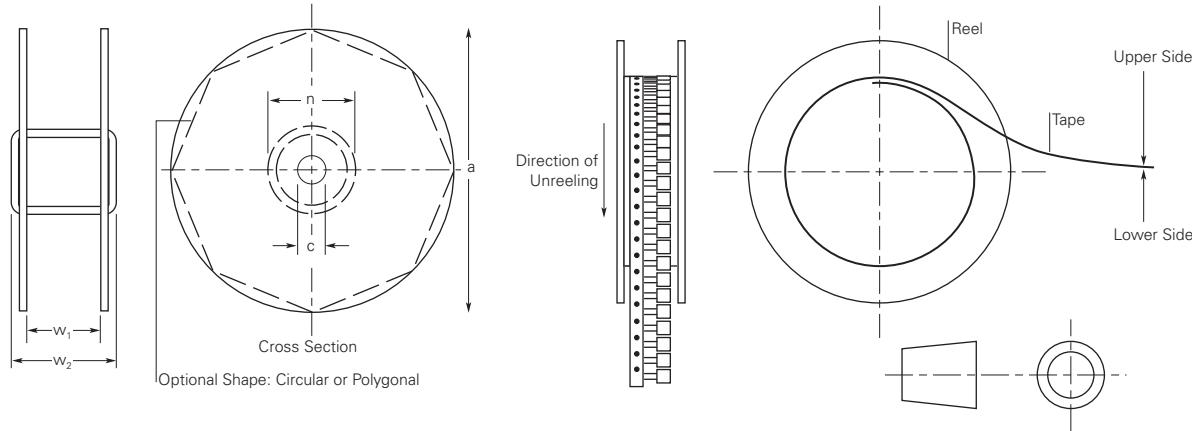
Figure A25 Recommended Pad Layout for PolySwitch Automotive Devices

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 AHEF100)	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	I 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/nanoASMDC/microASMD/miniASMDC PolySwitch Automotive Devices (in Millimeters)

Description	nanoASMDC EIA 481-1	microASMD EIA 481-1	miniASMDC 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	$1.55 \pm .05$	$1.55 \pm .05$	$1.5 + 0.10/-0.00$	$1.5 + 0.10/-0.00$	$1.5 + 0.10/-0.00$	$1.5 + 0.10/-0.00$
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/-0.0	12.4 + 2.0/-0.0	16.4 + 2.0/-0.0
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

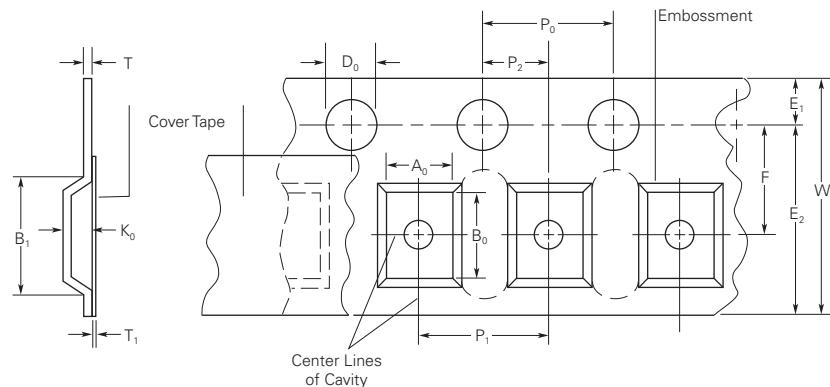
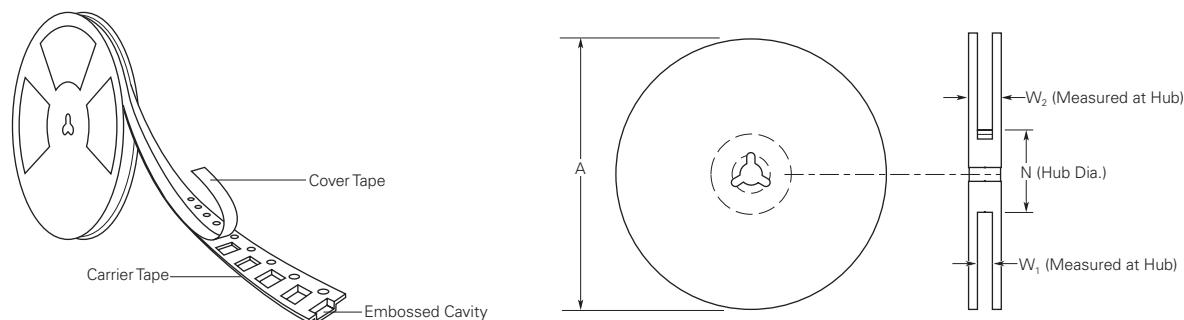
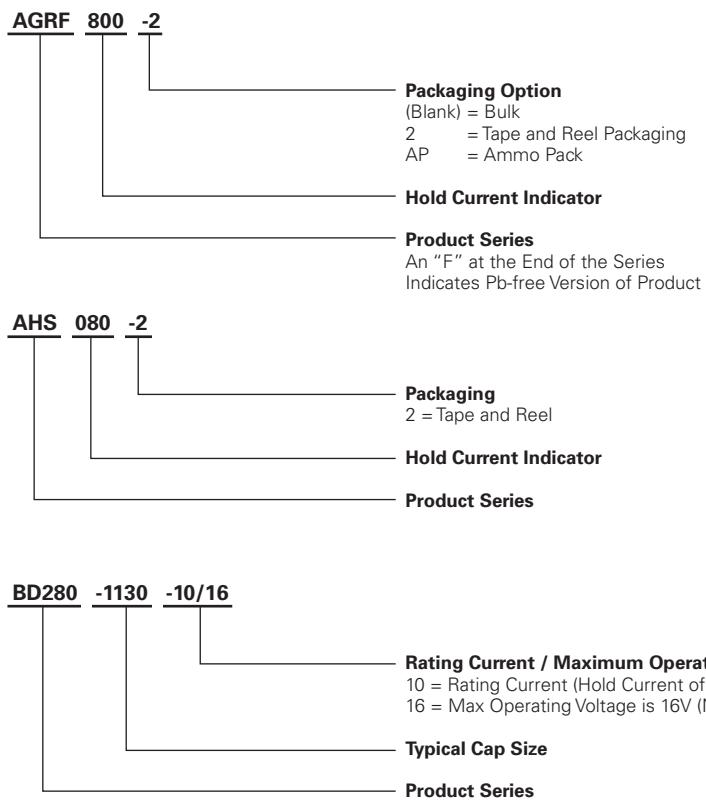


Figure A29 EIA Referenced Reel Dimensions for AHS/ASMD/nanoASMDC/microASMD/miniASMDC PolySwitch Automotive Devices



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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помошь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помошь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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