Radial Leaded PTC Resettable Fuse : AHS Series

1. Summary

(a) RoHS Compliant (Lead Free) Product
(b) Applications : Wide variety of electronic equipment
(c) Product Features : Low hold current, Solid state, Radial leaded product ideal for up to 60VDC
(d) Operation Current : 0.05A~3.75A
(e) Maximum Voltage : 60VDC
(f) Temperature Range : -40℃ to 85℃

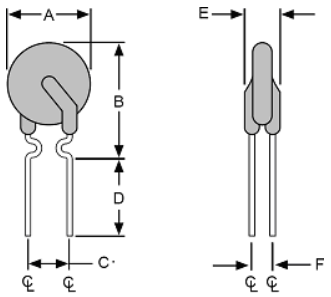
2. Electrical Characteristics (23℃)

Part Number	Hold Current	Trip Current	Max.Time to Trip	Maximum Current	Rated Voltage	Typical Power	Resistance	
							R_{MIN}	$R1_{MAX}$
	I_H,A	I_T,A	at 5xI_H,S	I_{MAX},A	V_{MAX},VDC	Pd, W	Ohms	Ohms
AHS005-SM	0.05	0.10	5.0	40	60	0.26	7.30	20.00
AHS010-SM	0.10	0.20	4.0	40	60	0.38	2.50	7.50
AHS017-SM	0.17	0.34	3.0	40	60	0.48	2.00	8.00
AHS020-SM	0.20	0.40	2.2	40	60	0.41	1.83	4.40
AHS025-SM	0.25	0.50	2.5	40	60	0.45	1.25	3.00
AHS030-SM	0.30	0.60	3.0	40	60	0.49	0.88	2.10
AHS040-SM	0.40	0.80	3.8	40	60	0.56	0.55	1.29
AHS050-SM	0.50	1.00	4.0	40	60	0.77	0.50	1.17
AHS065-SM	0.65	1.30	5.3	40	60	0.88	0.31	0.72
AHS075-SM	0.75	1.50	6.3	40	60	0.92	0.25	0.60
AHS090-SM	0.90	1.80	7.2	40	60	0.99	0.20	0.47
AHS110-SM	1.10	2.20	8.2	40	60	1.50	0.15	0.38
AHS135-SM	1.35	2.70	9.6	40	60	1.70	0.12	0.30
AHS160-SM	1.60	3.20	11.4	40	60	1.90	0.09	0.22
AHS185-SM	1.85	3.70	12.6	40	60	2.10	0.08	0.19
AHS250-SM	2.50	5.00	15.6	40	60	2.50	0.05	0.13
AHS300-SM	3.00	6.00	19.8	40	60	2.80	0.04	0.10
AHS375-SM	3.75	7.50	24.0	40	60	3.20	0.03	0.08

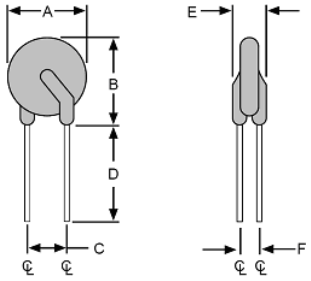
I_H=Hold current-maximum current at which the device will not trip at 23℃ still air.
I_T=Trip current-minimum current at which the device will always trip at 23℃ still air.
V_{MAX}=Maximum voltage device can withstand without damage at its rated current.
I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V_{MAX}).
Pd=Typical power dissipated from device when in tripped state in 23℃ still air environment.
R_{MIN}=Minimum device resistance at 23℃.
$R1_{MAX}$=Maximum device resistance at 23℃, 1 hour after tripping .
Physical specifications:
Lead material: AHS005-SM~AHS090-SM Tin plated copper, 24 AWG.
AHS110-SM~AHS375-SM Tin plated copper, 20 AWG.
Soldering characteristics:MIL-STD-202, Method 208E.
Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement.

NOTE : Specification subject to change without notice.

3. Production Dimensions (millimeter)



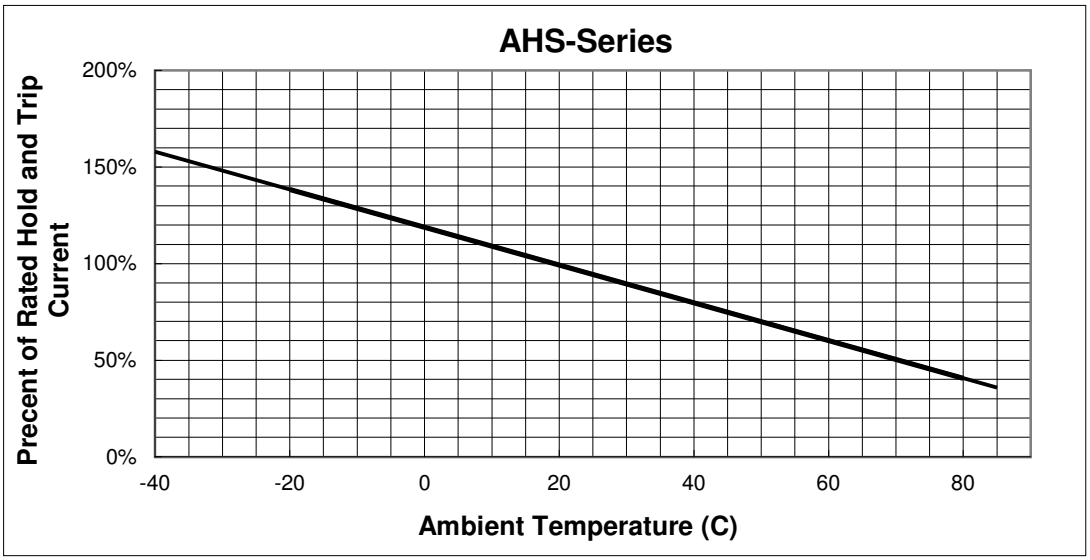
AHS 005-SM ~ AHS 090-SM
Lead Size : 24AWG
Φ 0.51 mm Diameter



AHS 110-SM ~ AHS 375-SM
Lead Size : 20AWG
Φ 0.81 mm Diameter

Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Maximum	Typical
AHS005-SM	7.4	12.7	5.1	7.6	3.1	1.1
AHS010-SM	7.4	12.7	5.1	7.6	3.1	1.1
AHS017-SM	7.4	12.7	5.1	7.6	3.1	1.1
AHS020-SM	7.4	12.7	5.1	7.6	3.1	1.1
AHS025-SM	7.4	12.7	5.1	7.6	3.1	1.1
AHS030-SM	7.4	13.0	5.1	7.6	3.1	1.1
AHS040-SM	7.6	13.5	5.1	7.6	3.1	1.1
AHS050-SM	7.9	13.7	5.1	7.6	3.1	1.1
AHS065-SM	9.7	14.5	5.1	7.6	3.1	1.1
AHS075-SM	10.4	15.2	5.1	7.6	3.1	1.1
AHS090-SM	11.7	15.8	5.1	7.6	3.1	1.1
AHS110-SM	13.0	18.0	5.1	7.6	3.1	1.4
AHS135-SM	14.5	19.6	5.1	7.6	3.1	1.4
AHS160-SM	16.3	21.3	5.1	7.6	3.1	1.4
AHS185-SM	17.8	22.9	5.1	7.6	3.1	1.4
AHS250-SM	21.3	26.4	10.2	7.6	3.1	1.4
AHS300-SM	24.9	30.0	10.2	7.6	3.1	1.4
AHS375-SM	28.5	33.5	10.2	7.6	3.1	1.4

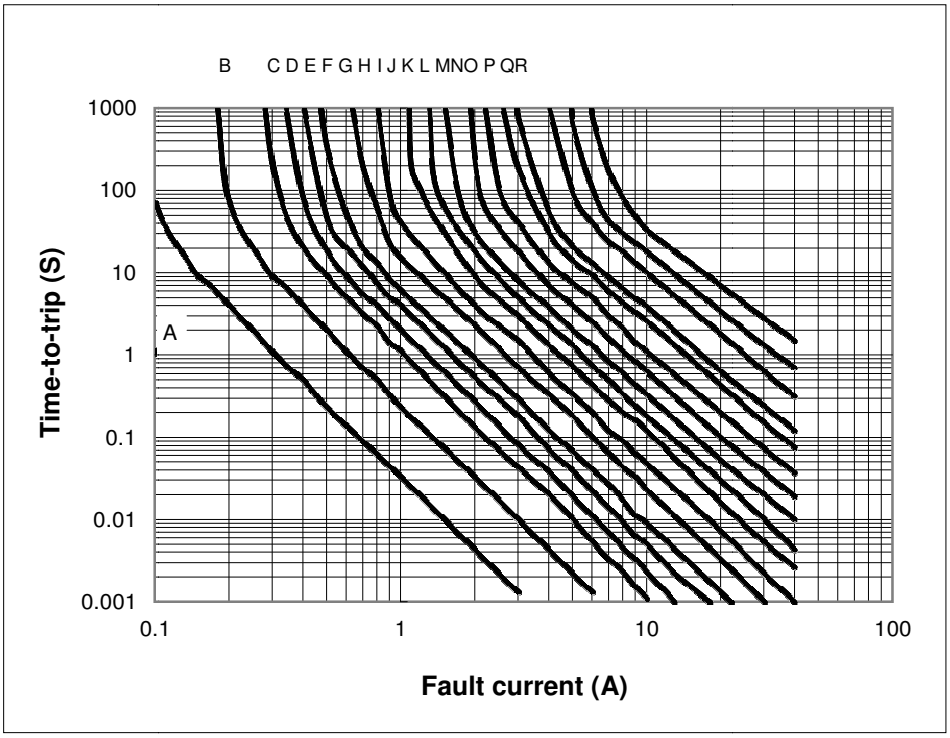
4. Thermal Derating Curve



NOTE : Specification subject to change without notice.

5. Typical Time-To-Trip at 23℃

A =AHS005-SM
B =AHS010-SM
C =AHS017-SM
D =AHS020-SM
E =AHS025-SM
F =AHS030-SM
G =AHS040-SM
H =AHS050-SM
I =AHS065-SM
J =AHS075-SM
K =AHS090-SM
L =AHS110-SM
M =AHS135-SM
N =AHS160-SM
O =AHS185-SM
P =AHS250-SM
Q=AHS300-SM
R =AHS375-SM



6. Material Specification

Lead material：AHS005-SM~AHS090-SM Tin plated copper,24 AWG.

AHS110-SM~AHS375-SM Tin plated copper, 20 AWG.

Soldering characteristics:MIL-STD-202, Method 208E.

Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement

7. Part Numbering and Marking System

Part Numbering System

AHS □□□—□□

RoHS Compliant / Lead Free Voltage Rating
Current Rating

Part Marking System

Warning: -Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
-PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.
- Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.

NOTE : Specification subject to change without notice.