Type 0HAAL

Time Lag Radial Lead Micro Fuse Series

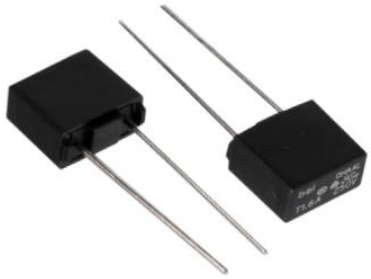
HF Pb 0HAAL Series — RoHS Compliant

Description

Sub-miniature, Time-lag Type, 250 VAC rated fuses designed, approved and complied with IEC 60127-3, standard sheet 4.

Features

- Time-lag, 250 VAC
- Meet IEC standard 60127-3, sheet 4
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free and Lead Free



Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery chargers
- Consumer electronics
- Adapter
- Industrial controllers

LEAD FREE = Pb
HALOGEN FREE = HF

Physical Specifications

Materials	Base and Cover : Black thermoplastic, UL 94-V0
	Pins : 100% Matte Tin Plated Copper
Marking	On Fuse:
	"bel", "0HAAL", "T","Current Rating", "250V" & "Appropriate Safety Logos"
	On Label :
	"bel","0HAAL"," T","Current Rating", "Voltage Rating"," Interrupting Rating","Appropriate Safety Logos" and " RoHS "," e "(China RoHS compliant).

Electrical Characteristics (IEC-127-3 STANDARD SHEET 4)

Rated Current	1.5In		2.1In	2.75In		4In		10In	
	Min		Max	Min	Max	Min	Max	Min	Max
1A to 6.3A inclusive	1		2	400	10	150	3	20	150
	hour		min.	ms	sec	ms	sec	ms	ms

Safety Agency Approvals

Safety Agency	Safety Agency Certificate	Ampere Rating/ Voltage Rating	Ampere Range / Volt@ I.R. ability*
cULus	E506667	1A-6.3A/250Vac	1A-6.3A/250V ac @ 35A or 10In whichever is greater.
VDE	40057591	1A/250Vac 1.6A-3.15A/250Vac 5A-6.3A/250Vac	
CCC	2023960207000004	1A/250Vac 1.6A-3.15A/250Vac 5A-6.3A/250Vac	

*I.R.= Interrupting Rating = Short Circuit Rating (Amps)

Environmental Specifications

Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A (10-55 Hz, 0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B (48 hrs).
Insulation Resistance	MIL-STD-202G, Method 302, Test Condition A (After Opening) 10,000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition C. Top Side. (260℃,20 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65℃ to +125℃).
Moisture Resistance	MIL-STD-202G, Method 202G, Method 106G
Operating Temperature	-55℃ to +125℃

Electrical Specifications

Part Number	Ampere Rating	Typical Cold Resistance (ohms)	Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Nominal Melting I²T <10 mSec (A² Sec)	Nominal Melting I²T @10 In (A² Sec)	Maximum Power Dissipation (W)	Agency Approvals		
								c UL us		
0HAAL1000-XX	1A	0.080	0.14	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	4.6	6.2	0.50	Y	Y	Y
0HAAL1250-XX	1.25A	0.060	0.13		8.7	10.9	0.60	Y		
0HAAL1600-XX	1.6A	0.044	0.12		11	14	0.73	Y	Y	Y
0HAAL2000-XX	2A	0.033	0.10		23	28.8	0.87	Y	Y	Y
0HAAL2500-XX	2.5A	0.024	0.10		30	35	1.00	Y	Y	Y
0HAAL3150-XX	3.15A	0.018	0.10		57	68	1.20	Y	Y	Y
0HAAL4000-XX	4A	0.014	0.10		96	98	1.40	Y		
0HAAL5000-XX	5A	0.010	0.10		98	100	1.50	Y	Y	Y
0HAAL6300-XX	6.3A	0.008	0.10		133	162	1.65	Y	Y	Y

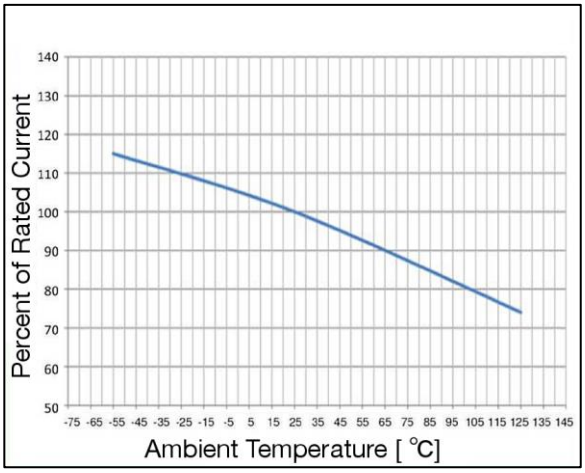
Consult manufacturer for other ratings.

XX - Packaging code (see “ordering information”)

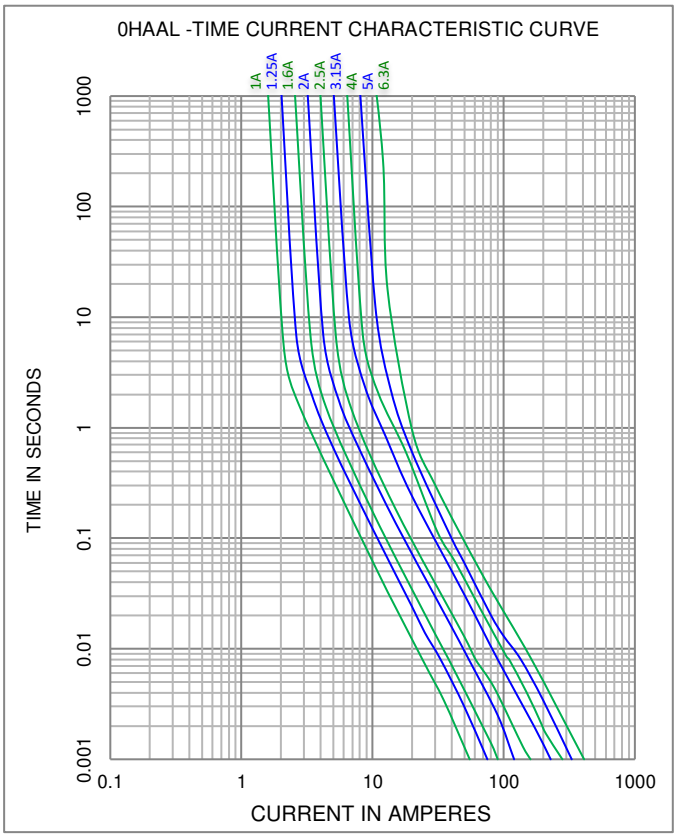
Bel Fuse Inc.
300 Executive Drive, Suite 300,
West Orange, NJ 07052 USA

+1 201.432.0463
Bel.US.CS@belf.com
belfuse.com/circuit-protection

Temperature Derating Curve

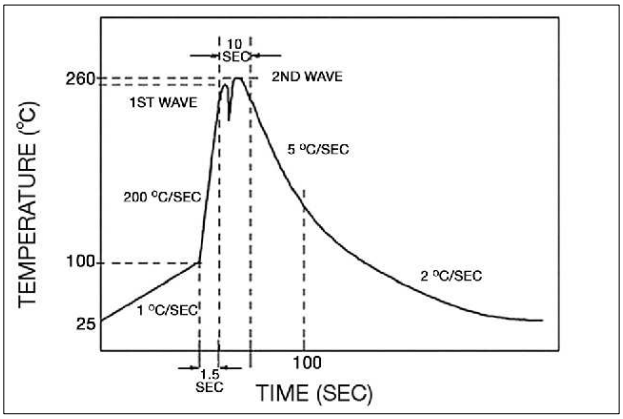


Average Time Current Curve



Soldering Parameters

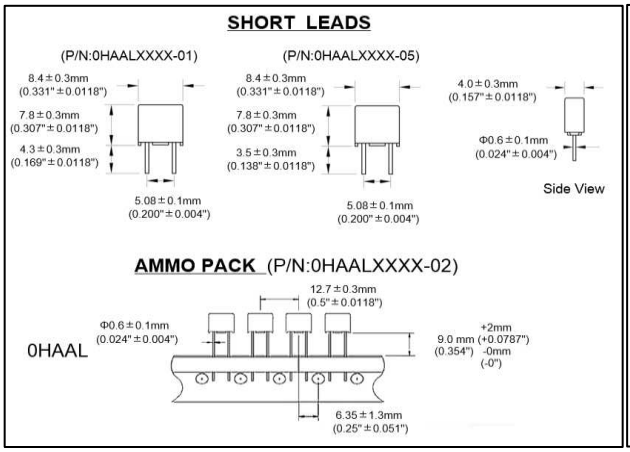
Lead-free Wave Soldering Profile	
Wave Soldering Parameter	
Average ramp-up rate	200℃ / second
Heating rate during preheat	typical 1 - 2℃ / second Max 4℃ / second
Final preheat temperature	within 125℃ of soldering temperature
Peak temperature Tp	260℃
Time within +0℃ / -5℃ of actual peak temperature	10 seconds
Ramp-down rate	5℃ / second max.



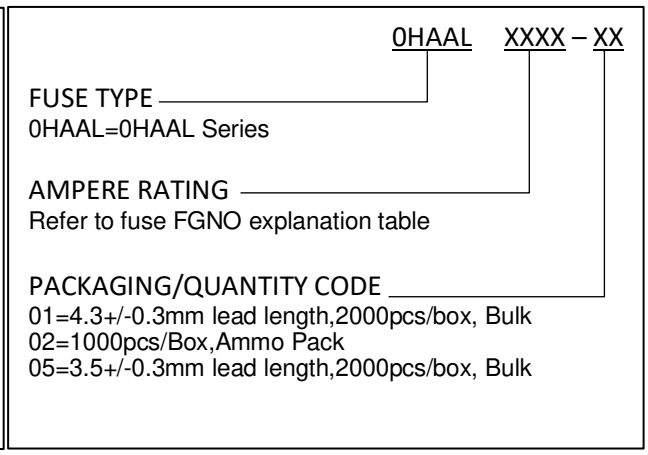
Fuse FGNO Explanation
0HAA L [XXXX] X XX
0HAAL=0HAAL; [XXXX]=Ampere Rating; XX=See Ordering Information as below

Decimal	Amps	Bel FGNO[XXXX]
1.0	1	1000
1.25	1.25	1250
1.60	1.6	1600
2.0	2	2000
2.5	2.5	2500
3.15	3.15	3150
4.0	4	4000
5.0	5	5000
6.3	6.3	6300

Mechanical Dimensions



Ordering Information



Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code
Bulk / bag, 2000 / box	N/A	2000	01, 05
12.7 mm pitch, On Tape / box	IEC-286-2	1000	02

Bel Fuse Inc.
300 Executive Drive, Suite 300,
West Orange, NJ 07052 USA

+1 201.432.0463
Bel.US.CS@belf.com
belfuse.com/circuit-protection