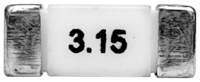
Technical Data **ELX1041**

Effective May 2021

BUSSMANN
SERIES

1350HV

High voltage fast-acting brick fuse



Product features

- 13 x 5.0 x 5.0 mm surface mount package
- High voltage fast-acting brick fuse
- 600 Vdc voltage rating
- Ceramic tube, silver plated cap construction
- Moisture sensitivity level (MSL): 1

Applications

Primary and secondary circuit protection:

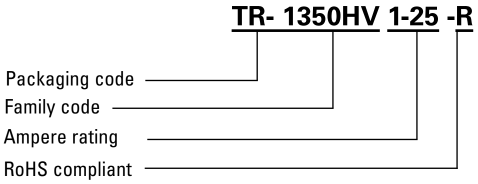
- Server & telecom systems, including 380 Vdc distribution
- Single phase and 3-phase UPS
- 380 Vdc DC-DC converters
- High voltage DC-DC conversion
- Power factor correction
- Capacitor output protection

Environmental compliance

HALOGEN HF FREE

RoHS

Ordering part number



Packaging prefix

TR- (1000 parts on a 13" diameter tape and reel)

EATON
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Electrical characteristics

Amp Rating	% of rated current	Opening time
1 A ~ 5 A	100%	1 hour minimum
1 A ~ 5 A	200%	120 seconds maximum

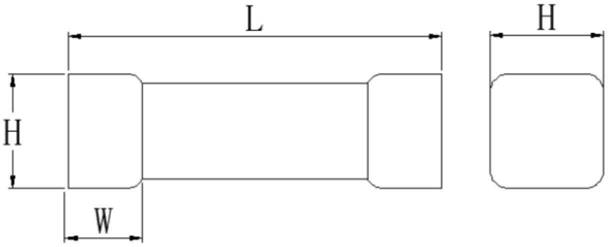
Product specifications

Part number	Current rating (A)	Voltage rating		Interrupting rating @ rated voltage[1]		Typical resistance[2] (mΩ)	Typical voltage drop (mV)	Typical pre-arcing[3] I^2t (A^2s)	Part marking
		(Vac)	(Vdc)	(A) Vac	(A) Vdc				
1350HV1-R	1	350	600	100	100	252	335	0.5	1
1350HV1-25-R	1.25	350	600	100	100	192	325	0.95	1.25
1350HV1-6-R	1.6	350	600	100	100	116	230	2.3	1.6
1350HV2-R	2	350	600	100	100	93	255	4.1	2
1350HV2-5-R	2.5	350	600	100	100	51	174	2.6	2.5
1350HV3-15-R	3.15	350	600	100	100	39	165	3.4	3.15
1350HV4-R	4	350	500	100	100	31	175	5.5	4
1350HV5-R	5	350	500	100	100	22	155	11.5	5

1. AC Interrupting rating (measured at designated voltage, 100% power factor); DC Interrupting rating (measured at designated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold resistance are measured at <10% of rated current in ambient temperature of +25 °C
3. Typical pre-arcing I^2t are measured at 10 In current, DC battery bank

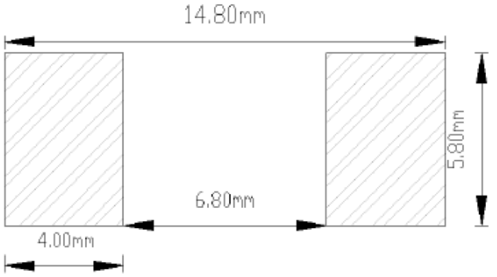
Dimensions- mm

Drawing not to scale



Rating	L	W	H
1 A ~ 5 A	13.20 ± 0.50	2.80 ± 0.50	5.05 ± 0.50

Recommended pad layout



Recommended trace thickness is 35 um;
the minimum trace width is 5 mm
Recommended stencil thickness is 0.15 mm

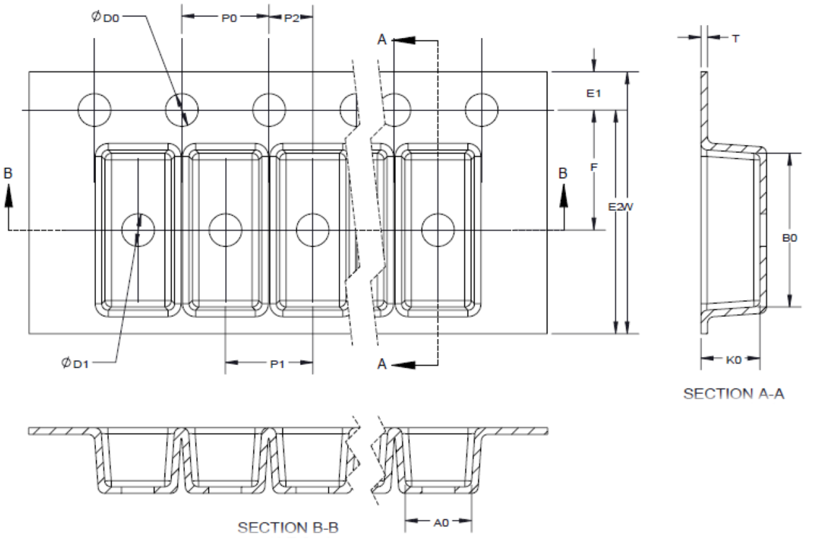
1350HV is also compatible with Littelfuse LF485 pad layout; wave solder pad size 5.6 mm x 6.9 mm and reflow solder pad size 5.6 mm x 3.5 mm

General specifications

Operating temperature: -40 °C to +125 °C with proper derating factor applied
Thermal shock: MIL-STD-202,Method 107G -40 °C/+125 °C. Note: Number of cycles required 100 times
Mechanical shock: Figure 1 of Method 213. Condition C, 100 g, 6 ms
Mechanical vibration: MIL-STD-202G, Method 204, 5 g's for 20 minutes, 12 cycles each of 3 orientations. Test from 10-2000 Hz
Resistance to solder heat: MIL-STD-202G Method 210F, condition D (+260 °C,10 s)
Solderability test: J-STD-002, Method B1 Steam aging 1 hour, Solder temperature +255 ± 5 °C,solder immersion time 5 s

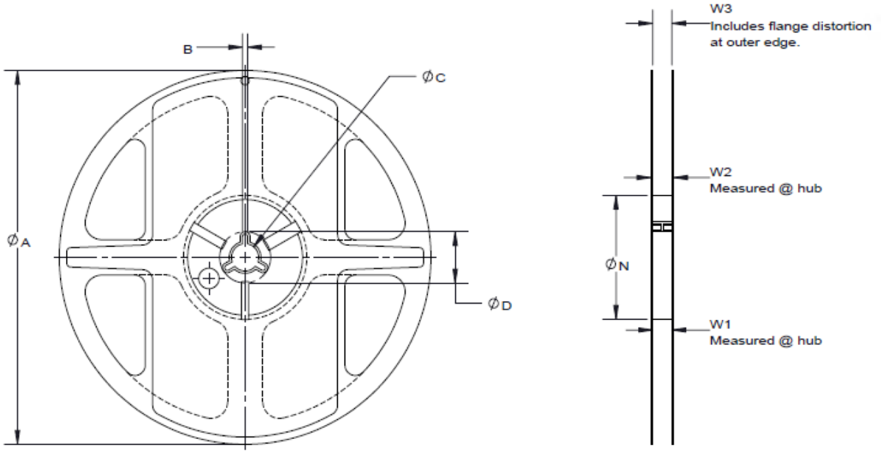
Packaging information - mm

1000 parts per 13” diameter reel (EIA-481 compliant)
Drawing not to scale



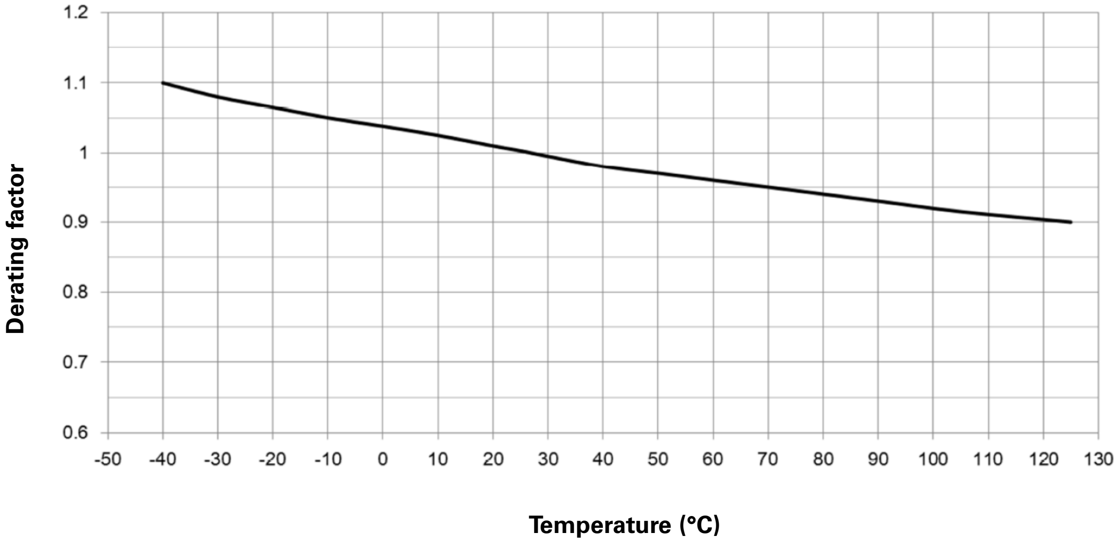
Dimension	millimeter
W	24.00
F	11.50
E1	1.75
E2	N/A
P0	4.00
P1	8.00
P2	2.00
D0	1.50
D1	1.50
A0	4.85
B0	12.75
K0	4.90
T	0.40

Reel dimension- mm

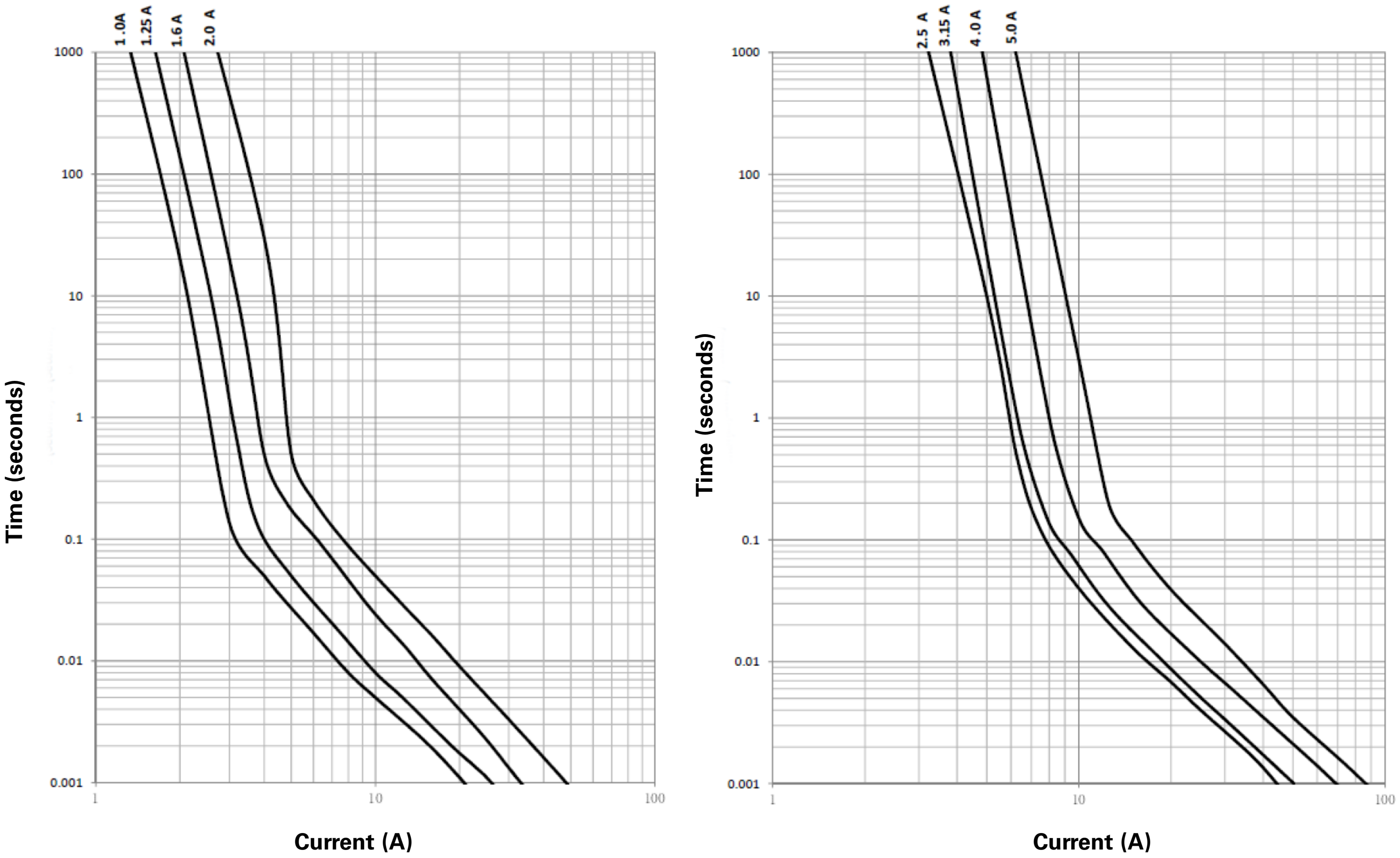


Dimension	millimeter
A	330 ± 1
B	2.5 ± 0.2
C	13.5 ± 0.2
D	N/A
N	100 ± 0.5
W1	24.8 ± -0.5
W2	30.4 max
W3	N/A

Temperature derating curve



Current vs. time curve



Solder reflow profile

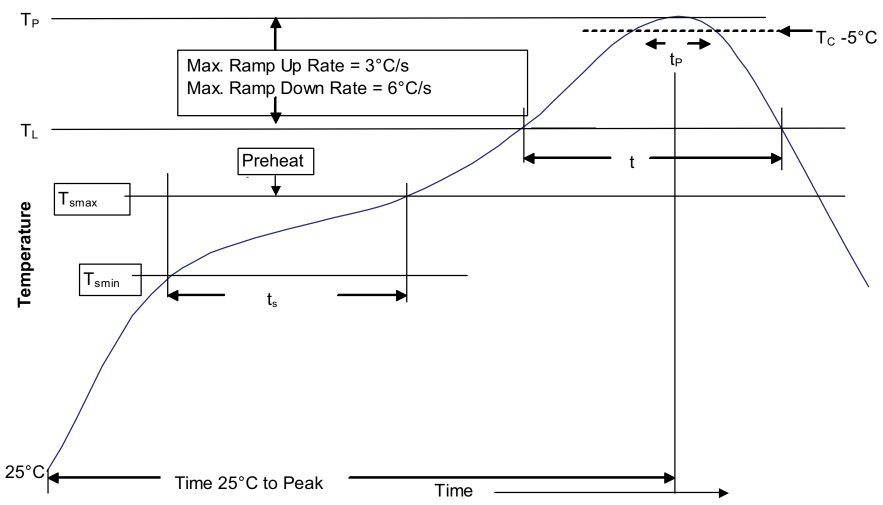


Table 1 - Standard SnPb solder (T_c)

Package thickness	Volume mm3 <350	Volume mm3 ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2 - Lead (Pb) free solder (T_c)

Package thickness	Volume mm^3 <350	Volume mm^3 350 - 2000	Volume mm^3 >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 – 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Reference J-STD-020

Profile feature		Standard SnPb solder	Lead (Pb) free solder
Preheat and soak	• Temperature min. (T_{smin})	100 °C	150 °C
	• Temperature max. (T_{smax})	150 °C	200 °C
	• Time (T_{smin} to T_{smax}) (t_s)	60-120 seconds	60-120 seconds
Ramp up rate T_L to T_p		3 °C/ second max.	3 °C/ second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L		183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body temperature (T_P)*		Table 1	Table 2
Time (t_p)* within 5 °C of the specified classification temperature (T_c)		20 seconds*	30 seconds*
Ramp-down rate (T_p to T_L)		6 °C/ second max.	6 °C/ second max.
Time 25 °C to peak temperature		6 minutes max.	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com/electronics

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