1245UMFT

Universal modular fuse, time delay, SMT

Product features

- 12.5 x 4.8 x 4.8 mm surface mount package
- Complies with IEC60127-4 Universal modular fuse-links
- Time delay
- 250 Vac Voltage rating brick fuse
- Ceramic square body with end cap design
- Moisture sensitivity level (MSL): 1

Applications

- Power supply
- White goods
- Lighting system
- Industrial equipment
- Lighting ballast
- AC/DC adaptor primary protection
- Medical Equipment
- Battery protection
- LCD monitor
- Office electronic equipment
- Industrial equipment

Agency information

Universal modular fuse: UL file number: E526626

Environmental compliance

HALOGEN HF FREE

RoHS

Ordering part number

The ordering code is the packaging code and part number replacing the "." with a "-" i.e. 1.25=1-25

TR - 1245UMF T x-xx - R

- Packaging code
- Family name
- Time delay option
- Rated current
- RoHS

Packaging prefix

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

Powering Business Worldwide

sales@prom-elec.com / ООО ПРОМЭЛЕКТРОНИКА

Electrical characteristics

Amp Rating	1.25 In minimum	2 In maximum	10 In
1.0 A ~ 6.3 A	1 hour	120 seconds	10 - 100 milliseconds

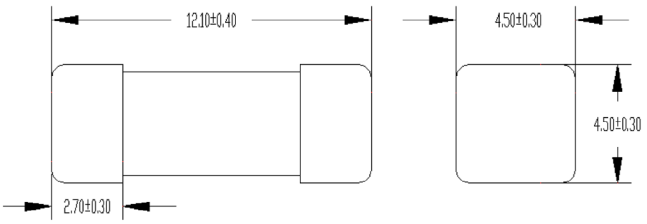
Product specifications

Part number	Current rating (A)	Voltage rating (Vac)	Interrupting rating @ rated voltage[1] (A) Vac	Typical cold resistance[2] (mΩ)	Typical voltage drop (mV)	Part marking
1245UMFT1-R	1	250	100	118	165	BUSS T1AL AC250V
1245UMFT1-25-R	1.25	250	100	85	150	BUSS T1.25AL AC250V
1245UMFT1-6-R	1.6	250	100	62	140	BUSS T1.6AL AC250V
1245UMFT2-R	2	250	100	42	116	BUSS T2AL AC250V
1245UMFT2-5-R	2.5	250	100	33	115	BUSS T2.5AL AC250V
1245UMFT3-15-R	3.15	250	100	23.6	95	BUSS T3.15AL AC250V
1245UMFT4-R	4	250	100	20	125	BUSS T4AL AC250V
1245UMFT5-R	5	250	100	14.5	100	BUSS T5AL AC250V
1245UMFT6-3-R	6.3	250	100	11	100	BUSS T6.3AL AC250V

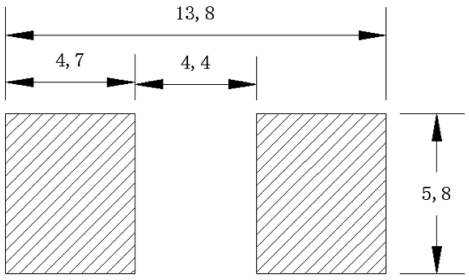
1. AC Interrupting rating (measured at rated voltage, >95% power factor);
2. Typical cold resistance is measured at <10% of rated current in ambient temperature of +25 °C

Dimensions- mm

Drawing not to scale



Recommended pad layout

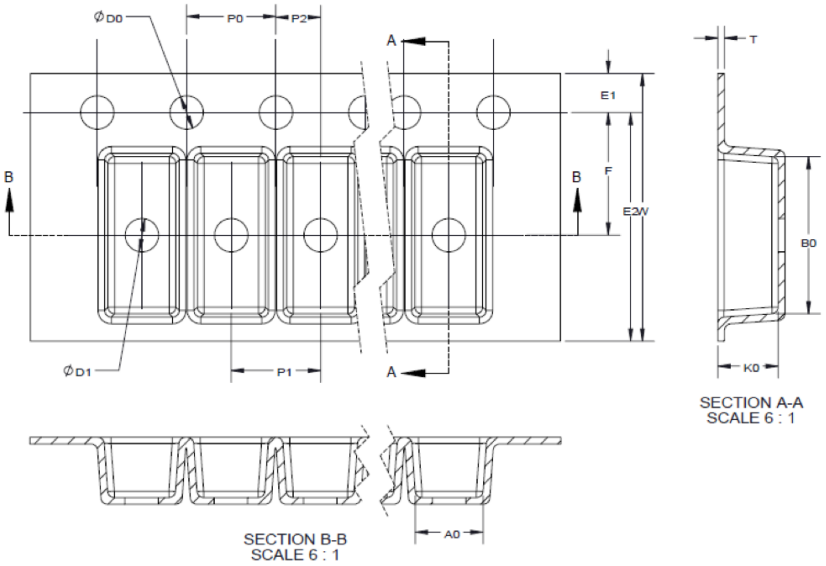


Recommended trace thickness is 35 um;
the minimum trace width is 5 mm
Recommended stencil thickness is 0.15 mm

General specifications

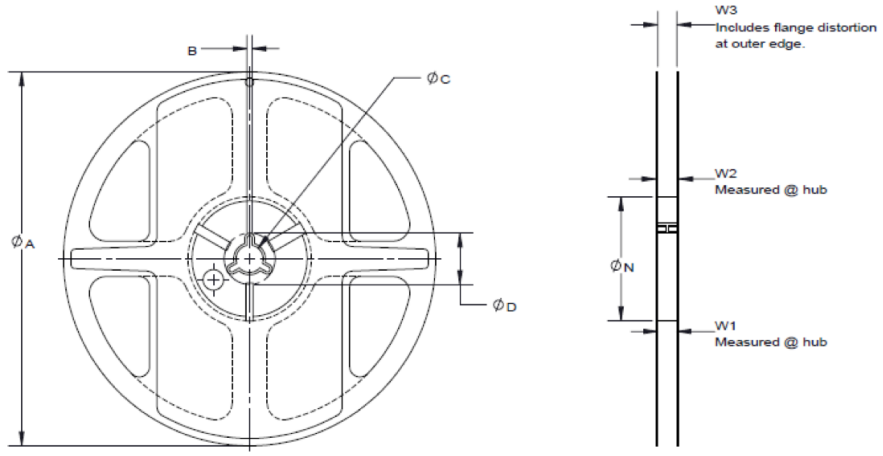
Operating temperature: -40 °C to +125 °C with proper derating factor applied
Thermal shock: MIL-STD-202,Method 107, -40 °C to +125 °C, number of cycles 1000, transfer time 20 seconds, dwell time 15 minutes air-air.
Mechanical shock: MIL-STD-202, Figure 1 of Method 213, Condition C, 100 g, 6 ms
Vibration: MIL-STD-202 Method 201, 2 hours each of 3 orientations. Test from 10 - 55 Hz in 1 minute
Resistance to solder heat: MIL-STD-202 Method 210, Solder temperature +260 °C ± 5 °C,solder immersion time 10 s ± 5 s
Solderability test: J-STD-002, Method B1 Steam aging 1 hour, Solder temperature +255 °C ± 5 °C, solder immersion time 5 s
Humidity bias: MIL-STD-202 Method 103, 1000 hours +85 °C/85% RH. Specified conditions: 10% of operating power.
Breaking capacity: Spec, Ambient Temperature +25 °C + -5 °C UMF-6.3 A: 250 Vac, 100 A
High temperature operating life: MIL-STD-202 Method 108, Condition D, Steady state +70 °C at 60% rated current.

Packaging information - mm
1000 parts per 13" diameter reel (EIA-481 compliant)
Drawing not to scale



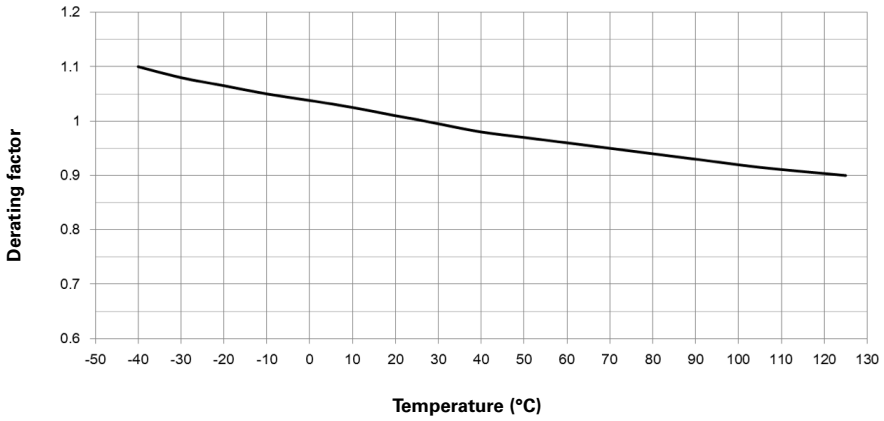
Dimension	millimeter
W	24.00
F	11.50
E1	1.75
E2	N/A
P0	4.00
P1	8.00
P2	2.00
DO	1.50
D1	1.50
A0	4.85
B0	12.75
K0	4.90
T	0.40

Reel dimension- mm

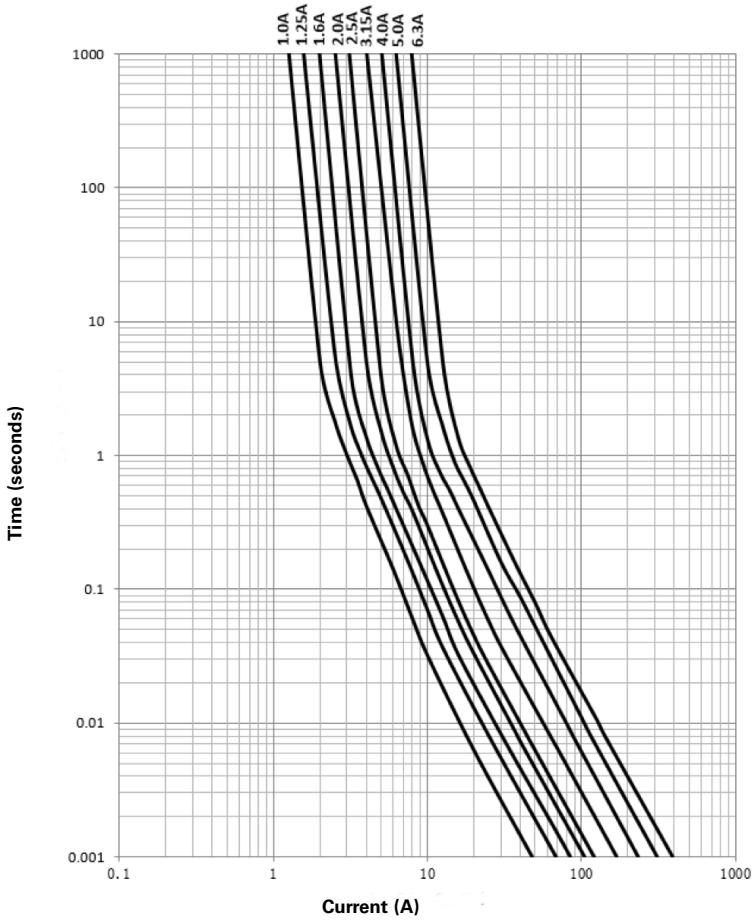


Dimension	millimeter
A	330 ± 1
B	2.5 ± 0.2
C	13.5 ± 0.2
D	N/A
N	100 ± 0.5
W1	24.8 ± 0.5
W2	30.4 max
W3	N/A

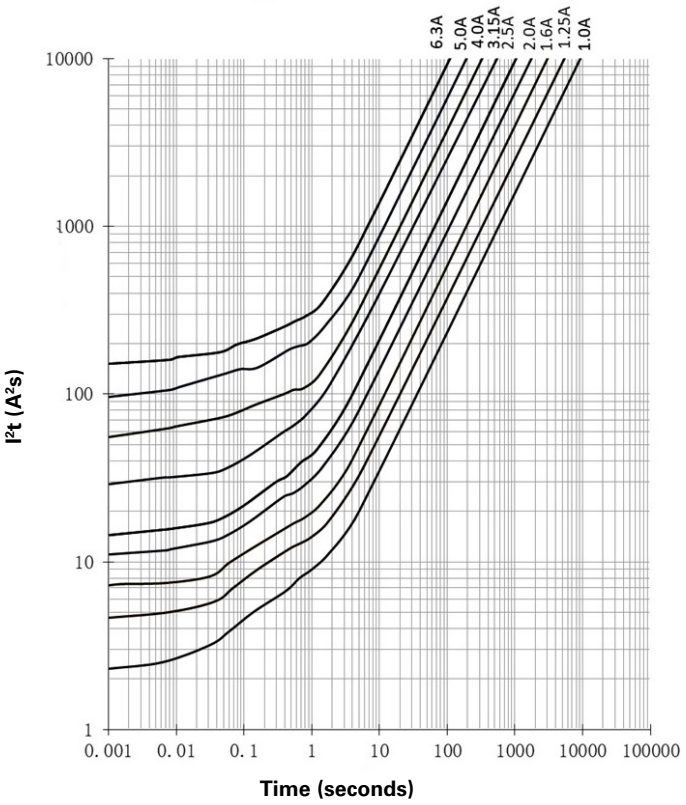
Temperature derating curve



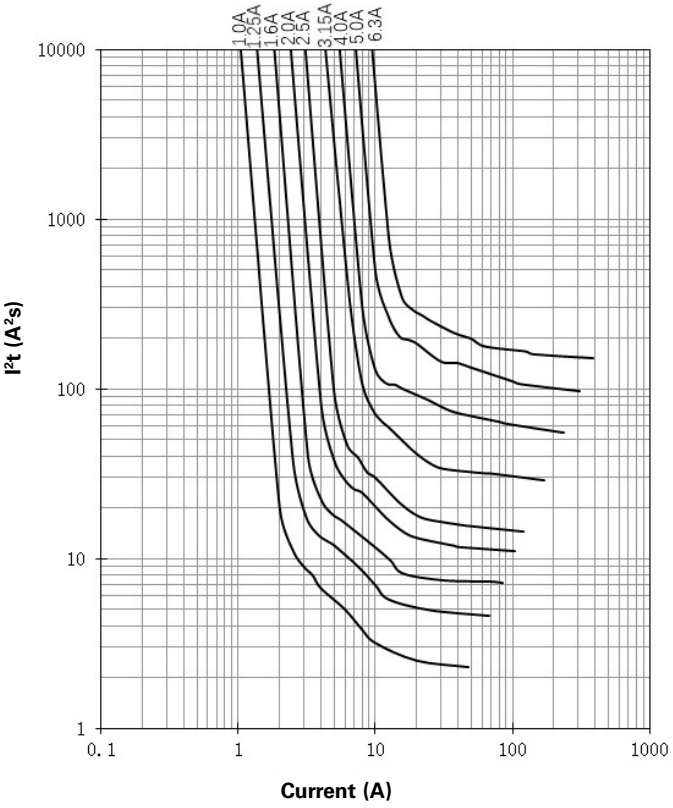
Current vs. time curve



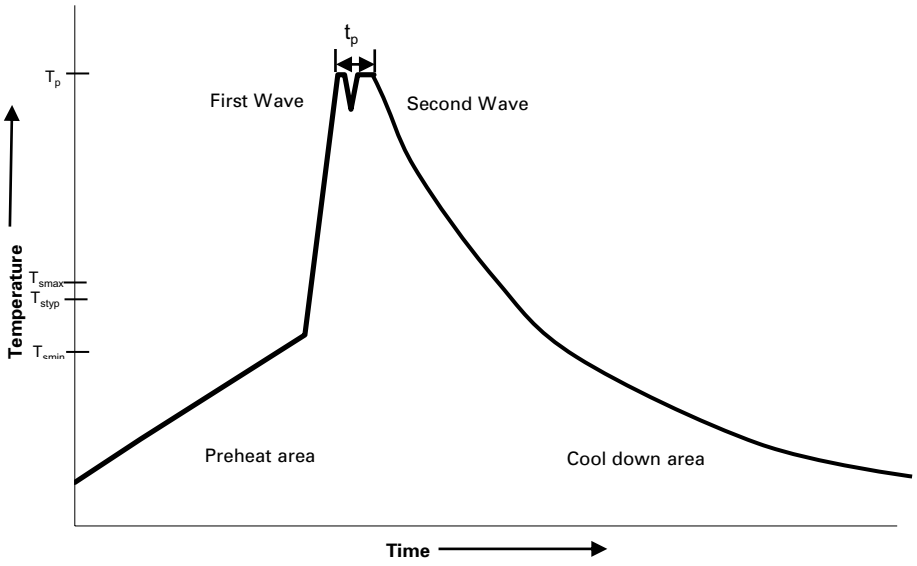
I²t vs time curve



I²t vs current curve



Wave solder profile



Reference EN 61760-1:2006

Profile feature		Standard SnPb solder	Lead (Pb) free solder
Preheat	• Temperature min. (T_{smin})	100 °C	100 °C
	• Temperature typ. (T_{styp})	120 °C	120 °C
	• Temperature max. (T_{smax})	130 °C	130 °C
	• Time (T_{smin} to T_{smax}) (t_s)	70 seconds	70 seconds
Δ preheat to max Temperature		150 °C max.	150 °C max.
Peak temperature (T_p)*		235 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (t_p)		10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate		~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25 °C to 25 °C		4 minutes	4 minutes

Solder reflow profile

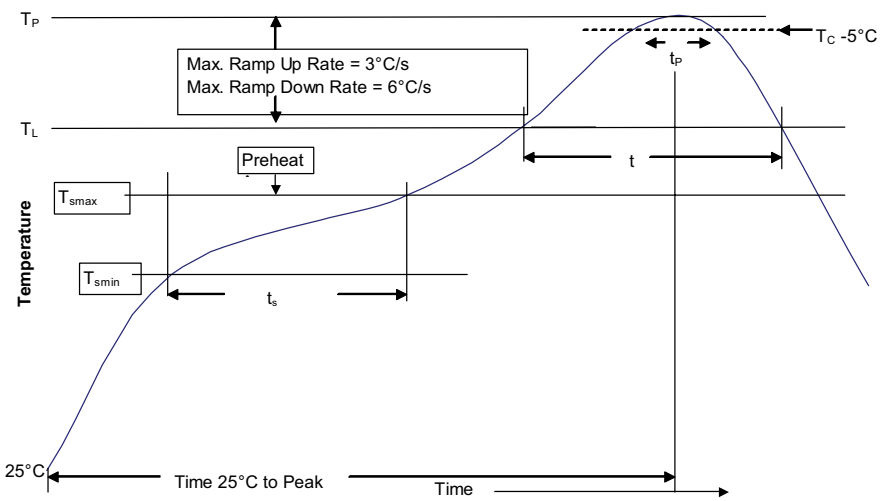


Table 1 - Standard SnPb solder (T_C)

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 mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >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.

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