

# UBF mSMD Series (1210)

## Electrical Characteristics

Part No	$I_{hold}$ (A)	$I_{trip}$ (A)	$V_{max}$ (V)	$I_{max}$ (A)	$P_{d\ typ}$ (W)	Max. (A)	Time-to-trip (s)	$R_{min}$ ( $\Omega$ )	$R_{1max}$ ( $\Omega$ )
UBF mSMD 005	0.35	0.15	60	10	0.6	0.25	3.00	3.600	50.00
UBF mSMD 010	0.10	0.25	30	10	0.6	0.50	1.50	1.600	15.00
UBF mSMD 020	0.20	0.40	30	10	0.6	8.00	0.02	0.800	5.000
UBF mSMD 035	0.35	0.75	16	40	0.6	8.00	0.20	0.320	1.300
UBF mSMD 050	0.50	1.00	16	40	0.6	8.00	0.10	0.250	0.900
UBF mSMD 075	0.75	1.50	8	40	0.6	8.00	0.10	0.130	0.400
UBF mSMD 110	1.10	2.20	6	100	0.8	8.00	0.30	0.060	0.210
UBF mSMD 150	1.50	3.00	6	100	0.8	8.00	0.50	0.040	0.110
UBF mSMD 175	1.75	3.50	6	100	0.8	8.00	0.60	0.020	0.080
UBF mSMD 200	2.00	4.00	6	100	0.8	8.00	1.00	0.015	0.070

$I_{hold}$ : Hold current is the maximum current that **UBF Fuse** can pass through without interruption at 20°C unless otherwise specified.

$I_{trip}$ : Trip current is the minimum current that will switch the device from low resistance state to high resistance state at 20°C unless specified.

$V_{max}$ : The maximum voltage device can withstand without damage at rated current.

$I_{max}$ : The maximum current device can withstand without damage at rated voltage.

$P_d$ : The power dissipated from device when in the tripped state at 20°C unless otherwise specified.

$R_{min}$ : The minimum resistance of device as received from the factory at 20°C unless otherwise specified.

$R_{max}$ : The maximum resistance of device as received from the factory at 20°C unless otherwise specified.

$R_{1max}$ : The maximum resistance of device when measured one hour post reflow at 20°C unless otherwise specified. Max.

Time-to-trip: The maximum time for device to trip at specified current ratings at 20°C unless otherwise specified.

## Dimensions

Part No	A		B		C		D		E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
UBF mSMD	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	0.10	0.45

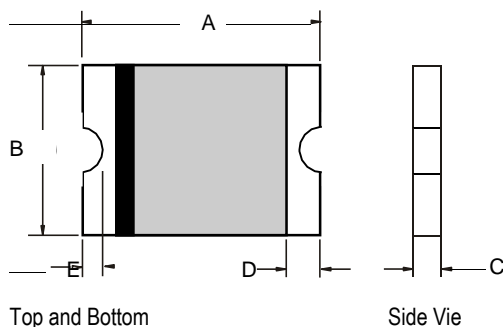
**NOTE:** All drawings are not in scale and layout may vary. All parts dimension is in millimeter unless otherwise specified.

Terminal material is Tin (Sn) plated Copper (Cu).

Layout may vary. Terminal material is Tin (Sn) plated Copper (Cu).  
All parts dimension is in millimeter unless otherwise specified.

**Packaging:** 3000 pcs per reel

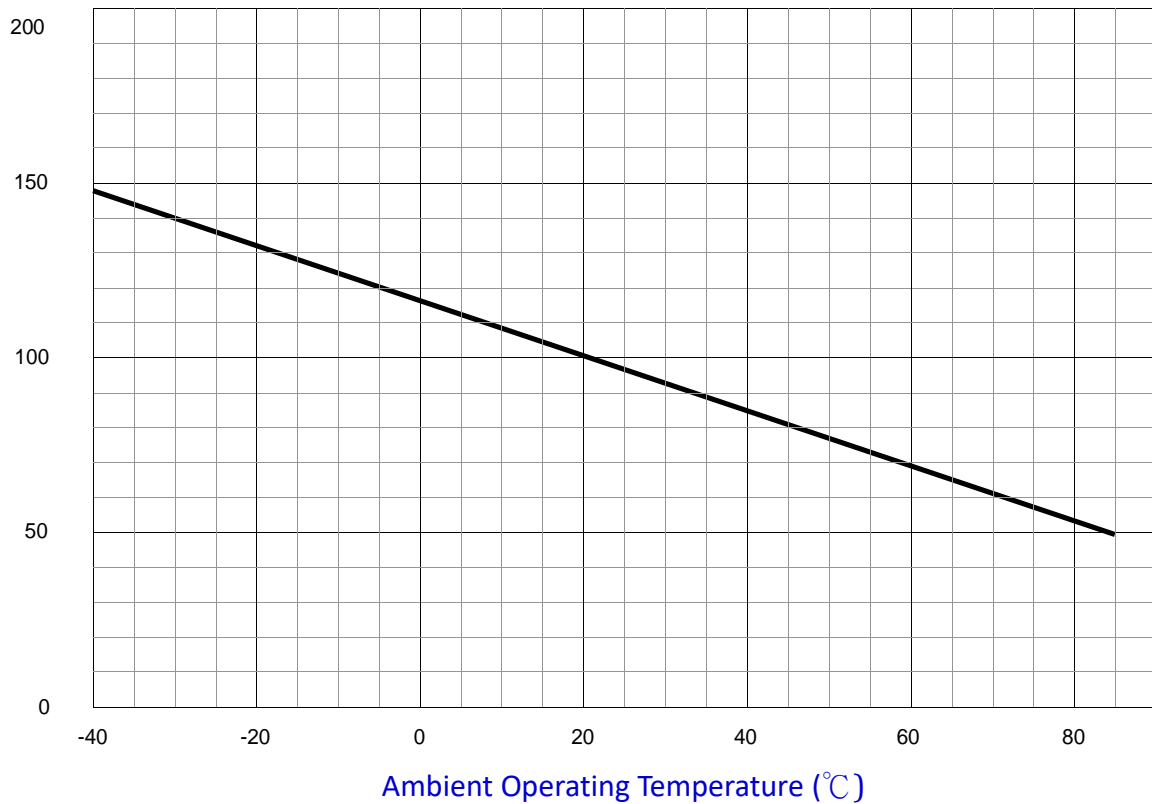
**Agency Approval:** UL File Number E 119550  
c-UL File Number E 119550  
TUV File Number Pending



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## Typical Thermal Derating Chart – I<sub>hold</sub> (A)

Part No	-40	-20	0	20	40	60	85
UBF mSMD005	0.07	0.06	0.06	0.05	0.04	0.03	0.02
UBF mSMD010	0.15	0.12	0.12	0.10	0.08	0.06	0.05
UBF mSMD020	0.29	0.23	0.23	0.20	0.17	0.13	0.09
UBF mSMD035	0.51	0.40	0.40	0.35	0.29	0.22	0.16
UBF mSMD050	0.73	0.58	0.58	0.50	0.42	0.32	0.23
UBF mSMD075	1.10	0.86	0.86	0.75	0.62	0.48	0.35
UBF mSMD110	1.60	1.27	1.27	1.10	0.91	0.70	0.51
UBF mSMD150	2.18	1.73	1.73	1.50	1.25	0.96	0.69
UBF mSMD175	2.54	2.31	2.01	1.75	1.45	1.12	0.81
UBF mSMD200	2.90	2.64	2.30	2.00	1.66	1.28	0.92

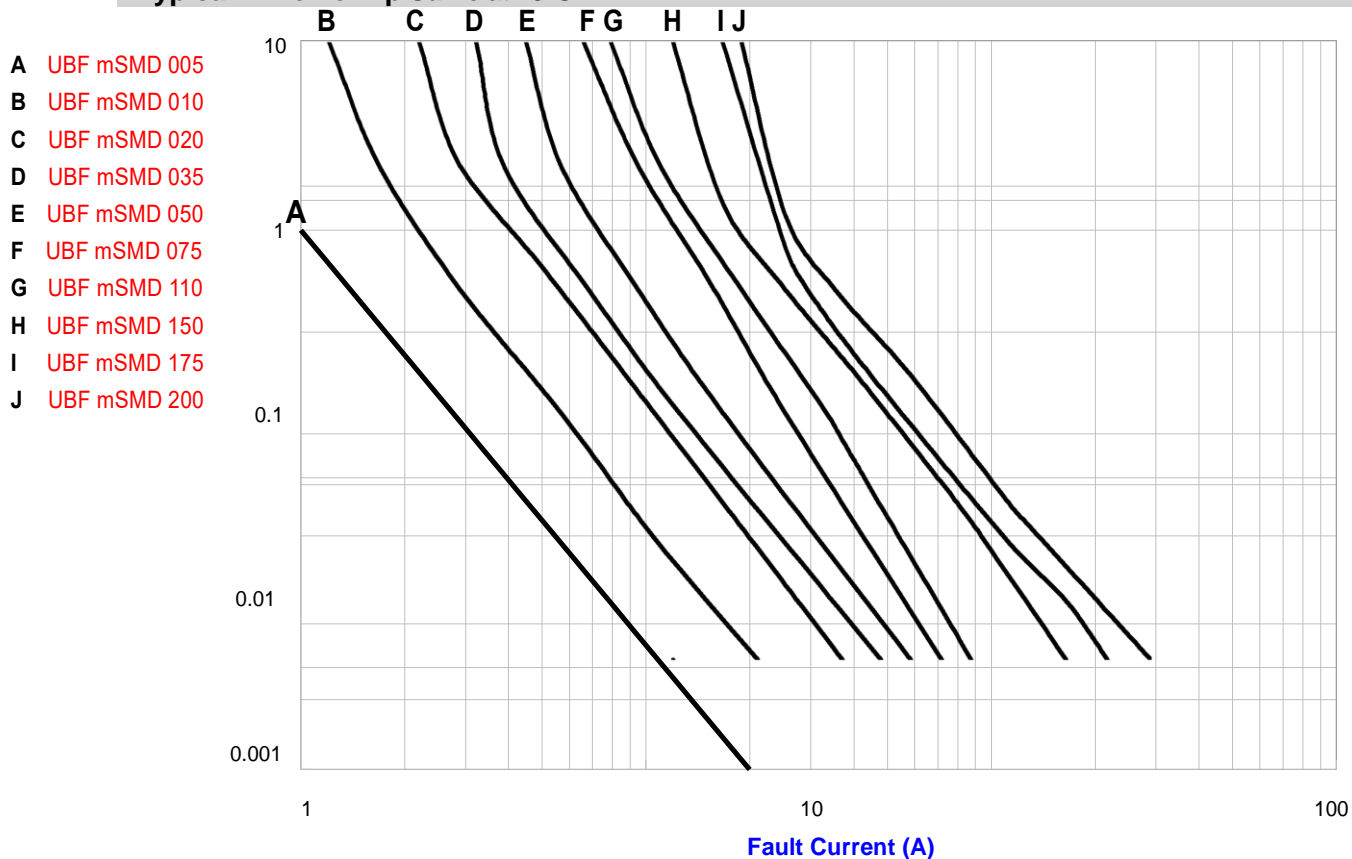


## Environmental Characteristics

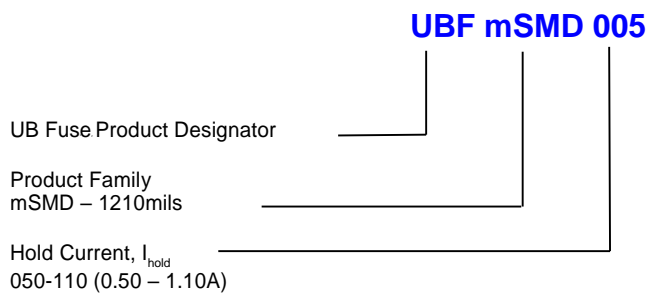
Test	Test Conditions	Resistance Change
Passive Aging	+85°C, 1000 hours	±10% typical resistance change
Humidity Aging	+85°C, 85% R.H., 7 days	
Thermal Shock	+85°C to -40°C, 10 times	±10% typical resistance change
Vibration	MIL-STD-202, Method 107G	No change
Solvent resistance	MIL-STD-883C, Condition A	No change
	MIL-STD-202, Method 215	

# UBF mSMD Series (1210)

Typical Time To Trip Curve at 20°C



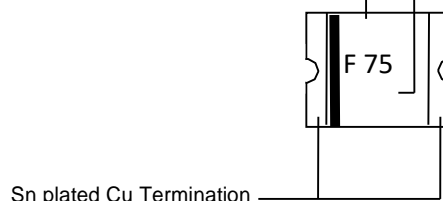
## Ordering Information



## Part Marking

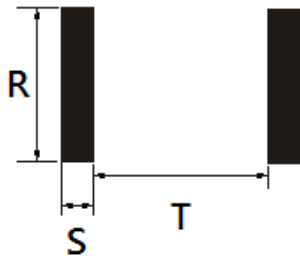
- Part Identification,  $I_{hold}$
- 05 – UBF mSMD005
  - 10 – UBF mSMD010
  - 20 – UBF mSMD020
  - 35 – UBF mSMD035
  - 50 – UBF mSMD050
  - 75 – UBF mSMD075
  - 110 – UBF mSMD110
  - 150 – UBF mSMD150
  - 175 – UBF mSMD175
  - 200 – UBF mSMD200

Manufacturer Logo



# UBF mSMD Series (1210)

## Recommended Reflow Profile & Pad Size

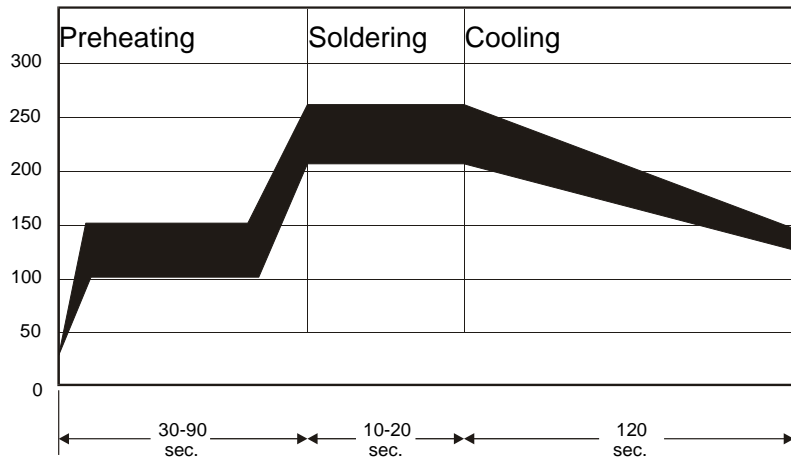


Recommended Pad Layout

Part No.	R	S	T
UBF mSMD005	2.50	1.00	2.00
UBF mSMD010	2.50	1.00	2.00
UBF mSMD020	2.50	1.00	2.00
UBF mSMD035	2.50	1.00	2.00
UBF mSMD050	2.50	1.00	2.00
UBF mSMD075	2.50	1.00	2.00
UBF mSMD110	2.50	1.00	2.00
UBF mSMD150	2.50	1.00	2.00
UBF mSMD175	2.50	1.00	2.00
UBF mSMD200	2.50	1.00	2.00

### Reflow

- The recommended reflow profile is shown as the figure at right hand side.
- A maximum solder paste of thickness 0.25mm is recommended.
- Hot air, infra-red, vapor phase reflowing are recommended.

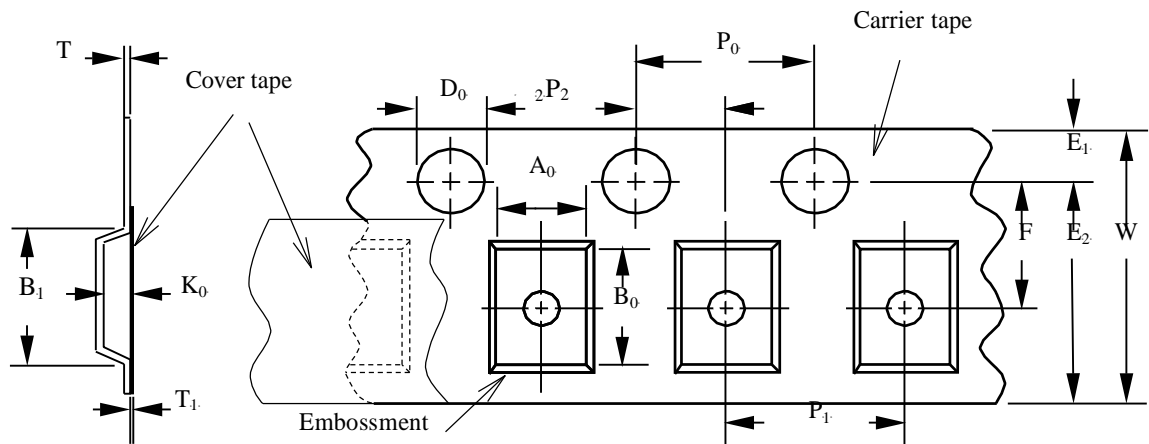


### WARNING:

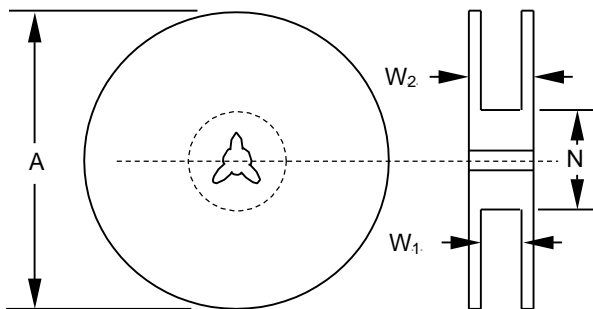
- Devices may not meet specifications if reflow temperatures exceed the recommended profile.
- Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing, flaming or explosion.
- The devices may not meet specified ratings if storage conditions exceeded 40°C and 70% relative humidity.
- The devices are intended to protect against occasional over-current or over-temperature fault conditions and should not be used when there are repeated fault conditions or prolonged trip events.
- The devices should not be placed under pressure or installed in spaces that would prevent thermal expansion, due to any prohibition of thermal expansion of the devices might result improper protection of fault conditions.
- UNIX TECH reserves the right to change any information or specification within this data book without notice.

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## Tape & Reel Packaging Specification per EIA481-1



Parameter as EIA481-1	Dimensions (mm)
W	8.00 ± 0.30
P <sub>0</sub>	4.00 ± 0.10
P <sub>1</sub>	4.00 ± 0.10
P <sub>2</sub>	2.00 ± 0.05
A <sub>0</sub>	2.95 ± 0.10
B <sub>0</sub>	3.58 ± 0.10
B <sub>1</sub> max.	4.35
D <sub>0</sub>	1.50 +0.10/-0.00
F	3.50 ± 0.05
E <sub>1</sub>	1.75 ± 0.10
E <sub>2</sub> min.	6.25
T max.	0.6
T <sub>1</sub> max.	0.1
K <sub>0</sub>	0.80 ± 0.10



Parameter as EIA481-1	Dimensions (mm)
A max.	185
N min.	50
W1	8.4 +1.5/-0.0
W2 max.	14.4

