

UBF eSMD Series (0805)

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} (Ω) | R_{1max} (Ω) |
|--------------|-------------------|-------------------|------------------|------------------|---------------------|-------------|---------------------|---------------------------|----------------------------|
| UBF eSMD 010 | 0.10 | 0.30 | 15 | 100 | 0.5 | 0.50 | 1.50 | 0.700 | 6.000 |
| UBF eSMD 020 | 0.20 | 0.50 | 9 | 100 | 0.5 | 8.00 | 0.02 | 0.400 | 3.500 |
| UBF eSMD 035 | 0.35 | 0.75 | 6 | 100 | 0.5 | 8.00 | 0.20 | 0.250 | 1.200 |
| UBF eSMD 050 | 0.50 | 1.00 | 6 | 100 | 0.5 | 8.00 | 0.10 | 0.150 | 0.850 |
| UBF eSMD 075 | 0.75 | 1.50 | 6 | 40 | 0.6 | 8.00 | 0.20 | 0.090 | 0.350 |
| UBF eSMD 100 | 1.00 | 1.95 | 6 | 40 | 0.6 | 8.00 | 0.30 | 0.600 | 0.210 |

I_{hold} : Hold current is the maximum current that **BF 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

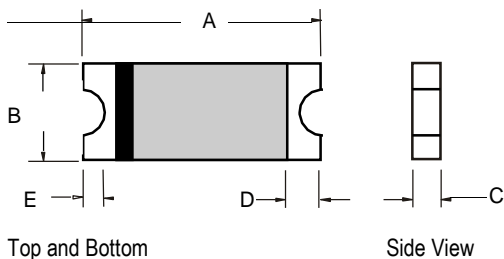
| Part No | A | | B | | C | | D | | E | |
|----------|------|------|------|------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| UBF eSMD | 2.00 | 2.30 | 1.20 | 1.50 | 0.30 | 1.50 | 0.20 | 0.60 | 0.10 | 0.45 |

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).

Packaging: 4000 pcs per reel

Agency Approval:

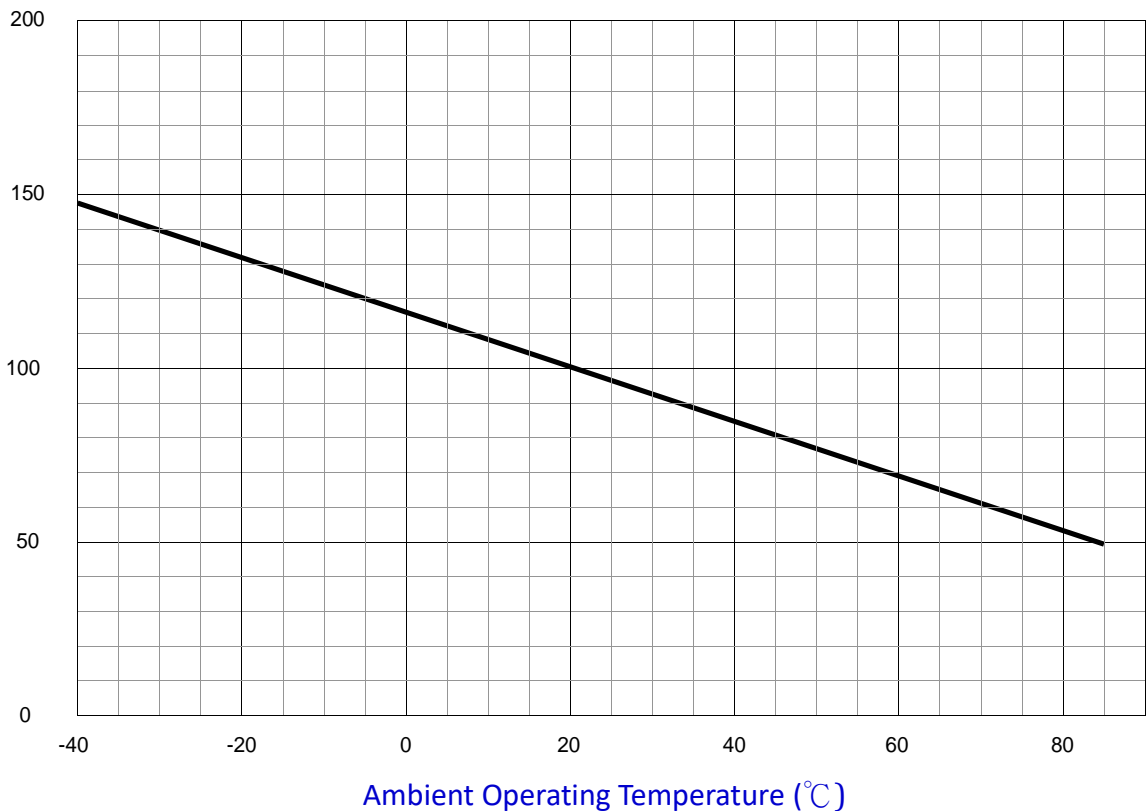
| | |
|------------------|----------|
| UL File Number | E 119550 |
| c-UL File Number | E 119550 |
| TUV File Number | Pending |



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Typical Thermal Derating Chart – I_{hold} (A)

| Part No | -40 | -20 | 0 | 20 | 40 | 60 | 85 |
|-------------|------|------|------|------|------|------|------|
| UBF nSMD010 | 0.15 | 0.13 | 0.12 | 0.10 | 0.08 | 0.07 | 0.05 |
| UBF nSMD020 | 0.29 | 0.26 | 0.23 | 0.20 | 0.17 | 0.14 | 0.11 |
| UBF nSMD035 | 0.51 | 0.46 | 0.41 | 0.35 | 0.29 | 0.24 | 0.19 |
| UBF nSMD050 | 0.73 | 0.65 | 0.58 | 0.50 | 0.42 | 0.35 | 0.27 |
| UBF nSMD075 | 1.09 | 0.98 | 0.87 | 0.75 | 0.63 | 0.52 | 0.40 |
| UBF nSMD100 | 1.45 | 1.30 | 1.61 | 1.00 | 0.84 | 0.69 | 0.53 |

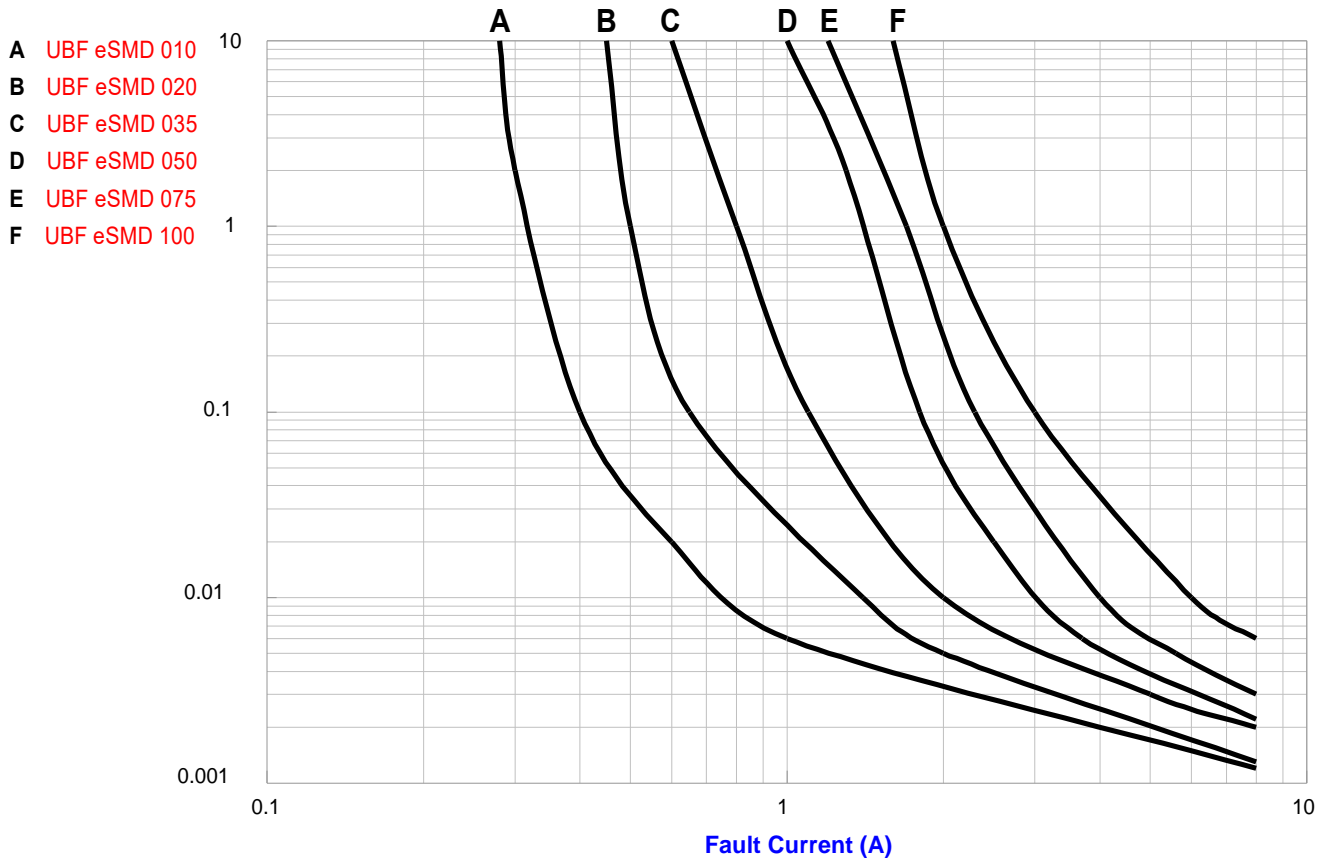


Environmental Characteristics

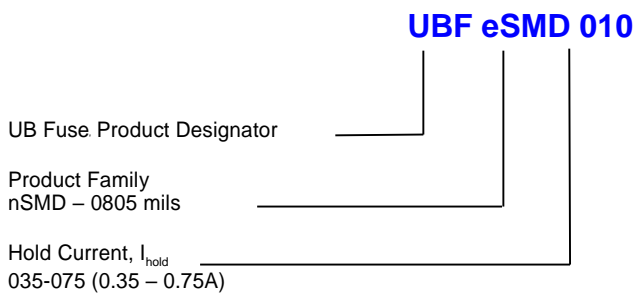
| Test | Test Conditions | Resistance Change |
|--------------------|--|--------------------------------|
| Passive Aging | +85°C, 1000 hours | ±10% typical resistance change |
| Humidity Aging | +85°C, 85% R.H., 7 days | ±10% typical resistance change |
| Thermal Shock | +85°C to -40°C, 10 times MIL-STD-202,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

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Typical Time To Trip Curve at 23°C



Ordering Information



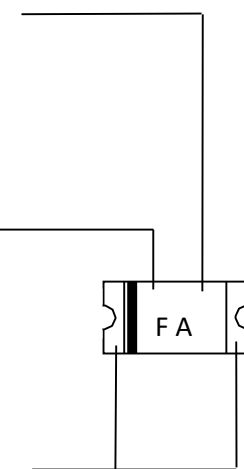
Part Marking

Part Identification, I_{hold}

- FZ - UBF eSMD010
- FA - UBF eSMD020
- FB - UBF eSMD035
- FC - UBF eSMD050
- FD - UBF eSMD075
- FG - UBF eSMD100

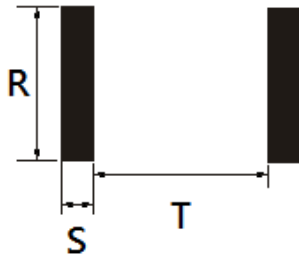
Manufacturer Logo

Sn plated Cu Termination



UBF eSMD Series (0805)

Recommended Reflow Profile & Pad Size



Recommended Pad Layout

| Part No. | R | S | T |
|-------------|------|------|------|
| UBF eSMD010 | 1.50 | 1.00 | 1.20 |
| UBF eSMD020 | 1.50 | 1.00 | 1.20 |
| UBF eSMD035 | 1.50 | 1.00 | 1.20 |
| UBF eSMD050 | 1.50 | 1.00 | 1.20 |
| UBF eSMD075 | 1.50 | 1.00 | 1.20 |
| UBF eSMD100 | 1.50 | 1.00 | 1.20 |

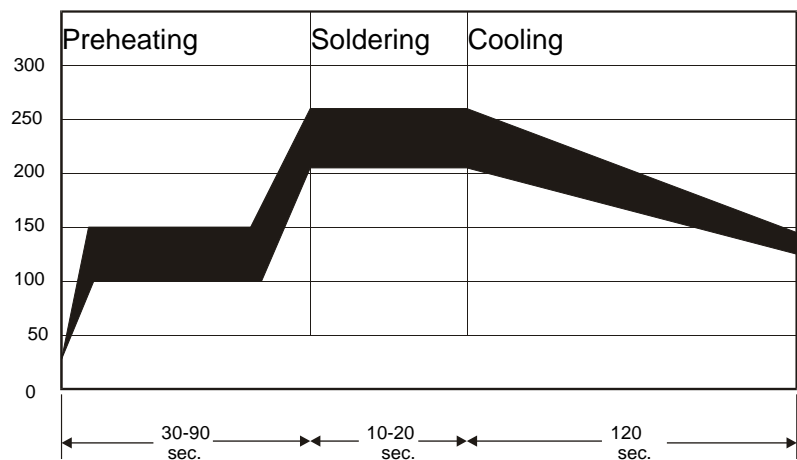
Reflow

- 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.



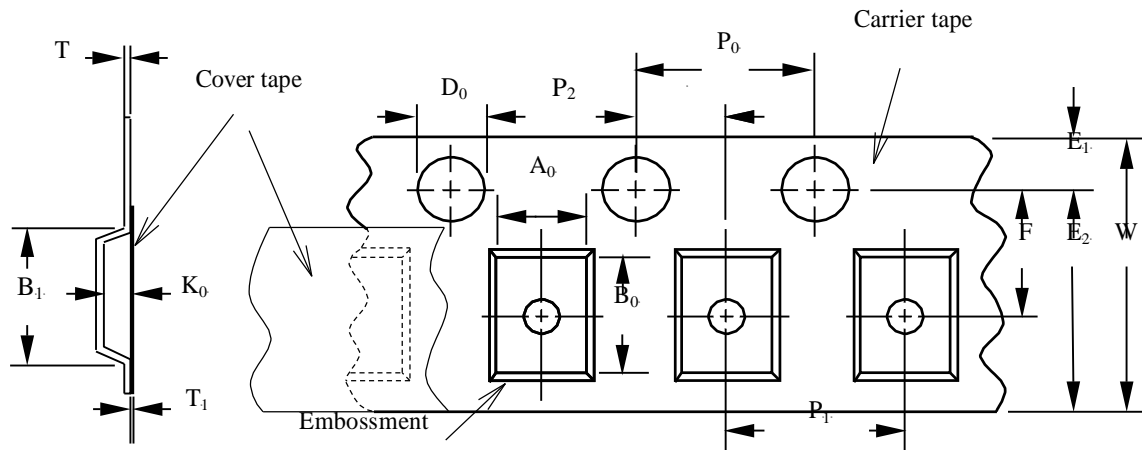
WARNING:

- 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.

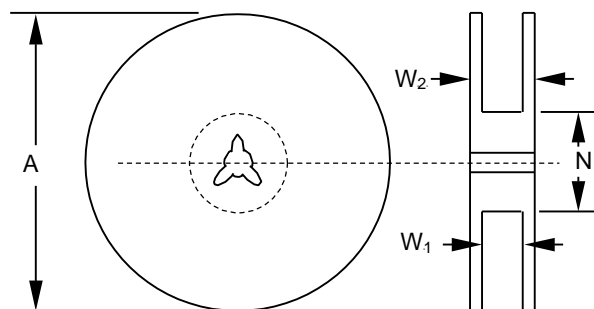


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Tape & Reel Packaging Specification per EIA481-1



| Parameter as EIA481-1 | Dimensions (mm) |
|-----------------------|------------------|
| W | 12.00 ± 0.30 |
| P ₀ | 4.00 ± 0.10 |
| P ₁ | 8.00 ± 0.10 |
| P ₂ | 2.00 ± 0.05 |
| A ₀ | 3.50 ± 0.23 |
| B ₀ | 5.10 ± 0.15 |
| B ₁ max. | 8.2 |
| D ₀ | 1.50 +0.10/-0.00 |
| F | 5.50 ± 0.05 |
| E ₁ | 1.75 ± 0.10 |
| E ₂ min. | 10.25 |
| T max. | 0.6 |
| T ₁ max. | 0.1 |
| K ₀ | 0.90 ± 0.15 |



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

