

# SS-5

## 250 V Subminiature, radial leaded, time-delay fuses



### Product features

- Radial leaded, time delay with low breaking capacity
- Designed to IEC60127-3 Sheet 4
- Plastic cap and base, flammability UL 94V0
- Protects against harmful overcurrents in primary and secondary applications
- Small rectangular-leaded design utilizes less board space
- High frequency vibration: MIL-STD-202F, Method 201A

### Applications

Primary and secondary circuit protection:

- Power supplies
- Notebooks and laptops
- Appliances and white goods
- Lighting ballasts
- Power adapters
- Set top boxes
- LED/LCD televisions and displays
- Air conditioners
- Battery chargers

### Agency information

- UL Recognition: File E19180, Guide JDYX2/JDYX8 (200 mA - 6.3 A)
- VDE: 40015513 (200 mA - 6.3 A)
- CCC: 2019010207246964 (200 mA - 6.3 A)
- PSE:
  - JET 1641-31007-1008 (1 A - 5 A)
  - JET 1641-31007-1009 (6.3 A)
- KC:
  - SU05011-8001 (400 mA - 800 mA)
  - SU05011-8002 (1 A - 2.5 A)
  - SU05011-8003 (3.15 A - 6.3 A)
- Semko:
  - 1516697 (630 mA, 1 A - 4 A)
  - 1124941 (500 mA, 800 mA, 5 A, 6.3 A)

### Ordering

- Use ordering number (see page 6 for details)

### Packaging suffixes

- -AP (1 000 parts Ammo pack, Pitch = 12.7)
- -BK (200 parts in a polybag, Lead L = 4.3 ± 0.3)
- -BK2 (200 parts in a polybag, Lead L = 21 ± 3.0)

Electrical characteristics

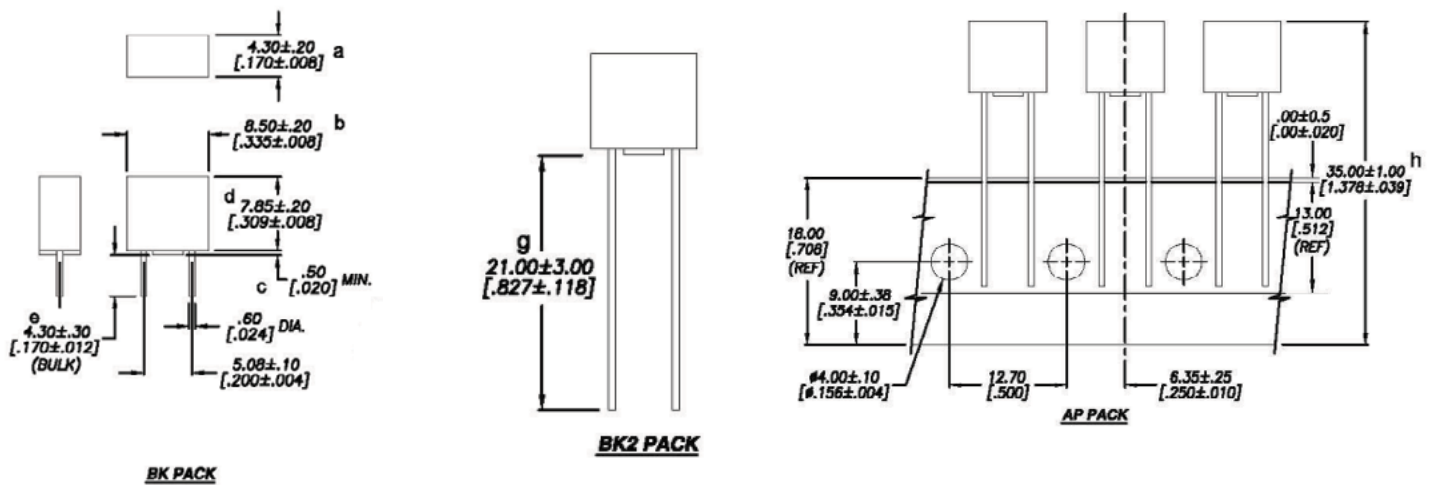
| $I_n$          | 1.5I <sub>n</sub><br>minimum<br>minute | 2.1I <sub>n</sub><br>maximum<br>minute | 2.75I <sub>n</sub><br>minimum<br>ms | 2.75I <sub>n</sub><br>maximum<br>s | 4I <sub>n</sub><br>minimum<br>ms | 4I <sub>n</sub><br>maximum<br>s | 10I <sub>n</sub><br>minimum<br>ms | 10I <sub>n</sub><br>maximum<br>ms |
|----------------|--|--|-------------------------------------|------------------------------------|----------------------------------|---------------------------------|-----------------------------------|-----------------------------------|
| 200 mA – 6.3 A | 60                                     | 2                                      | 400                                 | 10                                 | 150                              | 3                               | 20                                | 150                               |

Product specifications

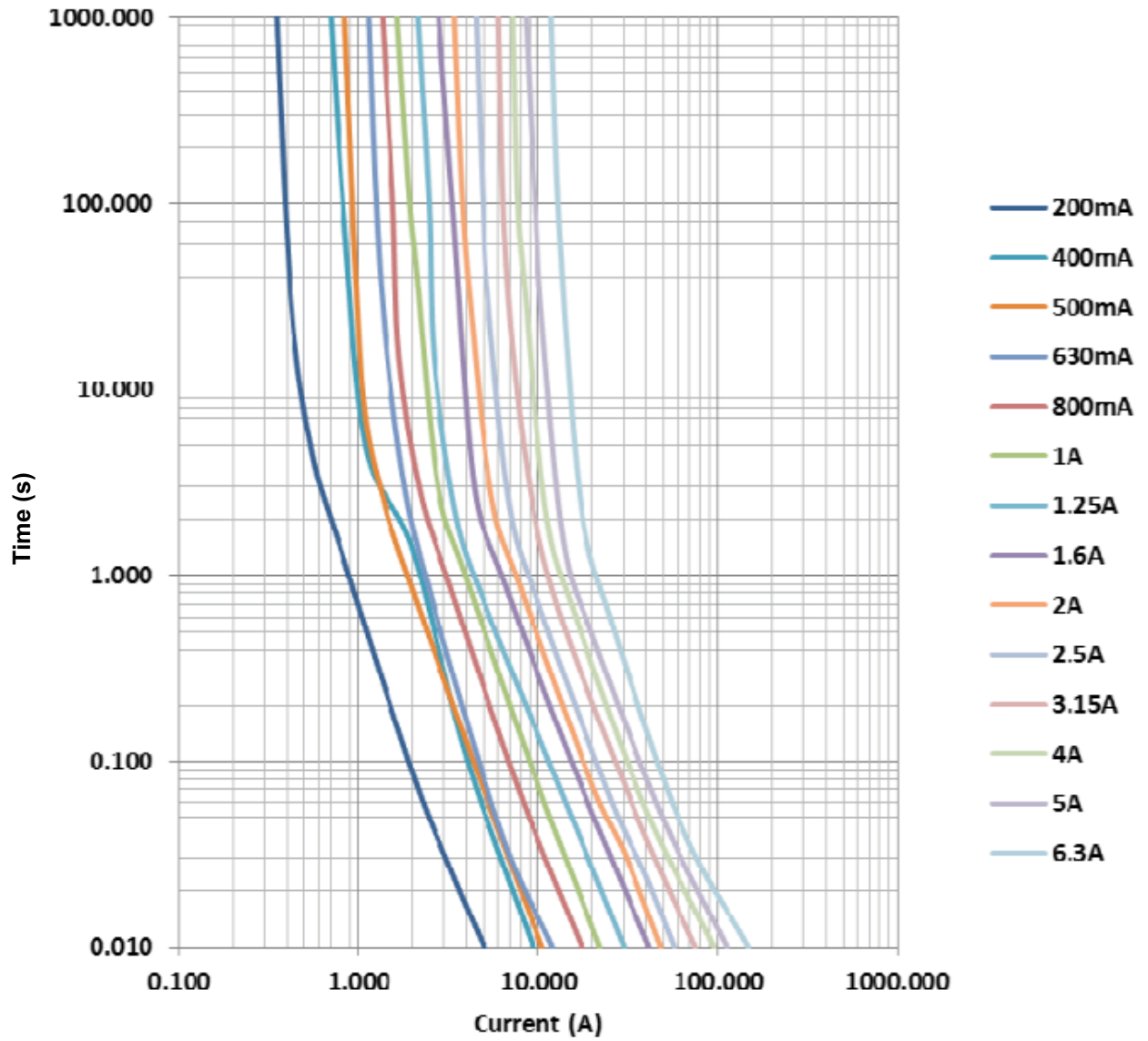
| Part number | Current rating (A) | Voltage rating (Vac) | Interrupting rating at rated voltage <sup>1</sup> (50 Hz) (Aac) | Typical DC cold resistance <sup>2</sup> (mΩ) | Typical melting <sup>3</sup> I <sup>2</sup> t (A <sup>2</sup> s) | Typical voltage drop <sup>4</sup> (mV) | cURus | KC | VDE | CCC | SEMKO | PSE+ JET <sup>1</sup> |
|-------------|--------------------|----------------------|---|--|--|--|-------|----|-----|-----|-------|-----------------------|
| SS-5-200mA  | 0.2                | 250                  | 35  | 960  | 0.35   | 212                                    | X     |    | X   | X   |       |                       |
| SS-5-400mA  | 0.4                | 250                  | 35  | 330  | 1.67   | 147                                    | X     | X  | X   | X   |       |                       |
| SS-5-500mA  | 0.5                | 250                  | 35  | 258  | 1.79   | 152                                    | X     | X  | X   | X   | X     |                       |
| SS-5-630mA  | 0.63               | 250                  | 35  | 140  | 1.51   | 101                                    | X     | X  | X   | X   | X     |                       |
| SS-5-800mA  | 0.8                | 250                  | 35  | 118  | 4.21   | 111                                    | X     | X  | X   | X   | X     |                       |
| SS-5-1A     | 1.0                | 250                  | 35  | 80.8   | 7.40   | 94.5                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-1.25A  | 1.25               | 250                  | 35  | 62.4   | 12.8   | 93.5                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-1.6A   | 1.6                | 250                  | 35  | 41   | 23   | 71.5                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-2A     | 2.0                | 250                  | 35  | 31.2   | 29.8   | 75                                     | X     | X  | X   | X   | X     | X                     |
| SS-5-2.5A   | 2.5                | 250                  | 35  | 24.3   | 40.3   | 74.5                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-3.15A  | 3.15               | 250                  | 35  | 16.8   | 67   | 62.5                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-4A     | 4.0                | 250                  | 40  | 12.8   | 87   | 65.4                                   | X     | X  | X   | X   | X     | X                     |
| SS-5-5A     | 5.0                | 250                  | 50  | 7.35   | 120  | 43                                     | X     | X  | X   | X   | X     | X                     |
| SS-5-6.3A   | 6.3                | 250                  | 63  | 7.4  | 176  | 59                                     | X     | X  | X   | X   | X     | X                     |

1. 200 mA to 3.15 A measured at 35 A, 95% - 100% of PF on AC. 4 A – 6.3 A measured at 10 times of rating current 95% - 100% of PF on AC.
2. Typical cold resistance measured at < 10% of rated current
3. I<sup>2</sup>t value is measured at 10I<sub>n</sub> DC
4. Typical voltage drop measured at +20 °C ambient temperature and rated current

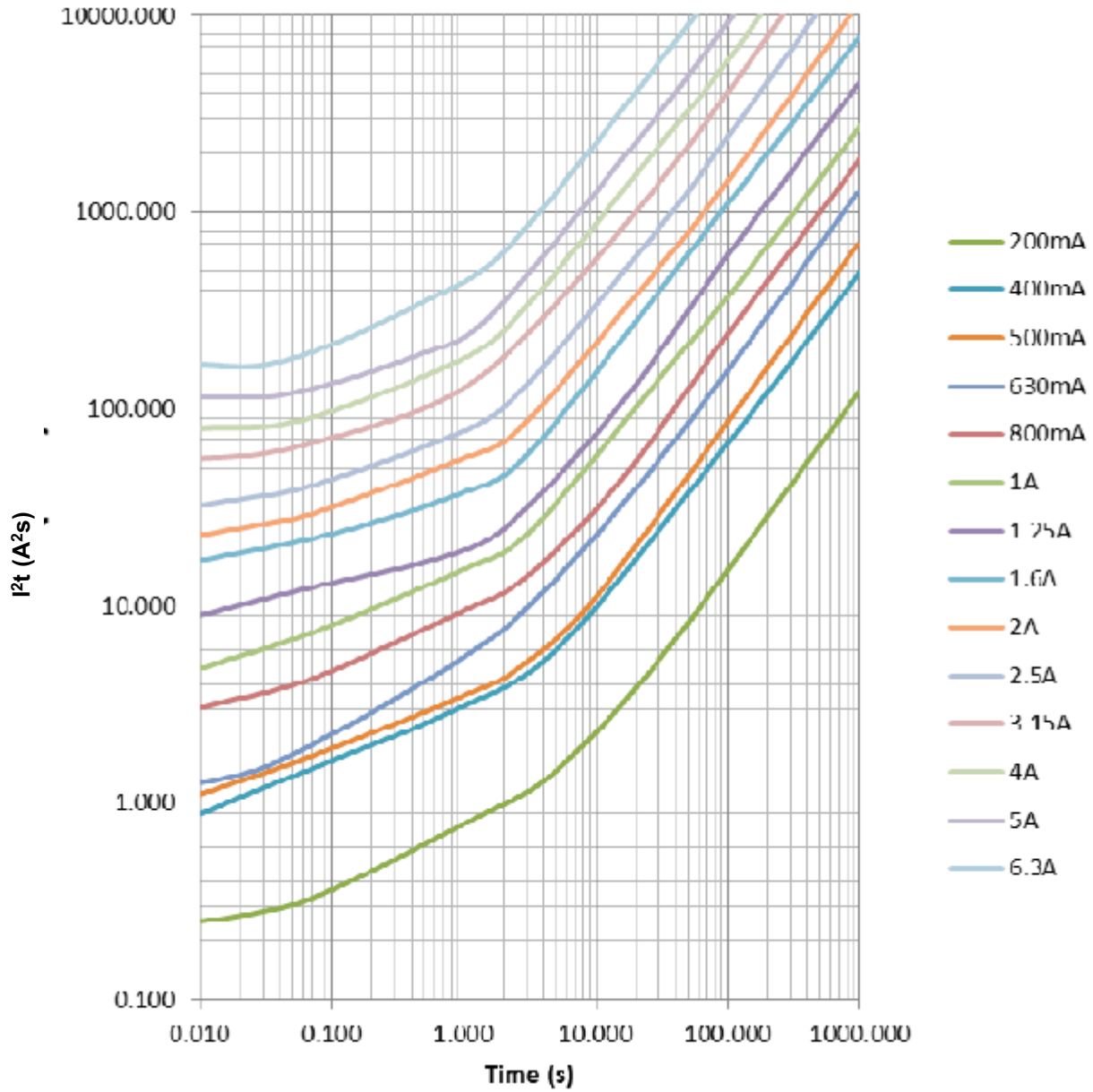
Dimensions and packaging – mm [in]



Time vs. current curve

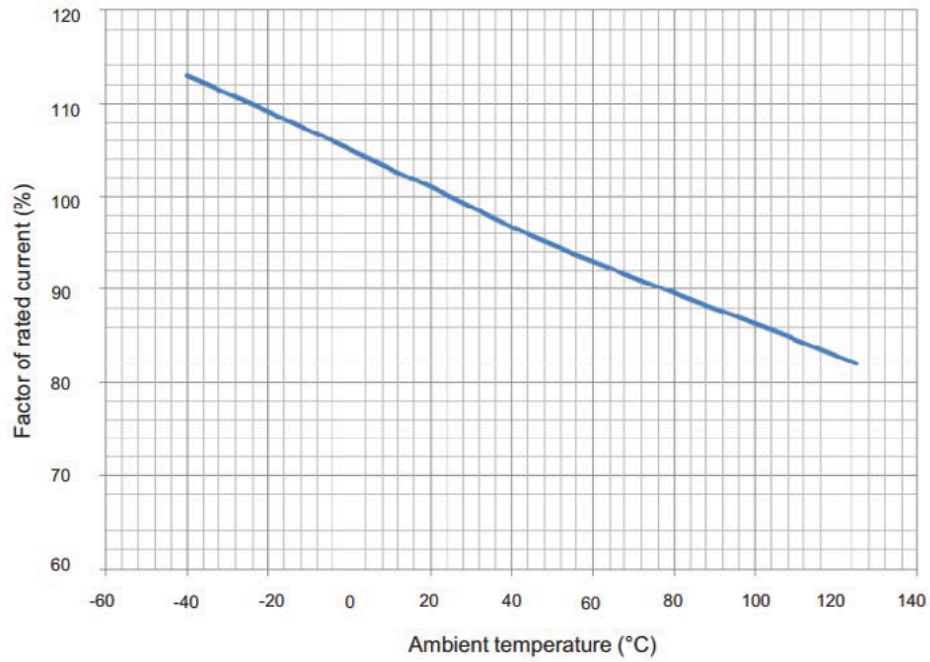


I<sup>2</sup>t vs. time curve



### Temperature derating curve

Normal Operating Temperature: +25 °C ±2 °C



### General specifications

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Operating temperature: -40 °C to +125 °C with proper correction factor applied

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Storage temperature: -10 °C to 40 °C

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Solderability: EIA-186-9E Method 9

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High frequency vibration test: Withstands 10-55 Hz per MIL-STD-202F, Method 201A

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Endurance test: IEC60127-3/4

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### Ordering codes

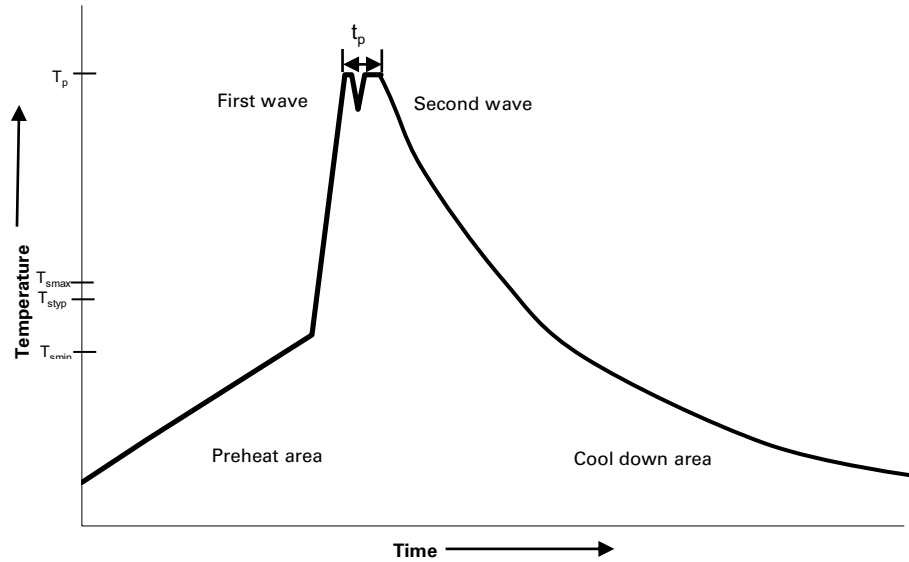
The ordering code is the part number replacing the “” with a “-” plus adding the packaging suffix.

### Packaging suffixes

- -AP (1 000 parts Ammo pack, Pitch = 12.7)
- -BK (200 parts in a polybag, Lead L = 4.3 ± 0.3)
- -BK2 (200 parts in a polybag, Lead L = 21 ± 3.0)

| Part number | Ordering codes |               |                |
|-------------|----------------|---------------|----------------|
|             | -AP option     | -BK option    | -BK2 option    |
| SS-5-200mA  | SS-5-200mA-AP  | SS-5-200mA-BK | SS-5-200mA-BK2 |
| SS-5-400mA  | SS-5-400mA-AP  | SS-5-400mA-BK | SS-5-400mA-BK2 |
| SS-5-500mA  | SS-5-500mA-AP  | SS-5-500mA-BK | SS-5-500mA-BK2 |
| SS-5-630mA  | SS-5-630mA-AP  | SS-5-630mA-BK | SS-5-630mA-BK2 |
| SS-5-800mA  | SS-5-800mA-AP  | SS-5-800mA-BK | SS-5-800mA-BK2 |
| SS-5-1A     | SS-5-1A-AP     | SS-5-1A-BK    | SS-5-1A-BK2    |
| SS-5-1.25A  | SS-5-1-25A-AP  | SS-5-1-25A-BK | SS-5-1-25A-BK2 |
| SS-5-1.6A   | SS-5-1-6A-AP   | SS-5-1-6A-BK  | SS-5-1-6A-BK2  |
| SS-5-2A     | SS-5-2A-AP     | SS-5-2A-BK    | SS-5-2A-BK2    |
| SS-5-2.5A   | SS-5-2-5A-AP   | SS-5-2-5A-BK  | SS-5-2-5A-BK2  |
| SS-5-3.15A  | SS-5-3-15A-AP  | SS-5-3-15A-BK | SS-5-3-15A-BK2 |
| SS-5-4A     | SS-5-4A-AP     | SS-5-4A-BK    | SS-5-4A-BK2    |
| SS-5-5A     | SS-5-5A-AP     | SS-5-5A-BK    | SS-5-5A-BK2    |
| SS-5-6.3A   | SS-5-6-3A-AP   | SS-5-6-3A-BK  | SS-5-6-3A-BK2  |

**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                                |
| $\Delta$ 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<br>5 seconds max each wave | 10 seconds max<br>5 seconds max each wave |
| Ramp-down rate                                | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max |
| Time 25 °C to 25 °C                           | 4 minutes                                 | 4 minutes                                 |

**Manual solder**

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended

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