

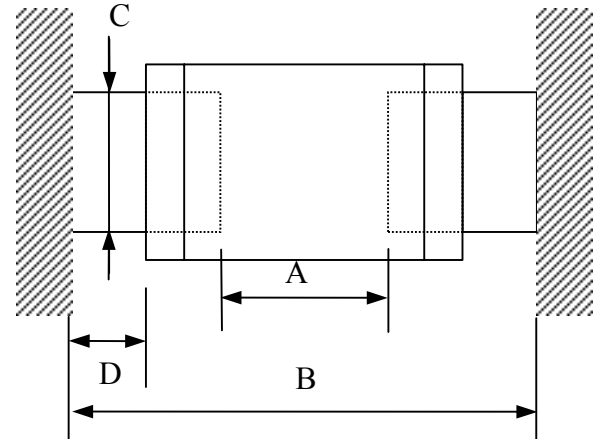
Varen SMD Transient Voltage Suppressors

Recommendation for Soldering

Recommended solder pad layout

| | Solder pad layout | | | |
|--|-------------------|---------|----------|---------|
| | A | B | C | D |
| | 0.4~0.6 | 1.6~1.8 | 0.5~0.52 | 0.2~0.4 |
| | 0.8~1.2 | 2.5~3.0 | 0.6~1.0 | 0.3~0.6 |
| | 1.0~1.5 | 3.2~3.8 | 1.2~1.4 | 0.3~0.6 |
| | 1.8~2.5 | 4.2~5.8 | 1.2~1.6 | 0.4~0.8 |
| | 1.8~2.5 | 4.2~5.8 | 1.8~2.5 | 0.5~1.0 |
| | 2.5~3.5 | 5.5~6.1 | 2.3~3.2 | 0.6~1.1 |
| | 3.5~4.6 | 6.0~7.2 | 4.8~5.5 | 1.2~2.3 |

(Unit: mm)

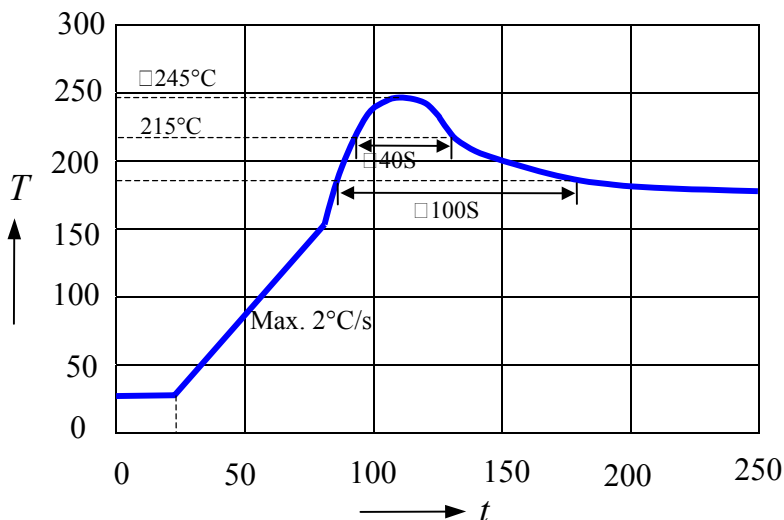


Soldering Recommendations:

| | |
|-------------|--------------------------------|
| Material | 62/36/2 Sn/Pb/Ag or equivalent |
| Temperature | 260°C, 5 seconds max |
| Flux | Non Activated. |

Recommended soldering temperature profile

1. Vapor Phase Solder Profile



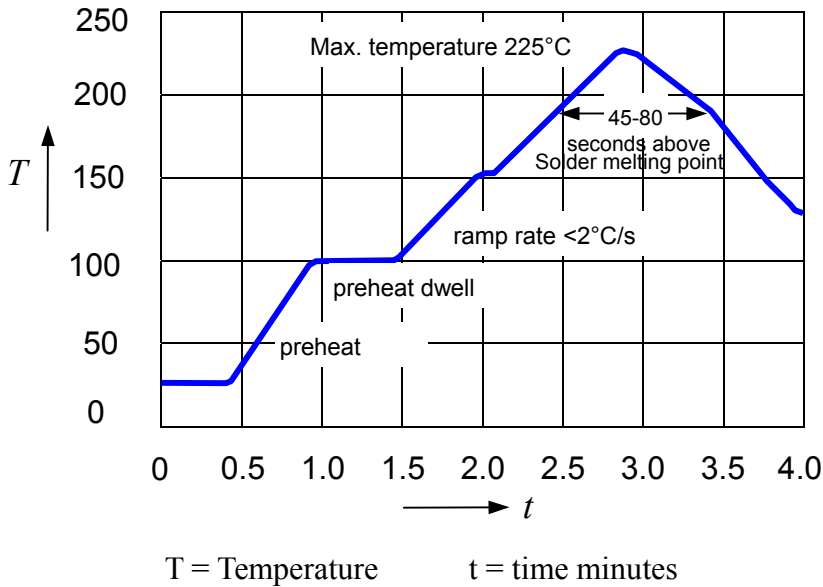
T = Temperature t = time seconds

Vapor Phase Soldering has the second highest heat transfer rate so care must be taken. It is needed that preheating the assembly and minimizing the dwell time above the solder liquidus temperature to avoid defects.

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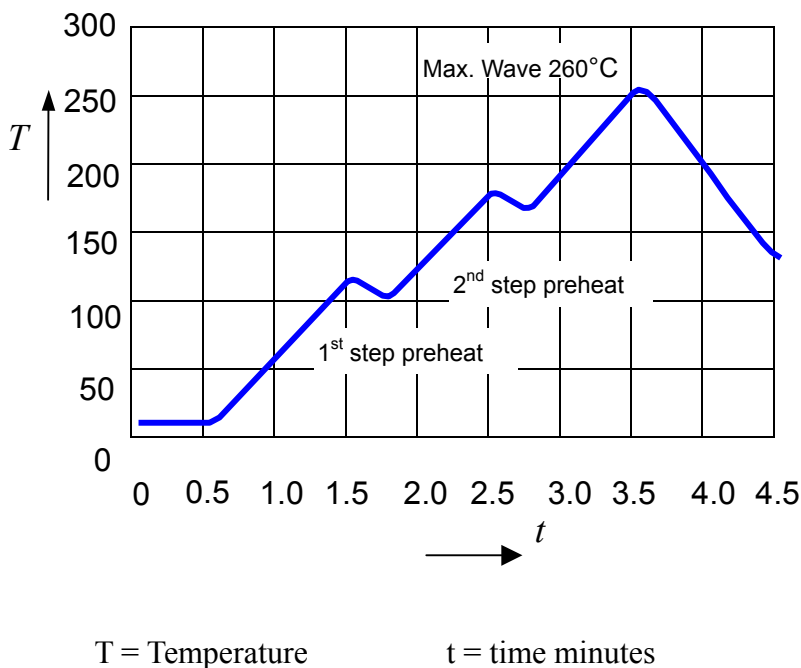
Recommendation for Soldering

2. Reflow Solder Profile



IR Soldering has the highest yields due to controlled heating rates and solder liquidus times. Make sure that the element is not subjected to a thermal gradient steeper than 4 degrees per second. 2 degrees per second is the ideal gradient. During the soldering process, preheating to within 100 degrees of the solders peak temperature is essential to minimize thermal shock.

3. Wave Solder Profile



Wave Soldering has the highest solder temperature and heat transfer rates whose temperature limits are determined by parts like ESD suppressor and integrated circuits. In order to avoid the possibility of generating stresses to thermal shock, a preheat is recommended in the soldering process. and the peak temperature should be under controlled rigidly in the solder process.