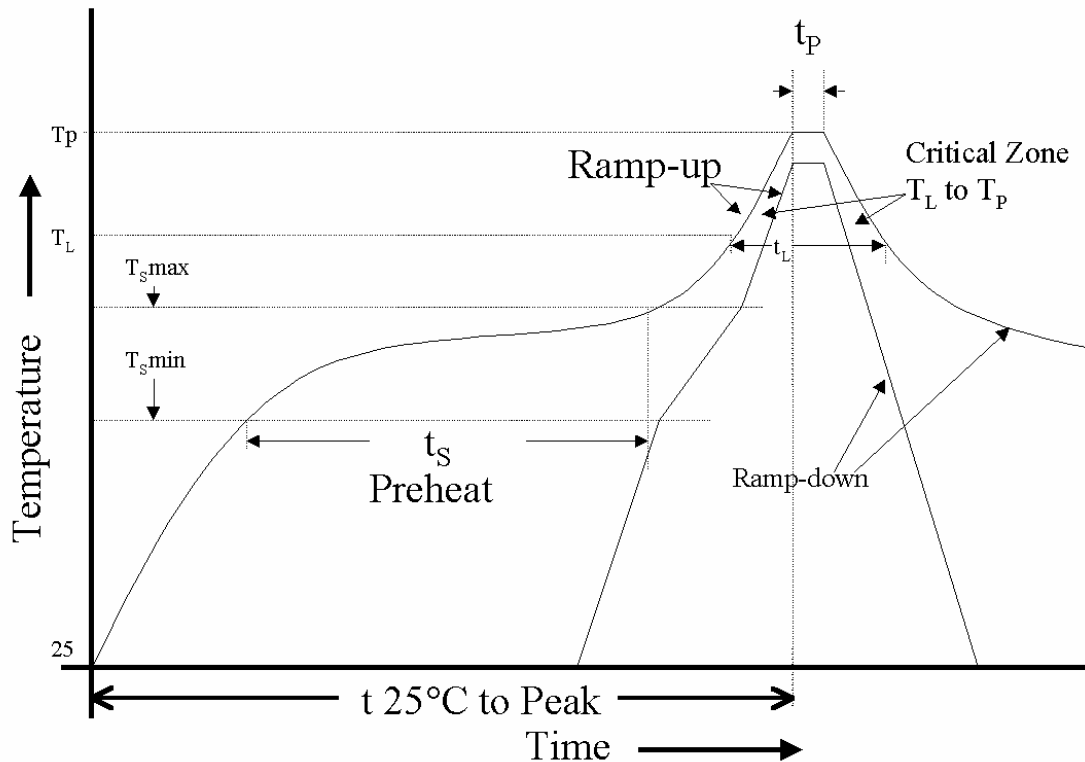


### Recommended Soldering Condition

(for Pb-free assembly, refer to J-STD-020C)

Temperature profiles for SMD soldering reflow really vary over a wide range, depending on PCB density, equipment type, package type, and so on. However, the recommended operating limits should be followed to ensure that component reliability is not violated.



1. Package Type: QFP, Body size: 14X20mm<sup>2</sup> ( $T_{s_{min}}= 150^{\circ}\text{C}$ ,  $T_{s_{max}}= 200^{\circ}\text{C}$ )

Item	IR reflow limit
Average ramp-up rate ( $T_{s_{max}}$ to $T_p$ )	3°C/second max.
Preheat temperature: $t_{s_{min}}$ to $t_{s_{max}}$	60 ~ 180 seconds
Temperature maintained above $T_L$ (217°C), time ( $t_L$ )	60 ~ 150 seconds
Time within 5°C of actual peak temperature: $t_p$	20 ~ 40 seconds
Peak Temperature range: $T_p$	245°C
Ramp-down rate	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

2. Package Type: LQFP, Body size: 14X20mm<sup>2</sup>, 14X14mm<sup>2</sup>, 7X7mm<sup>2</sup> ( $T_{s_{min}}= 150^{\circ}\text{C}$ ,  $T_{s_{max}}= 200^{\circ}\text{C}$ )

Item	IR reflow limit
Average ramp-up rate ( $T_{s_{max}}$ to $T_p$ )	3°C/second max.
Preheat temperature: $t_{s_{min}}$ to $t_{s_{max}}$	60 ~ 180 seconds
Temperature maintained above $T_L$ (217°C), time ( $t_L$ )	60 ~ 150 seconds
Time within 5°C of actual peak temperature: $t_p$	20 ~ 40 seconds
Peak Temperature range: $T_p$	260°C
Ramp-down rate	6°C/second max.
Time 25°C to peak temperature	8 minutes max.