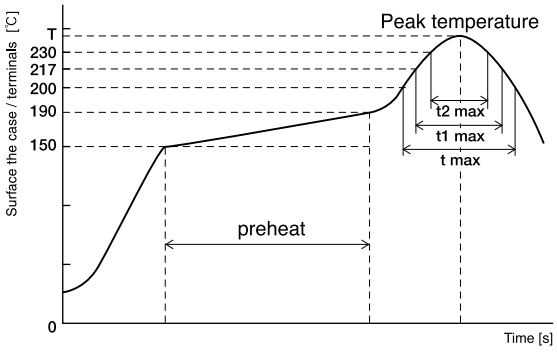
## ■ Soldering Condition

- Soldering with a soldering iron : within 3 seconds at 350℃ unless otherwise specified in the spec.
- Flow soldering : within 10 seconds at 260℃ unless otherwise specified in the spec.
  (Do not flow soldering with SMD type.)
- Thermal curing oven : within 2 minutes at below 150℃ ambient

## ■ Reflow Soldering Condition

### ●Profile 1

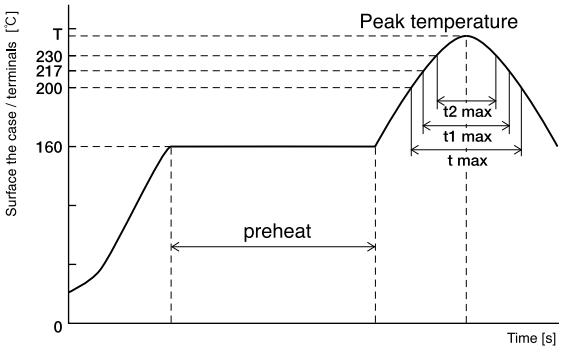
AIR reflow and IR reflow




Preheat ; 150℃ to 190℃, Within 120sec.

### ●Profile 2

AIR reflow and IR reflow




Preheat ; 160℃, Within 120sec.

| Series | Voltage (V) | Size | Time of more than 200℃ (t) | Time of more than 217℃ (t1) | Time of more than 230℃ (t2) | Peak temperature (T) | Reflow cycle | Profile |
|---|---|---|---|---|---|---|---|---|
| HVA,HVBF | 6.3 to 16 | ALL | Within 100sec. | Within 80sec. | Within 40sec. | 250℃ ★1 | 2 | 1 |
| HVH,HVP,HVT HVHZ,HVPZ | 16 to 63 | ALL | Within 100sec. | Within 80sec. | Within 40sec. | 260℃ ★1 | 2 | 1 |
| | 80 to 125 | ALL | Within 100sec. | Within 80sec. | Within 40sec. | 250℃ ★1 | 2 | 1 |
| HVHF,HVPF | 25 to 50 | φ6.3 | Within 70sec. | Within 40sec. | Within 30sec. | 260℃ ★2 | 2 | 2 |
| | | φ8 to φ10 | Within 70sec. | Within 40sec. | Within 30sec. | 260℃ ★2 | 1 | 2 |
| | 63 to 80 | ALL | Within 70sec. | Within 40sec. | Within 30sec. | 245℃ ★3 | 2 | 2 |

★1 Within 5sec.
★2 Less than 260℃
★3 Less than 245℃

The maximum cycle of reflow soldering is two times. The second cycle must be done after sufficient cooling time for more than one hour to return the temperatures of circuit boards and components back to room temperature.

## ■ Ripple Current Frequency Coefficient

| Series | Capacitance : C (μF) | Frequency : F (Hz) | | | |
|---|---|---|---|---|---|
| | | 100 ≤ F < 1k | 1k ≤ F < 10k | 10k ≤ F < 100k | 100k ≤ F |
| HVH, HVP, HVT HVHZ, HVPZ HVHF, HVPF HEH, HEP, HET HEHZ, HEPZ | C ≤ 4.7 | 0.03 | 0.30 | 0.65 | 1.00 |
| | 4.7 < C ≤ 33 | 0.05 | 0.32 | 0.67 | 1.00 |
| | 33 < C | 0.10 | 0.35 | 0.70 | 1.00 |
| HVA, HVBF HEA, HEBF | C ≤ 10 | 0.03 | 0.20 | 0.50 | 1.00 |
| | 10 < C | 0.05 | 0.20 | 0.50 | 1.00 |

## ■ Anti-vibration structure

Available for φ8 and φ10.
[Type code]

| Standard structure | Anti-vibration structure |
|---|---|
| HV | HA |