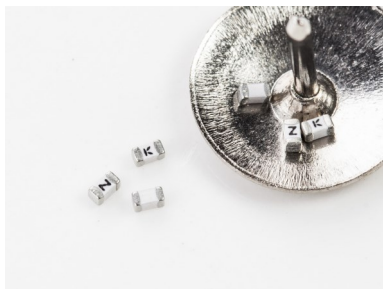


SolidMatrix® Surface Mount Fuses

FA Series (Fast Acting), 0603 Size



Features:

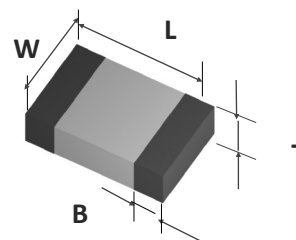
- Multilayer monolithic structure with glass ceramic body and silver fusing element
- Silver termination with nickel and pure-tin solder plating, providing excellent solderability
- Compatible with both wave and reflow soldering processes
- Operating temperature range: -55°C to +150°C (with de-rating)

Clearing Time Characteristics:

% of current rating	Clearing time at 25°C
100%	4 hours min.
250%	5 seconds max.
400%	0.05 seconds max.

Shape and Dimensions:

Unit	Inch	mm
L	0.063 ± 0.006	1.60 ± 0.15
W	0.031 ± 0.006	0.80 ± 0.15
T	0.031 ± 0.006	0.80 ± 0.15
B	0.014 ± 0.006	0.36 ± 0.15



Agency Approval:

Recognized Under the Components Program of UL.
File Number: E232989.

Applications:

- Panel
- Notebook
- Toy
- Battery pack
- IoT
- Infotainment System

Ordering Information:

Part Number	Current Rating (A)	Voltage Rating (Vdc)	Interrupting Ratings	Nominal Cold DCR (Ω) ¹	Nominal I ² t (A ² s) ²	Marking (Optional) ³
F0603FA0500V063TM	0.5	63	35 A at rated voltages	0.485	0.003	C
F0603FA0750V063TM	0.75	63		0.254	0.006	D
F0603FA1000V063TM	1.0	63		0.147	0.013	E
F0603FA1500V063TM	1.5	63		0.059	0.030	G
F0603FA2000V032TM	2.0	32		0.044	0.060	I
F0603FA2500V032TM	2.5	32		0.032	0.10	J
F0603FA3000V032TM	3.0	32		0.025	0.18	K
F0603FA3500V032TM	3.5	32		0.024	0.30	L
F0603FA4000V032TM	4.0	32		0.018	0.50	M
F0603FA5000V032TM	5.0	32		0.013	0.80	N
F0603FA6000V024TM	6.0	24		0.010	1.10	O

1. Measured at $\leq 10\%$ rated current and 25°C ambient.

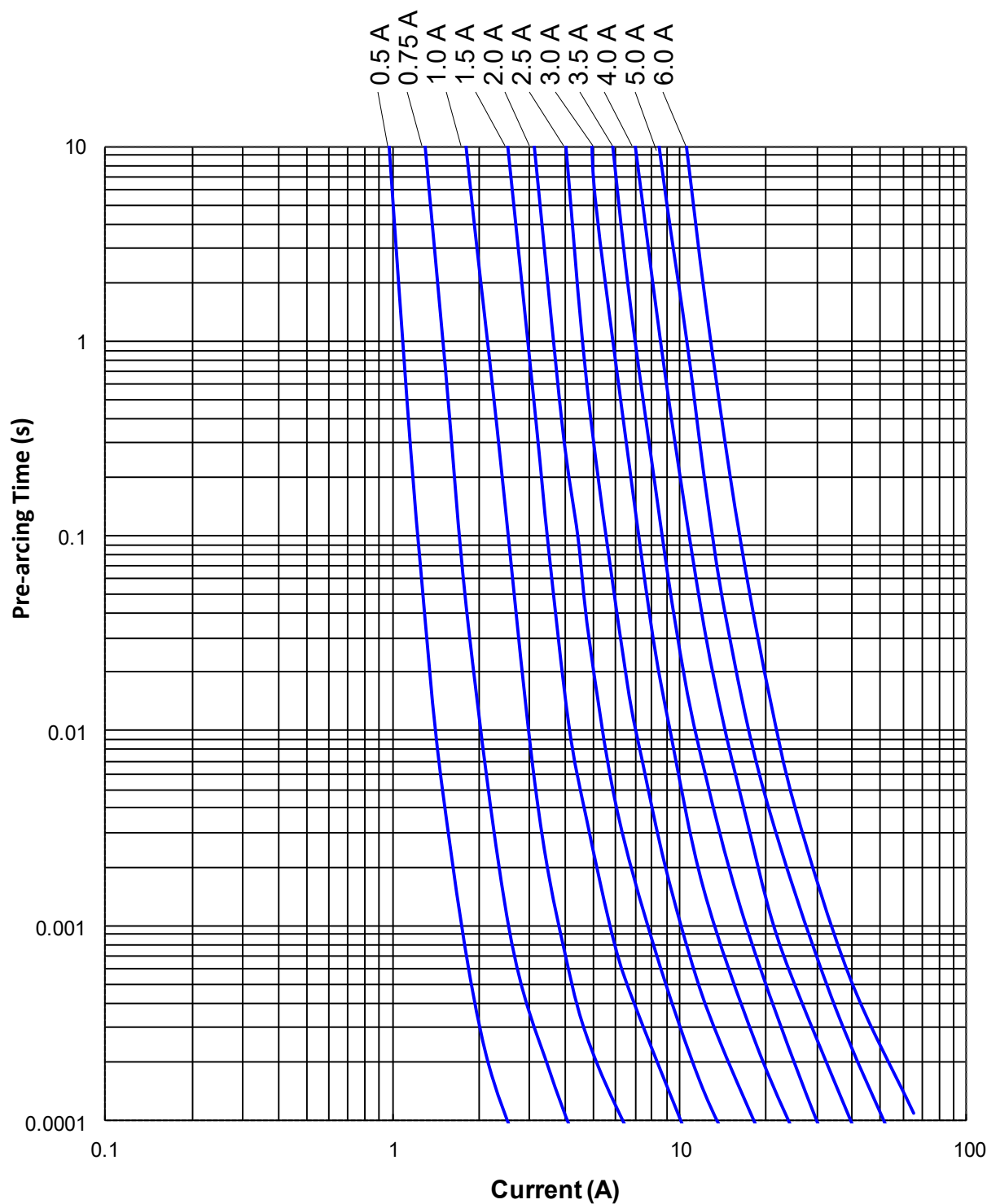
2. Melting I^2t at 0.001 second pre-arcing time.

3. Black Marking Character Code.

SolidMatrix® Surface Mount Fuses

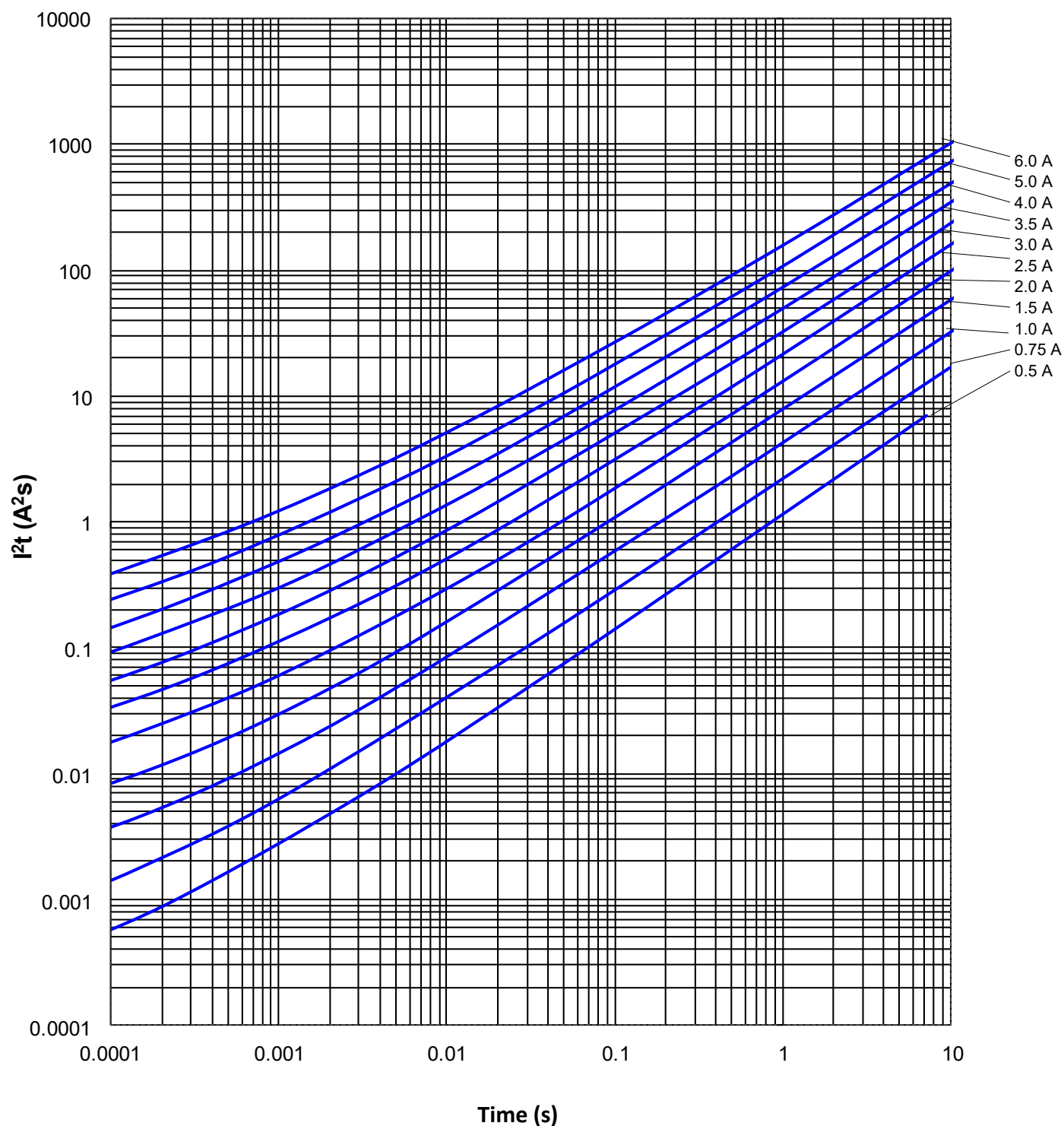
FA Series (Fast Acting), 0603 Size

Average Pre-arcing Time Curves:



SolidMatrix[®] Surface Mount Fuses FA Series (Fast Acting), 0603 Size

Average I^2t vs. t Curves:



SolidMatrix® Surface Mount Fuses

Product Identification:

F 0603 FA 1000 V032 T M

(1) (2) (3) (4) (5) (6) (7)

(1) **Product Code:** F— Chip Fuse

(2) **Size Code:** Standard EIA Chip Sizes

(3) **Series Code:** FA - Fast Acting, SB - Slow Blow,
HI - High Inrush, FF - Very Fast Acting, HB - High Current

(4) **Current Rating Code:** 1000 - 1000 mA (For HB, 10 - 10A)

(5) **Voltage Rating Code:** V032 - 32 VDC

(6) **Package Code:** T - Tape & Reel, B - Bulk

(7) **Marking Code:** M - With Marking

F 1206 HC 20A0 T M

(1) (2) (3) (4) (5) (6)

(1) **Product Code:** F— Chip Fuse

(2) **Size Code:** L x W (inch),
the first two digits-L (length),
the last two digits-W (width)

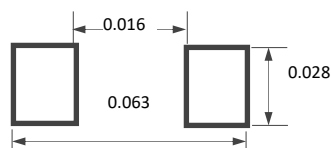
(3) **Series Code:** HC Series

(4) **Current Rating Code:** 20A0—20.0A

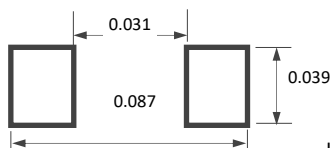
(5) **Package Code:** T - Tape & Reel, B - Bulk

(6) **Marking Code:** M - With Marking

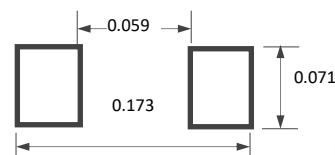
Recommended Land Pattern:



0402 Size



0603 Size



1206 Size

Environmental Tests:

No.	Test	Test Condition and Requirement	Test reference
1	Soldering heat resistance	DCR change $\leq \pm 10\%$. No mechanical damage One dip at 260°C for 60 seconds	MIL-STD-202 Method 210
2	Solderability	245°C , 5 seconds, new solder coverage $\geq 95\%$	MIL-STD-202 Method 208
3	Thermal shock	DCR change $\leq \pm 10\%$. No mechanical damage 100 cycles between -65°C and +125°C	MIL-STD-202 Method 107
4	Moisture resistance	10 cycles, DCR change $\leq \pm 10\%$, no excessive corrosion	MIL-STD-202 Method 106
5	Salt spray	DCR change $\leq \pm 10\%$. No excessive corrosion 48 hour exposure	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change $\leq \pm 10\%$. No mechanical damage. 0.4 " D.A. or 30 G between 5 – 3000 Hz	MIL-STD-202 Method 204
7	Mechanical shock	DCR change $\leq \pm 10\%$. No mechanical damage. 1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Life	80% rated current (75% for <1A), 2000 hours, ambient temperature (from +20°C to 30°C), voltage drop change within $\pm 10\%$	Refer to AEM QIQ106

Moisture Sensitivity Level 1

SolidMatrix® Surface Mount Fuses

Electrical Specification:

Clearing Time Characteristics:

Same as specified on the Short Form Data Sheet

Insulation Resistance after Opening:

20,000 ohms typical when cleared with rated voltage applied. Fuse clearing under low voltage conditions may result in lower after clearing insulation resistance values. (Note: Under normal fault conditions (low or rated voltage conditions), AEM SolidMatrix fuses provide sufficient after clearing insulation resistance values for circuit protection.)

Current Carrying Capacity:

100% rated current at +25°C ambient for 4 hours minimum when evaluated per MIL-PRF-23419

Interrupt Ratings:

Same as specified in this catalog.

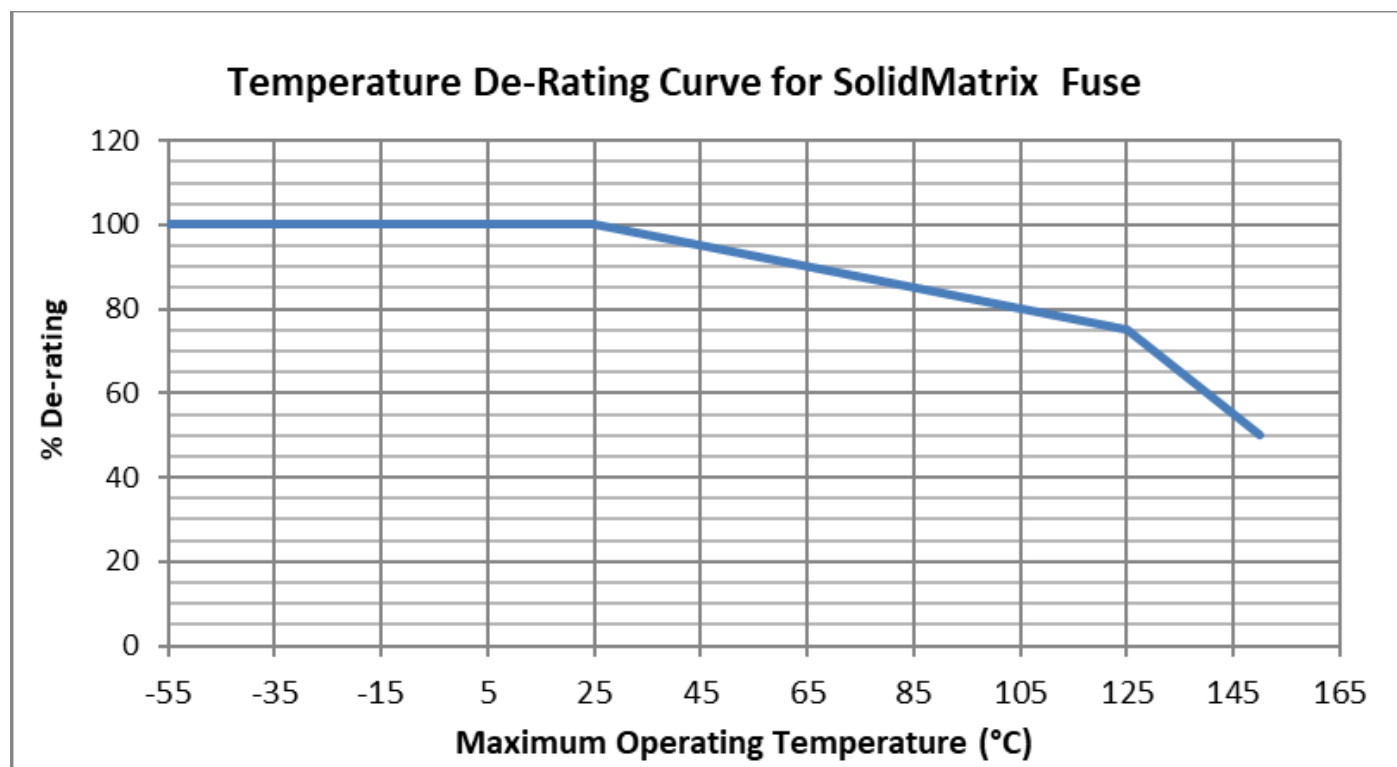
Fuse Selection and Temperature De-rating Guideline:

The ambient temperature affects the current carrying capacity of fuses. When a fuse is operating at a temperature higher than 25°C, the fuse shall be “de-rated”.

To select a fuse from the catalog, the following rule may be followed:

Catalog Fuse Current Rating = Nominal Operating Current / 0.75 / % De-rating at the maximum operating temperature.

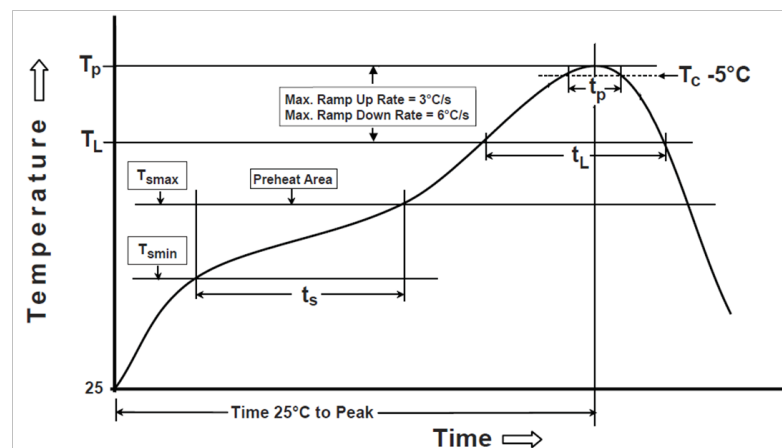
Example: At maximum operating temperature of 65°C, % De-rating is 90%. The nominal operating current is 4 A. The current rating for fuse selected from the catalog shall be: $4 / 0.75 / 90\% = 5.9$ or 6 A. Specifications and descriptions in this literature are as accurate as known at the time of publish, but are subject to change without notice.



SolidMatrix® Surface Mount Fuses

Soldering Temperature Profile:

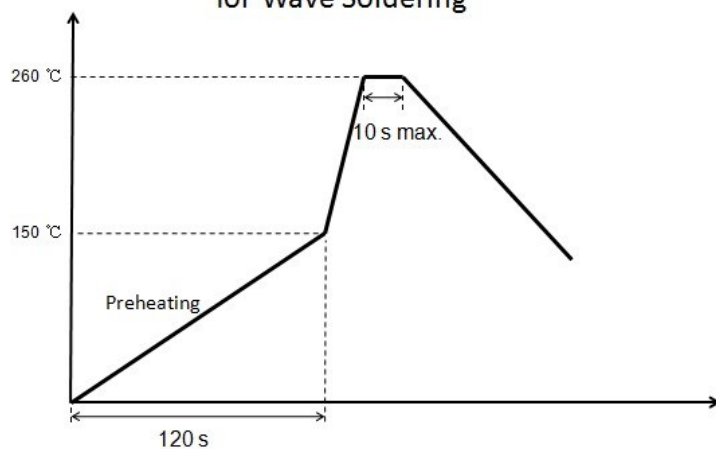
* Recommended Temperature Profile for Reflow Soldering



Profile Feature	Pb-Free Assembly
Preheat/Soak Temperature Min (T_{smin}) Temperature Max (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	150°C 200°C 60~120 seconds
Ramp-up rate (T_L to T_p)	3°C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217°C 60~150 seconds
Peak package body temperature (T_p)	260°C
Time (t_p)* within 5°C of the specified classification temperature (T_c)	30 seconds *
Ramp-down rate (T_p to T_L)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum	

* Recommended Temperature Profile for Wave Soldering

Recommended Temperature Profile for Wave Soldering



Notice: Wave Soldering is suitable for 1206 and 0603 size.

Packaging:

Chip Size	Parts on 7 inch (178 mm) Reel
0402 (1005)	10,000
0603 (1608)	4,000
0603FF (1608)	6,000
1206 (3216)	3,000

Disclaimer

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