



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Coiltronics MPI2520

High Current, Low Profile, Miniature Power Inductors



Applications:

- Mobile/smart phones
- Handheld/mobile equipment
- Digital cameras
- Media players
- GPS
- MP3 Players
- Tablets/e-readers

Environmental data:

- Storage temperature range (Component): -40°C to +125°C
- Operating temperature range: -40°C to +125°C (ambient + self temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Packaging:

- Supplied in tape and reel packaging, 3000 parts per 7" diameter reel

Product description:

- Halogen free, lead free, RoHS compliant
- 125°C maximum total temperature operation
- 2.7 x 2.2 x 1.0 / 1.2mm maximum surface mount package
- Magnetically shielded, low EMI
- Inductance range from 0.47µH to 10.0µH
- Current range from 1.1 to 4.8 amps



The Coiltronics brand of magnetics (formerly of the Bussmann Division of Cooper Industries) is now part of Eaton's Electrical Group, Electronics Division.

Coiltronics is now part of Eaton
Same great products plus even more.



Powering Business Worldwide

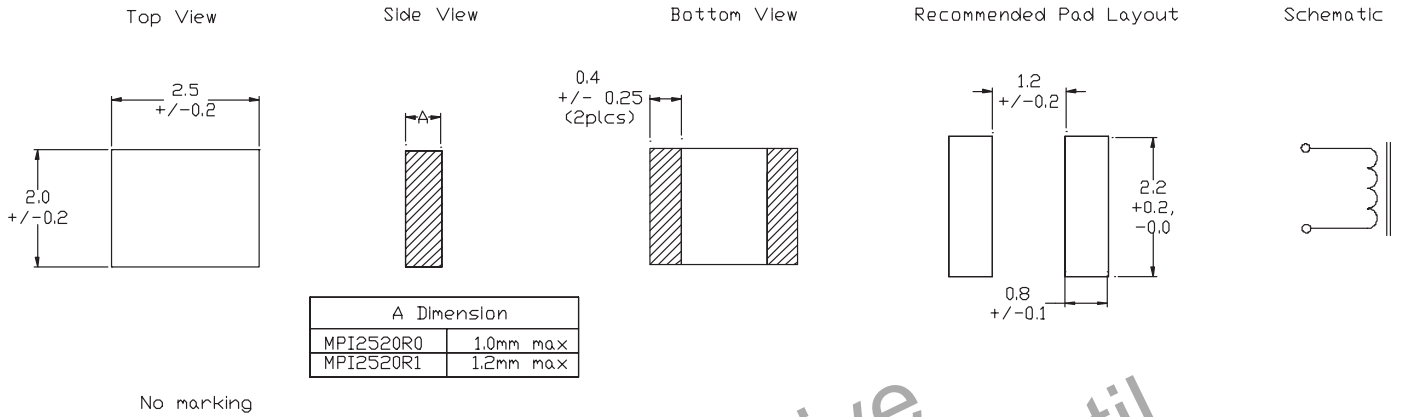
Discontinued, Effective September 15, 2016 or until inventory is depleted. Recommended replacement MPI25-V1

Product specifications

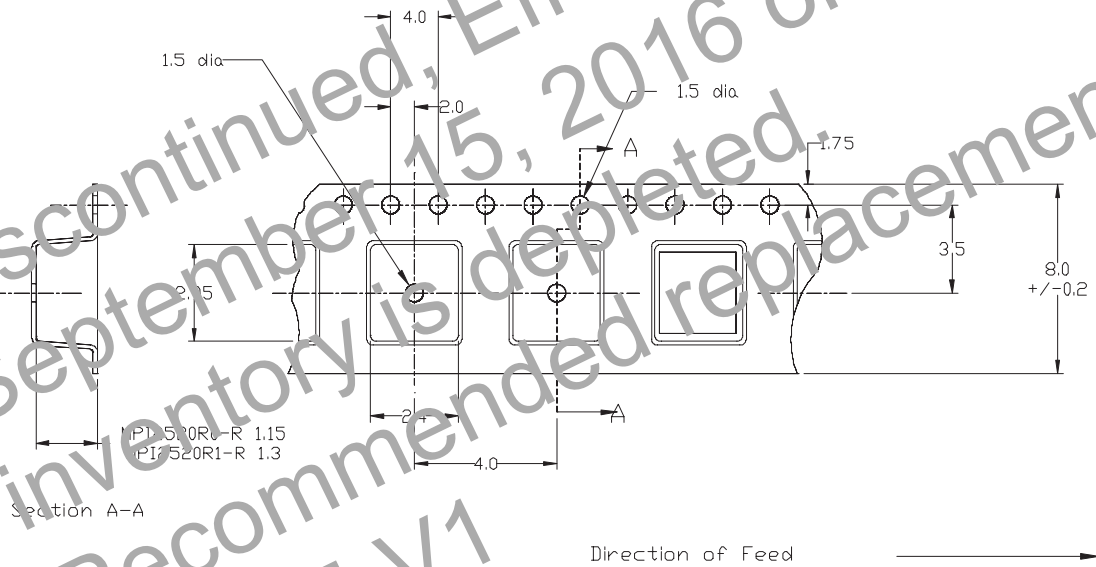
Part Number ⁵	OCL1 (μH) $\pm 20\%$	I_{rms}^2 (Amps)	I_{sat}^3 (Amps)	DCR (m Ω) @ 25°C typical	DCR (m Ω) @ 25°C max	K-Factor ⁴
R0 — 1.0mm Height						
MPI2520R0-R47-R	0.47	4.1	4.4	28	34	2887
MPI2520R0-1R0-R	0.9	3.2	3.2	50	60	1925
MPI2520R0-1R5-R	1.5	2.4	2.6	80	96	1444
MPI2520R0-2R2-R	2.2	2.2	2.4	103	124	1283
MPI2520R0-3R3-R	3.3	1.6	1.6	190	228	1050
MPI2520R0-4R7-R	4.7	1.4	1.4	240	288	825
R1 - 1.2mm Height						
MPI2520R1-R47-R	0.47	4.5	4.8	20	24	2310
MPI2520R1-1R0-R	1.0	3.7	4.0	35	42	1925
MPI2520R1-1R5-R	1.5	2.9	3.2	55	66	1444
MPI2520R1-2R2-R	2.2	2.3	2.7	75	90	1255
MPI2520R1-3R3-R	3.3	1.8	2.4	105	126	962
MPI2520R1-4R7-R	4.7	1.6	1.9	150	180	825
MPI2520R1-5R6-R	5.6	1.5	1.5	200	240	679
MPI2520R1-6R8-R	6.8	1.3	1.3	300	360	679
MPI2520R1-100-R	10.0	1.1	1.2	390	468	525

- Open Circuit Inductance (OCL) Test Parameters: 1MHz, 0.1Vrms, 0.0Aac, 25°C
- I_{rms} : DC current for an approximate temperature rise of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed +25°C under worst case operating conditions verified in the end application.
- I_{sat} : Peak current for approximately 10% rolloff at +25°C
- K-factor: Used to determine B_{pp} for core loss (see graph).
 $B_{\text{pp}} = K \sqrt{L \Delta I}$; B_{pp} : (Gauss), K: (K-factor from table),
L: (Inductance in μH), ΔI (Peak to peak ripple current in Amps).
- Part Number Definition: MPI2520R x -yyy-R
- MPI2520R x = Product code and size
- yyy = Inductance value in μH , R = decimal point,
if no R is present then third character = number of zeros.
- "-R" suffix = RoHS compliant

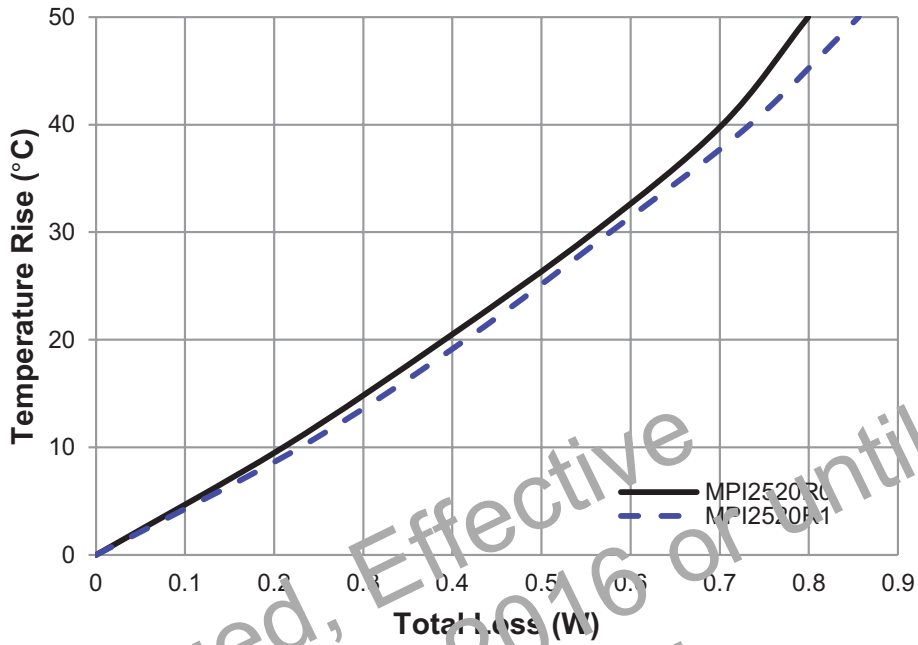
Dimensions - mm



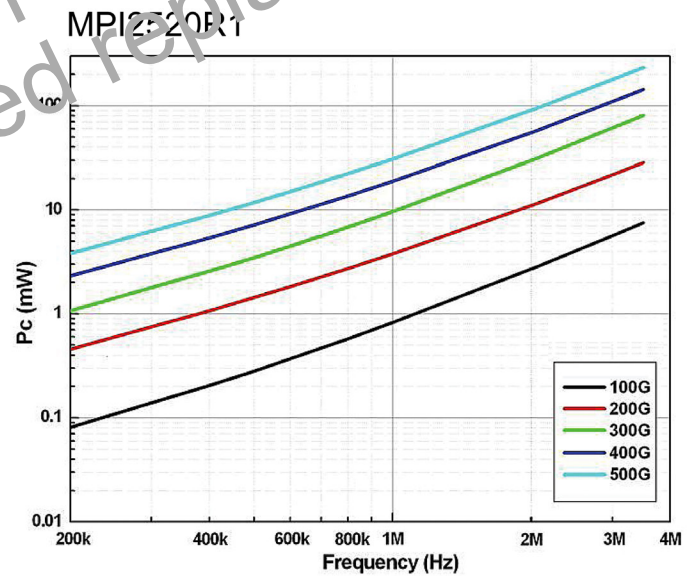
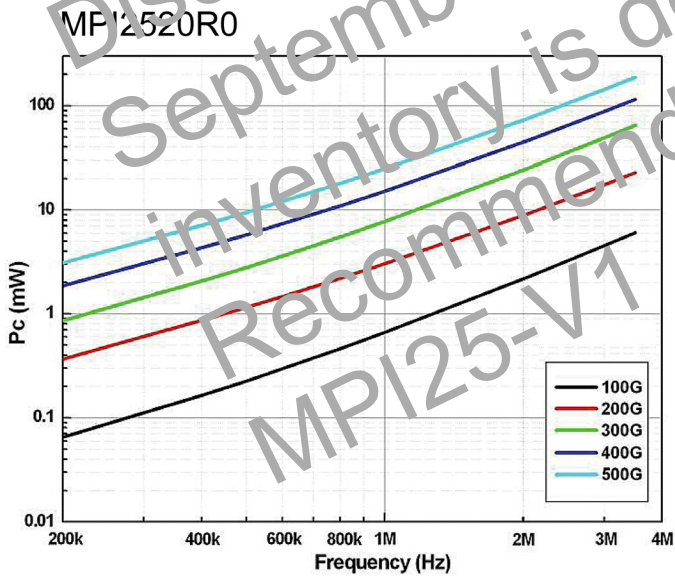
Packaging information - mm



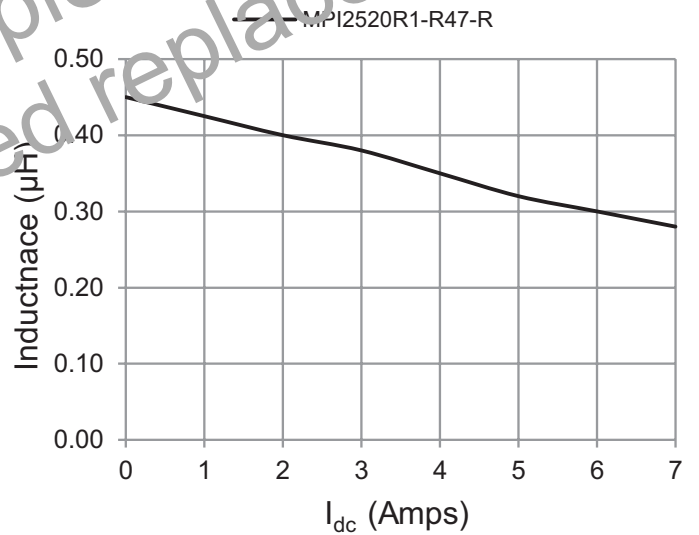
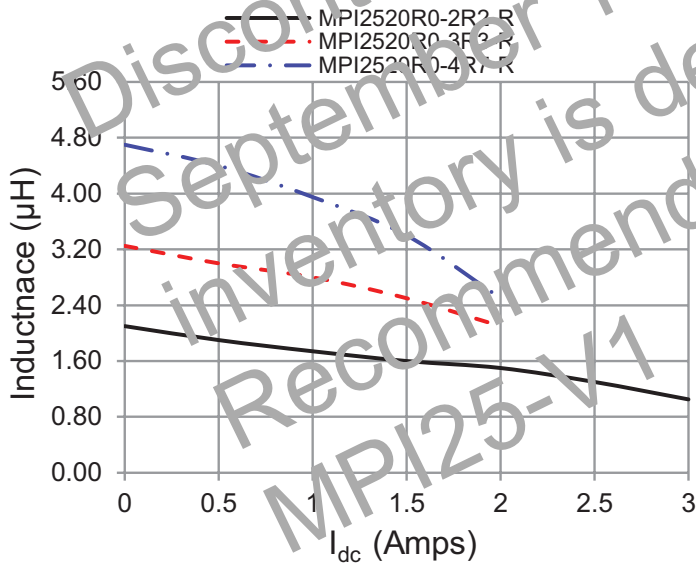
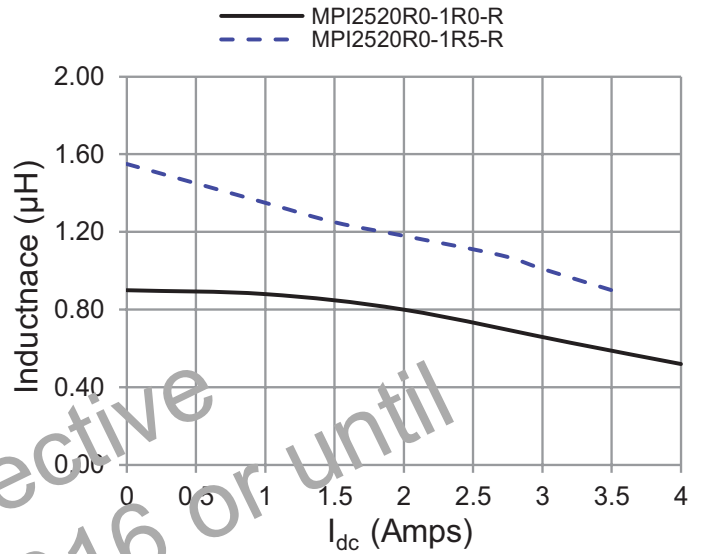
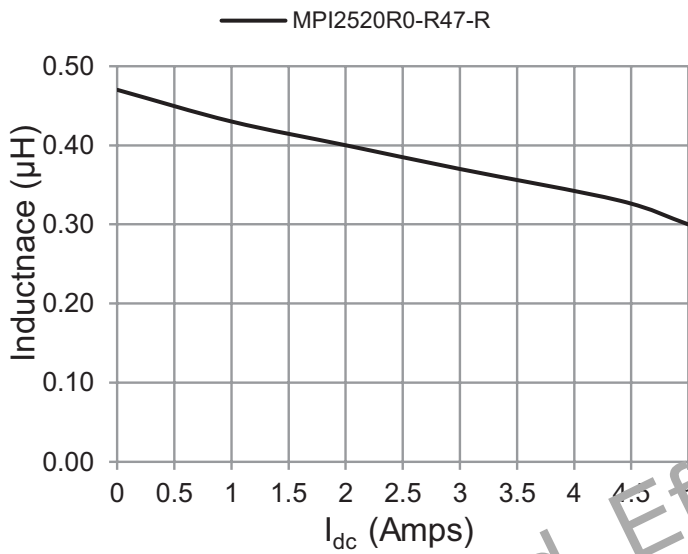
Temperature rise vs. total loss



Core loss

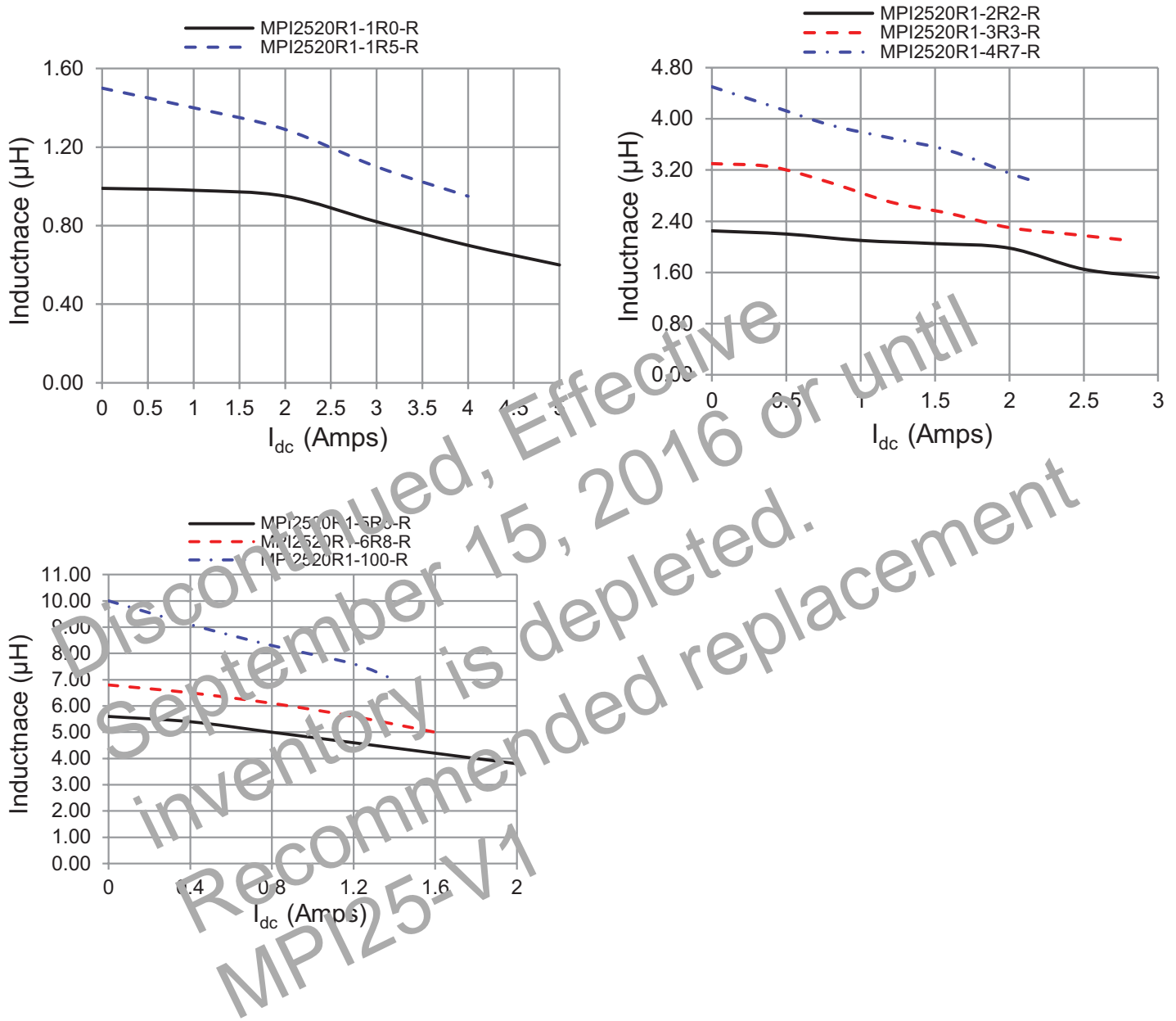


Inductance characteristics



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Inductance characteristics



Solder reflow profile

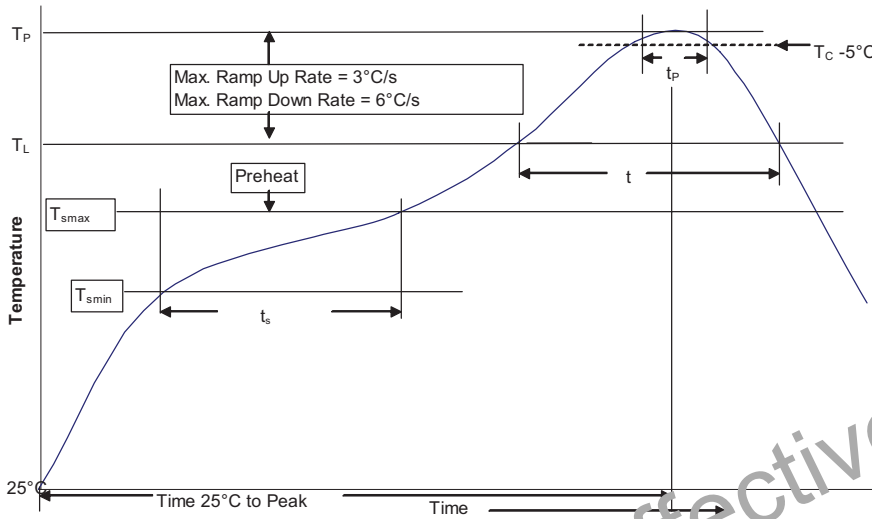


Table 1 - Standard SnPb Solder (T_c)

Package Thickness	Volume <350 mm ³	Volume ≥350 mm ³
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_c)

Package Thickness	Volume <350 mm ³	Volume 350 - 2000 mm ³	Volume >2000 mm ³
<1.6mm	260°C	260°C	260°C
1.6 - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020D

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak	<ul style="list-style-type: none"> Temperature min. (T_{smin}) Temperature max. (T_{smax}) Time (T_{smin} to T_{smax}) (t_s) 	<ul style="list-style-type: none"> 100°C 50°C 60-120 Seconds
Average ramp up rate T _{smax} to T _p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T _L)	183°C	217°C
Time at Liquidous (t _L)	60-150 Seconds	60-150 Seconds
Peak package body temperature (T _p)*	Table 1	Table 2
Time (t _p)** within 5°C of the specified classification temperature (T _c)	20 Seconds**	30 Seconds**
Average ramp-down rate (T _p to T _{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

North America
Eaton's Electrical Group
Electronics Division
1225 Broken Sound Parkway NW
Suite F
Boca Raton, FL 33487-3533
Tel: 1-561-998-4100
Fax: 1-561-241-6640
Toll Free: 1-888-414-2645

Eaton's Electrical Group
Electronics Division
P.O. Box 14130
St. Louis, MO 63178-4460
Tel: 1-360-994-2877
Fax: 1-536-527-1607

Europe
Eaton's Electrical Group
Electronics Division
Burton-on-the-Wolds
Leicestershire, LE 12 5th UK
Phone: +44 (0) 1509 882 600
Fax: +44 (0) 1509 882 786

Eaton's Electrical Group
Electronics Division
Avda Santa Eulalia, 290
Terrassa, Barcelona 08223 Spain
Phone: +34-93-736-2813
Fax: +34-93-783-5055

Asia Pacific
Eaton's Electrical Group
Electronics Division
No.2, #06-01
Serangoon North Avenue 5
Singapore 554911
Tel: +65 6645 9888
Fax: +65 6728 3155

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**Eaton's Electrical Group
Electronics Division**
114 Old State Road
Ellisville, MO 63021
United States
www.eaton.com/elx



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