

Wire Wound Chip Inductor: HWI Series

Various high-power inductors are superior to be high saturation for surface mounting.

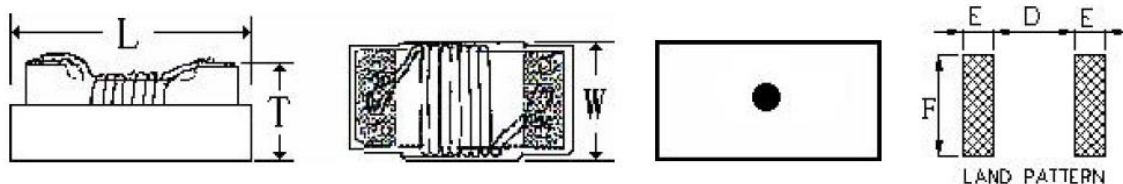
Application for power supply for Bluetooth, OA equipment, notebook PC, portable communication equipment's, DC/DC converters, High Frequency circuit. etc.

Part number

$\frac{\text{HWI}}{1}$ $\frac{\text{XXXX}}{2}$ $\frac{\text{R}}{3}$ $\frac{\text{XXX}}{4}$ $\frac{\text{M}}{5}$ $\frac{\text{XX}}{6}$ $\frac{\text{XX}}{7}$

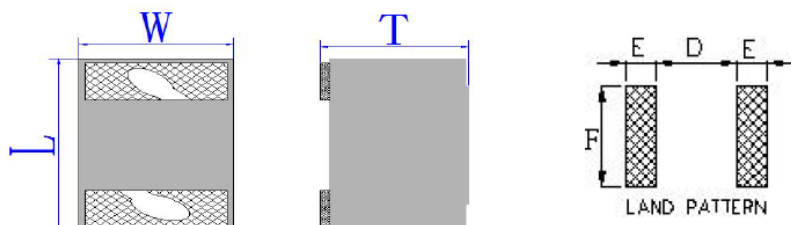
(1) Product Code	HWI
(2) Size Code	1608=1.6x0.8mm 2012=2.0x1.2mm
(3) Packing	R= Tape and reel
(4) Inductance Code	101=100nH 102=1.0uH 103=10uH 104=100uH
(5) Tolerance	J=5% K=10% M=20%
(6) Series	WL=Partially screened, WQ=Fully-shielded, WA= Alloyed powder
(7) Type	B0=1.0mm, B2=1.2mm, B3=1.3mm, B5=1.5mm

Dimension and Terminal Configuration-WL/CD/FS



Type	L max (mm)	W max (mm)	T max (mm)	E (mm)	F (mm)	D (mm)
1608	1.80	1.25	1.10	0.64	1.02	0.64
2012	2.40	1.73	1.52	1.02	1.78	0.76

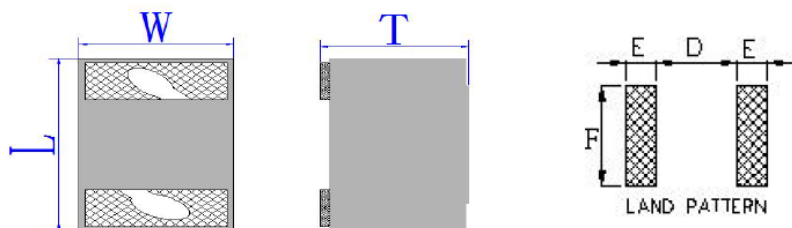
Dimension and Terminal Configuration-WQ



Type	L max (mm)	W max (mm)	T max (mm)	E (typ.) (mm)	F (typ.) (mm)	D (typ.) (mm)
1608	1.60	1.1	1.0	0.64	1.02	0.64
2012	2.40	1.73	1.52	1.02	1.78	0.76

Wire Wound Chip Inductor: HWI Series

Dimension and Terminal Configuration-WA



Type	L max (mm)	W max (mm)	T max (mm)	E (typ.) (mm)	F (typ.) (mm)	D (typ.) (mm)
1608	1.80	1.25	1.10	0.64	1.02	0.64

Electrical Specification

Electrical characteristics:

- 1.All test date is referenced to 25°C ambient
- 2.Inductance measure condition at 1MHz, 1V
- 3.Isat: the actual value of DC current when the inductance decrease 30% of its initial value.
- 4.Irms:Temperature rise current the actual value of DC current when the temperature rise is $\Delta T40$ ($T_a=25$).

HWI 1608 WL Series

Part number	Inductance (uH)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI1608R102KWLB2	1.0	10	0.41	0.86	0.7
HWI1608R152KWLB2	1.5	10	0.52	0.72	0.6
HWI1608R222KWLB2	2.2	10	0.72	0.6	0.58
HWI1608R332KWLB2	3.3	10	0.91	0.5	0.5
HWI1608R392KWLB2	3.9	10	1.08	0.46	0.46
HWI1608R472KWLB2	4.7	10	0.97	0.4	0.42
HWI1608R682KWLB2	6.8	10	1.95	0.34	0.34
HWI1608R822KWLB2	8.2	10	2.18	0.3	0.3
HWI1608R103KWLB2	10	10	2.4	0.28	0.28
HWI1608R471KWLB1	0.47	10	0.43	1.95	1.2

HWI 1608 CD Series

Part number	Inductance (uH)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI1608R102JCDB2	1.0	5	0.42	0.74	0.64
HWI1608R222JCDB2	2.2	5	0.56	0.63	0.58
HWI1608R472JCDB2	4.7	5	0.97	0.56	0.50
HWI1608R103JCDB2	10	5	1.50	0.32	0.28
HWI1608R223JCDB2	22	5	3.61	0.24	0.2

Wire Wound Chip Inductor: HWI Series

HWI 1608 FS Series

Part number	Inductance (μ H)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI1608R222JFSB2	2.2	5	0.56	0.75	0.58
HWI1608R472JFSB2	4.7	5	0.97	0.55	0.5
HWI1608R103JFSB2	10	5	1.5	0.35	0.28
HWI1608R153JFSB2	15	5	2.6	0.3	0.24
HWI1608R223JFSB2	22	5	3.61	0.2	0.2

HWI 1608 WQ Series

Part number	Inductance (μ H)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI1608R102MWQB0	1.0	20	0.21	1.1	0.72
HWI1608R152MWQB0	1.5	20	0.39	0.65	0.52
HWI1608R222MWQB0	2.2	20	0.46	0.68	0.48
HWI1608R472MWQB0	4.7	20	0.70	0.45	0.40
HWI1608R682MWQB0	6.8	20	1.25	0.36	0.30
HWI1608R103MWQB0	10.0	20	1.30	0.27	0.38
HWI1608R153MWQB0	15.0	20	2.00	0.27	0.23
HWI1608R223MWQB0	22.0	20	3.90	0.22	0.16

HWI 1608 WA Series

Part number	Inductance (μ H)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI1608R102MWAB2	1.0	20	0.19	1.80	1.10
HWI1608R222MWAB2	2.2	20	0.38	1.45	0.72
HWI1608R472MWAB2	4.7	20	0.73	1.25	0.50
HWI1608R682MWAB2	6.8	20	0.88	0.60	0.45
HWI1608R103MWAB2	10.0	20	1.40	0.49	0.35

HWI 2012 WL Series

Part number	Inductance (μ H)	Percent Tolerance $\pm\%$	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI2012R102KWLB5	1.00	10	0.190	1.1	1.1
HWI2012R152KWLB5	1.50	10	0.170	1.25	0.92
HWI2012R222KWLB5	2.20	10	0.310	1.1	0.74
HWI2012R332KWLB5	3.30	10	0.360	0.85	0.62
HWI2012R392KWLB5	3.90	10	1.950	0.8	0.28
HWI2012R472KWLB5	4.70	10	0.560	0.8	0.52
HWI2012R682KWLB5	6.80	10	0.880	0.65	0.42
HWI2012R822KWLB5	8.20	10	0.940	0.6	0.4
HWI2012R103KWLB5	10.00	10	1.170	0.53	0.3
HWI2012R123KWLB5	12.00	10	1.200	0.35	0.29
HWI2012R153KWLB5	15.00	10	1.820	0.32	0.28
HWI2012R183KWLB5	18.00	10	2.010	0.30	0.26
HWI2012R223KWLB5	22.00	10	2.290	0.28	0.24

Wire Wound Chip Inductor: HWI Series

HWI 2012 CD Series

Part number	Inductance (uH)	Percent Tolerance ±%	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI2012R222JCDB3	2.2	5	0.22	0.8	1.04
HWI2012R472JCDB3	4.7	5	0.43	0.5	0.84
HWI2012R103JCDB3	10	5	0.85	0.35	0.56
HWI2012R153JCDB3	15	5	1.4	0.3	0.48
HWI2012R223JCDB3	22	5	1.76	0.25	0.34

HWI 2012 WQ Series

Part number	Inductance (uH)	Percent Tolerance ±%	DCR (Ω) DC Resistance	Isat (A) Max Saturation Current	Irms (A) Heat Rating Current
HWI2012R102MWQB5	1.00	20	0.120	1.20	1.00
HWI2012R152MWQB5	1.50	20	0.130	0.90	0.90
HWI2012R222MWQB5	2.20	20	0.180	0.78	0.75
HWI2012R472MWQB5	4.70	20	0.330	0.51	0.47
HWI2012R682MWQB5	6.80	20	0.350	0.47	0.45
HWI2012R103MWQB5	10.00	20	0.530	0.41	0.45
HWI2012R153MWQB5	15.00	20	0.650	0.27	0.35
HWI2012R223MWQB5	22.00	20	0.950	0.27	0.30

Electrical characteristics:

Note 1: Customized design is available, please contact us.

Note 2 : All test referenced to 26 ° C ambient.

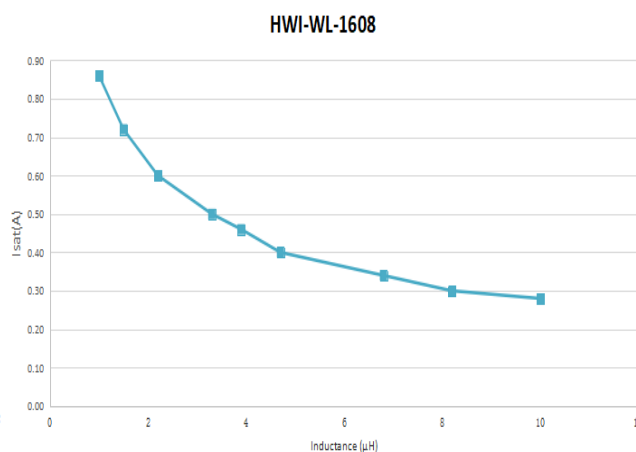
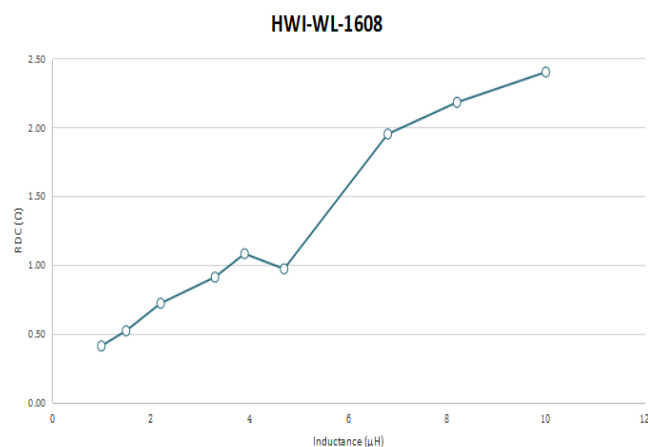
Note 3: Inductance tolerance+/-20%.

Note 4: Inductance is measured with Agilent" LCR meter 4285A. Test frequency at 1MHz.

Note 5: DC resistance is measured with HIOKI micro-ohm meter RM3542-01.

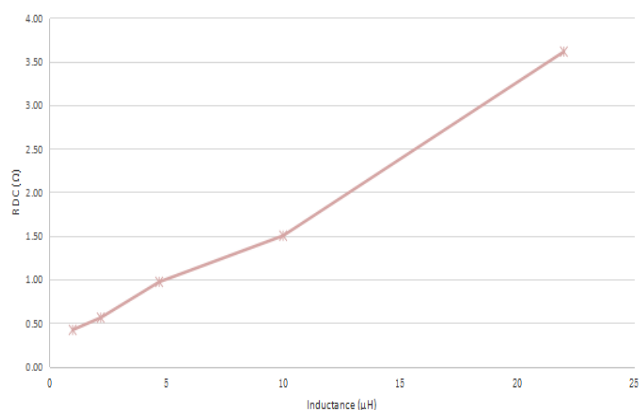
Note 6: Isat means that DC current will cause a 30% inductance reduction form initial value.

Note 7: Irms means that DC current will cause coil temp. rising to 40C whichever is smaller.

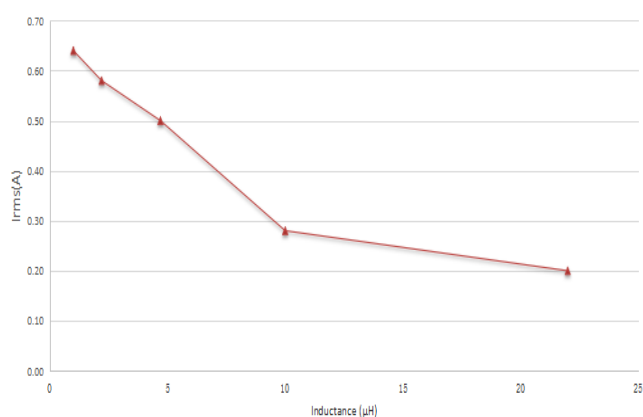


Wire Wound Chip Inductor: HWI Series

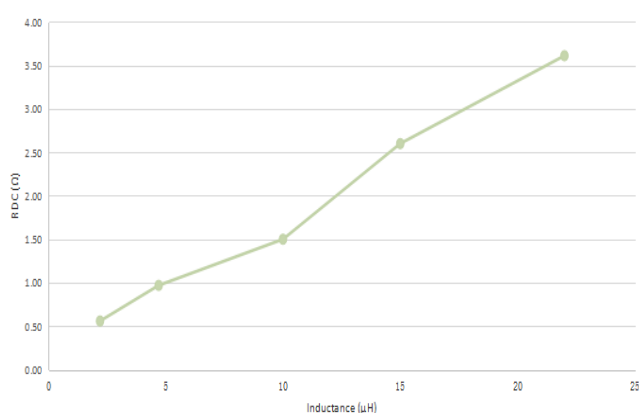
HWI-CD-1608



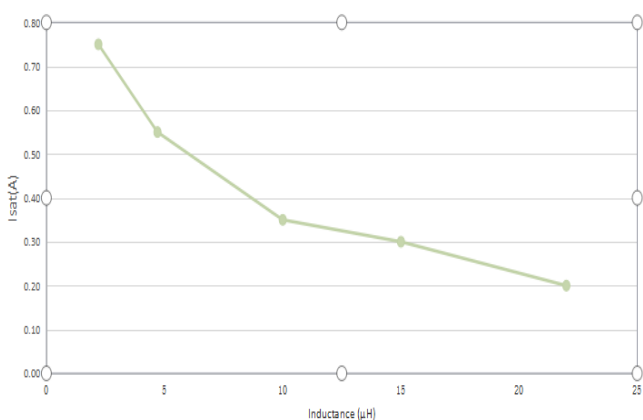
HWI-CD-1608



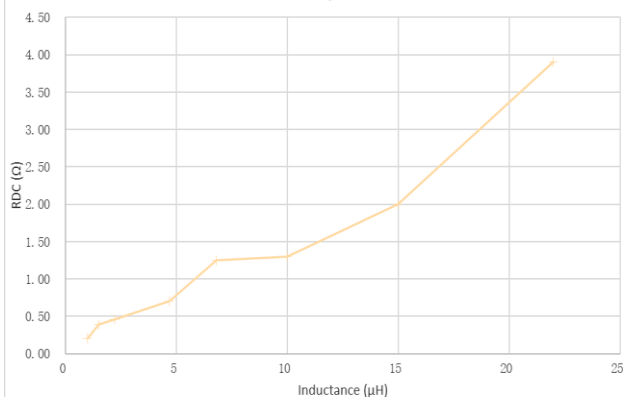
HWI-FS-1608



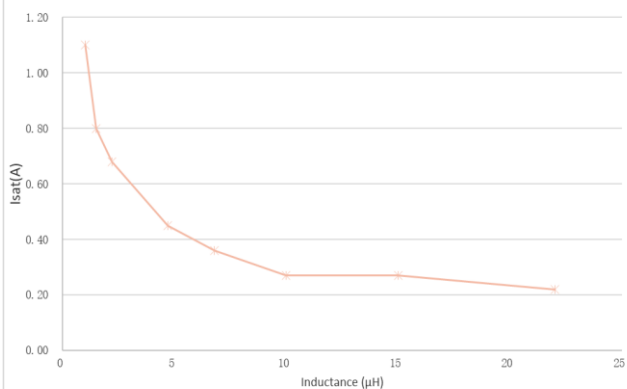
HWI-FS-1608



HWI-WQ-1608

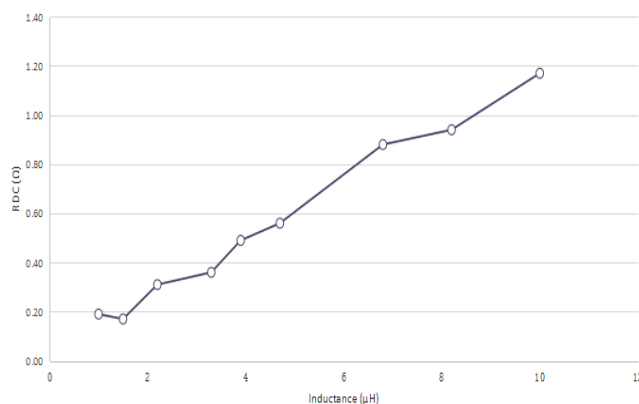


HWI-WQ-1608

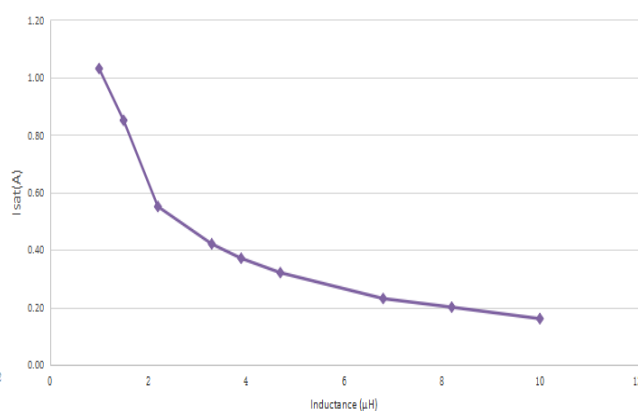


Wire Wound Chip Inductor: HWI Series

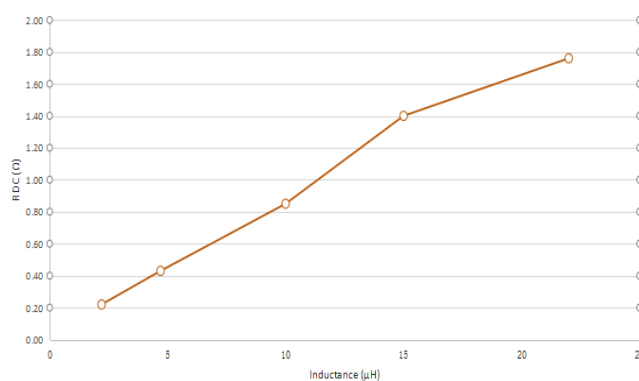
HWI-WL-2012



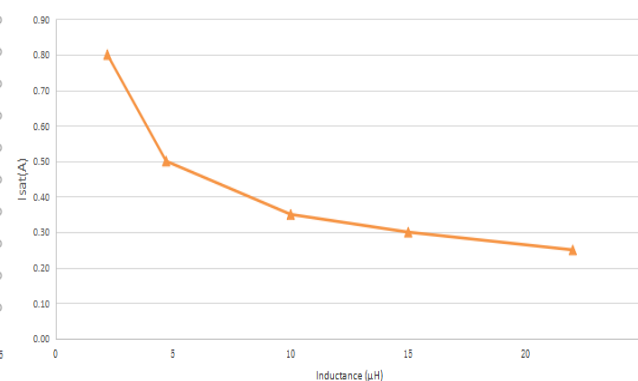
HWI-WL-2012



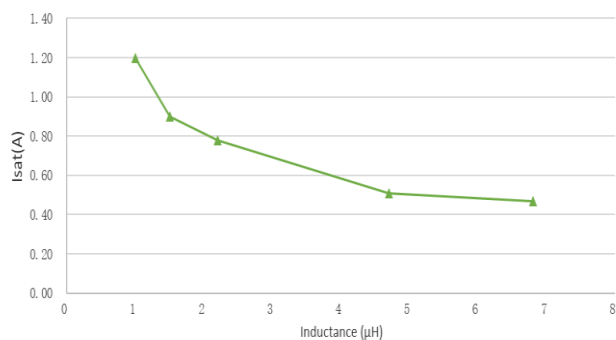
HWI-CD-2012



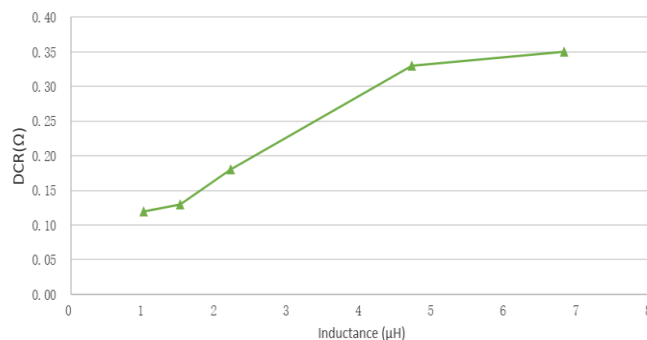
HWI-CD-2012



HWI-WQ-2012



HWI-WQ-2012

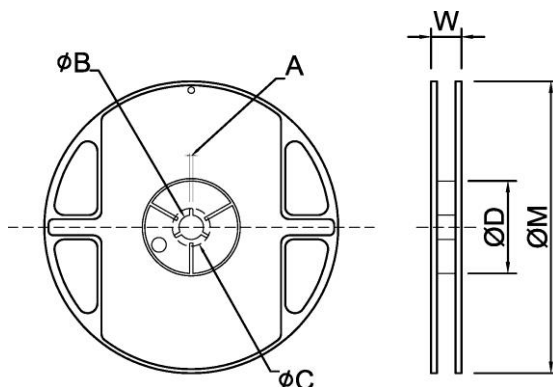


Wire Wound Chip Inductor: HWI Series

Taping and Reel Specifications

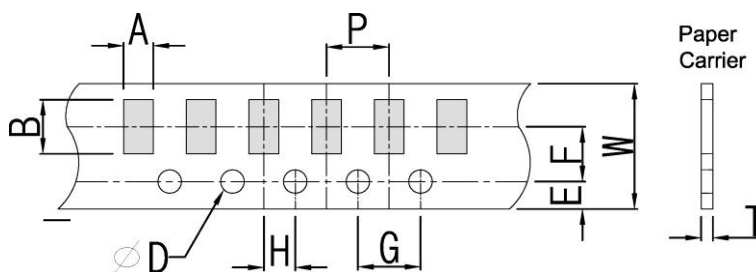
Reel and Taping Specification

Reel Specification



TYPE	SIZE		A	φB	φC	φD	W	φM
1608	7"	4K/Reel	2.0 ± 0.5	13.5 ± 1.0	21 ± 1.0	60 ± 1.0	11.5 ± 2.0	178 ± 2.0
2012	7"	2K/Reel	2.0 ± 0.5	13.5 ± 1.0	21 ± 1.0	60 ± 1.0	11.5 ± 2.0	178 ± 2.0

Taping Specification

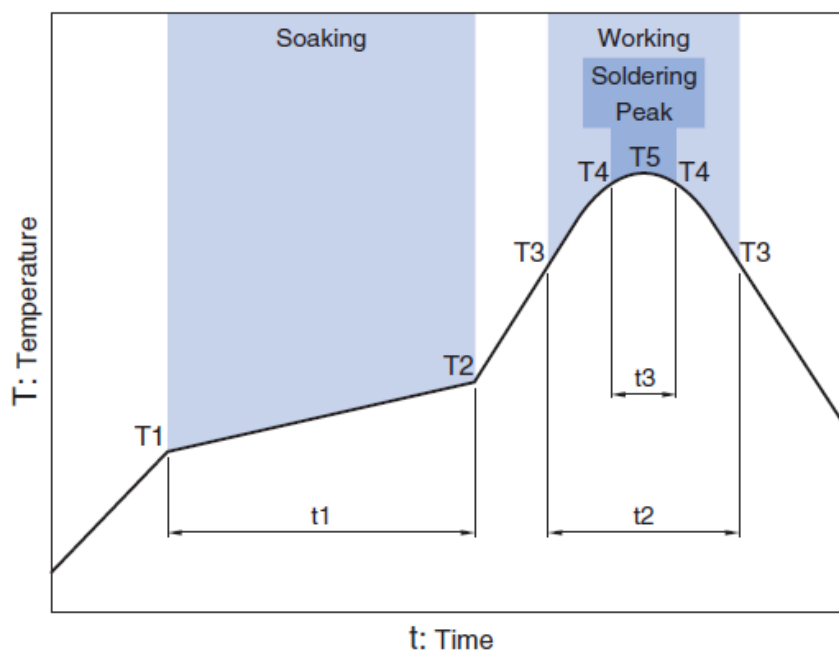


Type	A	B	W	E	F	G	H	T	φD	P
1608	1.7 ± 0.20	2.3 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.0 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.75 ± 0.10	$1.50^{+0.10}_{-0}$	4.0 ± 0.1
2012	2.2 ± 0.20	3.0 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.0 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.75 ± 0.10	$1.50^{+0.10}_{-0}$	4.0 ± 0.1

Recommended Reflow Profile

Wire Wound Chip Inductor: HWI Series

Pb free solder



Soaking			Working		Soldering		Peak
Temp.		Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5
150°C	180°C	60 to 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

Revision History

Version	Date	Description
Ver.01	June .2023	New issue.
Ver.02	Aug .2023	Modified Series HWI-WF to Series HWI-WL.
Ver.03	OCT .2023	Add HWI-WQ Series
Ver.04	NOV.2023	Modified thickness coding
Ver.05	Mar.2024	Add HWI-WA Series

NOV .2024 Ver.05