•FEATURE

1. High Frequency SRF up to 10GHz
2. Fit for 2.4GHz / 5GHz....etc. RF circuit
3. To help you go pass the CE/FCC standard.
4. Operating Temperature -40 ~ 125℃
5. Compliant with AEC-Q200

•APPLICATION

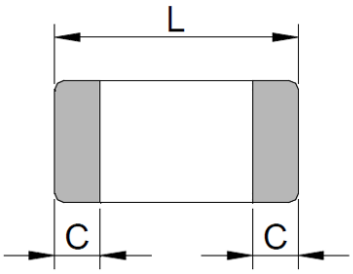
Mobil Device, Handheld Device, LowProfile Device, Panel.

•ORDERING INFORMATION

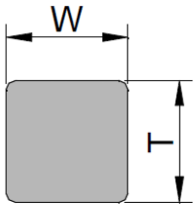
WCH	1608	U	-1N0	T	Q
Series	Dimension (L*W)	Material code (F)	Impedance (Ω)	Tolerance S=±0.3 nH, J=±5%, K=±10%	AEC-Q

•SHAPE AND DIMENSION

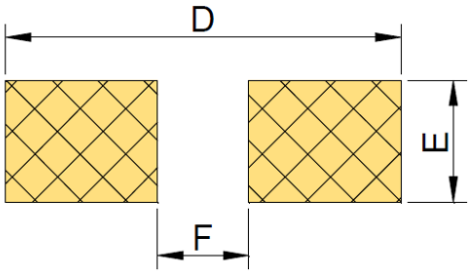
Front View



Side View



Recommend Pad Layout



•SPECIFICATION

Unit: mm(inch)

TYPE	L	W	T	C	D	E	F
1005(0402)	1.00±0.05	0.50±0.05	0.50±0.05	0.25±0.10	1.50 Ref.	0.50 Ref.	0.50 Ref.
1608(0603)	1.60±0.15	0.80±0.15	0.80±0.15	0.30±0.20	2.60 Ref.	0.80 Ref.	0.60 Ref.

•ELECTRICAL CHARACTERISTICS

Part Number	Inductance (nH) @100MHz	Tolerance (T)	Q @100MHz Min.	Rated Current (mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
WCH1005F-1N0T	1.0	S	8.0	300	0.08	10000
WCH1005F-1N2T	1.2	S	8.0	300	0.09	10000
WCH1005F-1N5T	1.5	S	8.0	300	0.10	6000
WCH1005F-1N8T	1.8	S	8.0	300	0.12	6000
WCH1005F-2N0T	2.0	S	8.0	300	0.12	6000
WCH1005F-2N2T	2.2	S	8.0	300	0.13	6000
WCH1005F-2N4T	2.4	S	8.0	300	0.13	6000
WCH1005F-2N7T	2.7	S	8.0	300	0.13	6000
WCH1005F-3N0T	3.0	S	8.0	300	0.16	6000
WCH1005F-3N3T	3.3	S	8.0	300	0.16	6000
WCH1005F-3N6T	3.6	S	8.0	300	0.20	5000
WCH1005F-3N9T	3.9	S	8.0	300	0.21	4000
WCH1005F-4N3T	4.3	S	8.0	300	0.20	4000
WCH1005F-4N7T	4.7	S	8.0	300	0.21	4000
WCH1005F-5N1T	5.1	S	8.0	300	0.21	4000
WCH1005F-5N6T	5.6	S	8.0	300	0.23	4000
WCH1005F-6N2T	6.2	S	8.0	300	0.25	3900
WCH1005F-6N8T	6.8	J, K	8.0	300	0.25	3900
WCH1005F-7N5T	7.5	J, K	8.0	300	0.25	3700
WCH1005F-8N2T	8.2	J, K	8.0	300	0.28	3600
WCH1005F-9N1T	9.1	J, K	8.0	300	0.30	3400
WCH1005F-10NT	10.0	J, K	8.0	300	0.31	3200
WCH1005F-12NT	12.0	J, K	8.0	300	0.40	2700
WCH1005F-15NT	15.0	J, K	8.0	300	0.46	2300
WCH1005F-18NT	18.0	J, K	8.0	300	0.55	2100
WCH1005F-22NT	22.0	J, K	8.0	300	0.60	1900
WCH1005F-27NT	27.0	J, K	8.0	300	0.70	1600
WCH1005F-33NT	33.0	J, K	8.0	200	0.80	1300

T=Tolerance: S=±0.3 nH, J=±5%, K=±10%

Part Number	Inductance (nH) @100MHz	Tolerance (T)	Q Min.	L, Q Test Freq. (MHz)	Rated Current (mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
WCH1608F-1N0T	1.0	S	8.0	100	300	0.05	10000
WCH1608F-1N2T	1.2	S	8.0	100	300	0.05	10000
WCH1608F-1N5T	1.5	S	8.0	100	500	0.10	10000
WCH1608F-1N8T	1.8	S	8.0	100	300	0.10	6000
WCH1608F-2N2T	2.2	S	8.0	100	300	0.10	6000
WCH1608F-2N7T	2.7	S	10.0	100	300	0.10	6000
WCH1608F-3N3T	3.3	J, K	10.0	100	300	0.12	6000
WCH1608F-3N9T	3.9	J, K	10.0	100	300	0.14	6000
WCH1608F-4N7T	4.7	J, K	10.0	100	300	0.16	4000
WCH1608F-5N6T	5.6	J, K	10.0	100	300	0.18	4000
WCH1608F-6N8T	6.8	J, K	10.0	100	300	0.22	4000
WCH1608F-8N2T	8.2	J, K	10.0	100	300	0.24	3500
WCH1608F-10NT	10.0	J, K	12.0	100	300	0.26	3400
WCH1608F-12NT	12.0	J, K	12.0	100	300	0.30	2600
WCH1608F-15NT	15.0	J, K	12.0	100	300	0.32	2300
WCH1608F-18NT	18.0	J, K	12.0	100	300	0.35	2000
WCH1608F-22NT	22.0	J, K	12.0	100	300	0.40	1600
WCH1608F-27NT	27.0	J, K	12.0	100	300	0.45	1400
WCH1608F-33NT	33.0	J, K	12.0	100	300	0.55	1200
WCH1608F-39NT	39.0	J, K	12.0	100	300	0.60	1100
WCH1608F-47NT	47.0	J, K	12.0	100	300	0.70	900
WCH1608F-56NT	56.0	J, K	12.0	100	300	0.75	900
WCH1608F-68NT	68.0	J, K	12.0	100	300	0.85	700
WCH1608F-82NT	82.0	J, K	12.0	100	300	0.95	600
WCH1608F-R10T	100.0	J, K	12.0	100	300	1.00	600
WCH1608F-R12T	120.0	J, K	8.0	50	300	1.30	500
WCH1608F-R15T	150.0	J, K	8.0	50	300	1.50	500
WCH1608F-R18T	180.0	J, K	8.0	50	300	1.80	400
WCH1608F-R22T	220.0	J, K	8.0	50	300	2.10	400
WCH1608F-R27T	270.0	J, K	8.0	50	300	2.40	350
WCH1608F-R33T	330.0	J, K	8.0	50	300	3.00	350
WCH1608F-R39T	390.0	J, K	8.0	50	150	3.00	350
WCH1608F-R47T	470.0	J, K	8.0	50	150	3.60	250

T=Tolerance: S=±0.3 nH, J=±5%, K=±10%

●RELIABILITY

<table>
<tr><th>ITEM</th><th>TEST CONDITIONS</th><th>REMARKS</th></tr>
<tr><td>Thermal Shock
(Temperature Cycle)</td><td>Temperature : -40℃/ 125℃ kept stabilized for 30 minutes each.
Cycle: 100 Cycles</td><td rowspan="8">Inductance value shall be within ± 10% of the initial value.

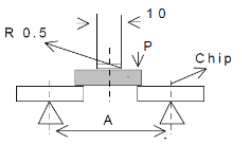
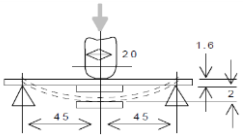
Q-factor shall be within ± 30% of the initial value.

Impedance shall be within ± 20% of the initial value.

DCR value shall be within ± 20% of the initial value.

■NO.1~4 Measurement:
After placing for 24 hours (min.)

■NO.2~3 Applied current(spec): Rated current (maximum value)

■NO.5 Cycle: 5 cycles</td></tr>
<tr><td>Humidity Resistance</td><td>Humidity: 90%~ 95% RH
Temperature : 40± 2℃
Test Time: 500 ± 12 Hours</td></tr>
<tr><td>High Temperature</td><td>Temperature : 85 ± 2℃
Humidity: 20%
Testing Time: 500 ± 12 Hours</td></tr>
<tr><td>Low Temperature</td><td>Temperature : -40 ± 2℃
Time: 500 ± 12 Hours</td></tr>
<tr><td>Temperature and Humidity Cycle</td><td><table><tr><th>Step</th><th>Temp</th><th>Humidity</th><th>Time</th></tr><tr><td>1</td><td>25 ± 2℃</td><td>95~100%RH</td><td>3.0Hr</td></tr><tr><td>2</td><td>55 ± 2℃</td><td>95~96%RH</td><td>9.5Hr</td></tr><tr><td>3</td><td>25 ± 2℃</td><td>95~100%RH</td><td>9.5Hr</td></tr></table></td></tr>
<tr><td>Vibration</td><td>Frequency: 10Hz~55Hz
Amplitude: 1.5mm
Direction: X, Y, Z
Time: 2 Hours each</td></tr>
<tr><td>IR Reflow Soldering</td><td>Solder: Sn-Ag3.0-Cu0.5
Solder Temp.: 230 ± 5℃
Time: 6 minutes
Cycles: x 1</td><td>Impedance(inductance) shall be within ± 20% of the initial value.
DCR value shall be within ± 20% of the initial value.</td></tr>
<tr><td>Soldering Heat Resistance</td><td>Preheat : 150℃(60 sec)
Solder: Sn-Ag3.0-Cu0.5
Solder Temp.: 260 ± 5℃
Flux: Rosin
Dip time: 10± 0.5 seconds</td><td>The chip must have no cracks. More than 75% of the terminal electrode must be covered with solder.</td></tr>
<tr><td>Bending Strength</td><td> 
</td><td>The terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions.
1005: ≧ 0.2 P-kgf
1608: ≧ 0.3 P-kgf</td></tr>
<tr><td>Flexure Strength</td><td> 
</td><td>No mechanical damage shall be noticed even when the board is bent 2 mm</td></tr>
<tr><td>Terminal Strength</td><td> 
</td><td>The terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions.
1005 : ≧ 0.2 kgt
1608 : ≧ 0.5 kgt</td></tr>
</table>

•TEST EQUIPMENT

1. HP4287A , HP4291A+16192A - L , Q , SRF
2. HP4338B - RDC

•Operating & Storage Condition

1. Operating Temp : -40~+125℃
2. Storage Temp : -40~+125℃
3. Storage Life Time : 12 MONTH @25℃ , RH 65%

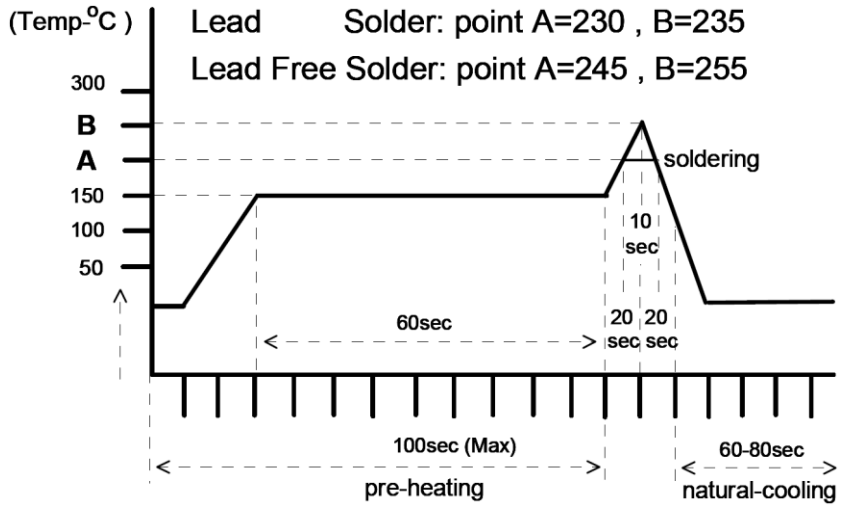
Standard Atmosphere Conditions:

Ambient Temp : 20 ± 15℃; Relative Humidity: 65 ± 20%

If there may be any doubt on the result, measurement shall be made within the following limits:

Ambient Temp : 25 ± 5℃; Relative Humidity: 75 ± 10%

•RECOMMEND IR REFLOW CURVE : (TIME: Second)



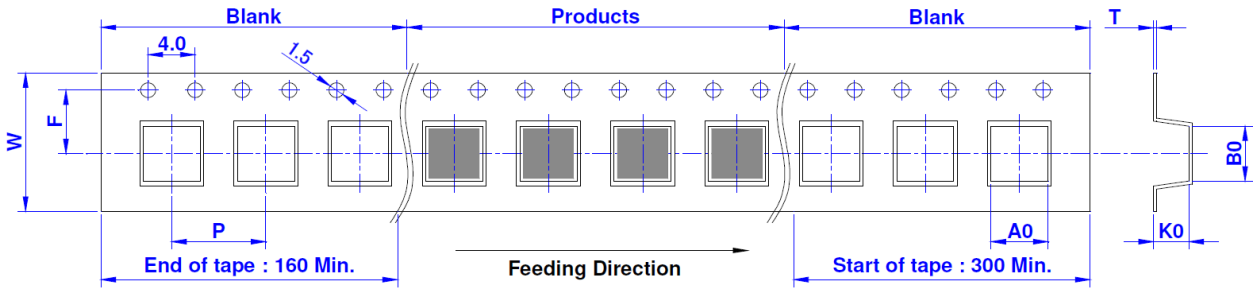
Notice: Iron Soldering: 3 Seconds Max. @260℃

•ATTENTION & CAUTION

Please avoid following matters:

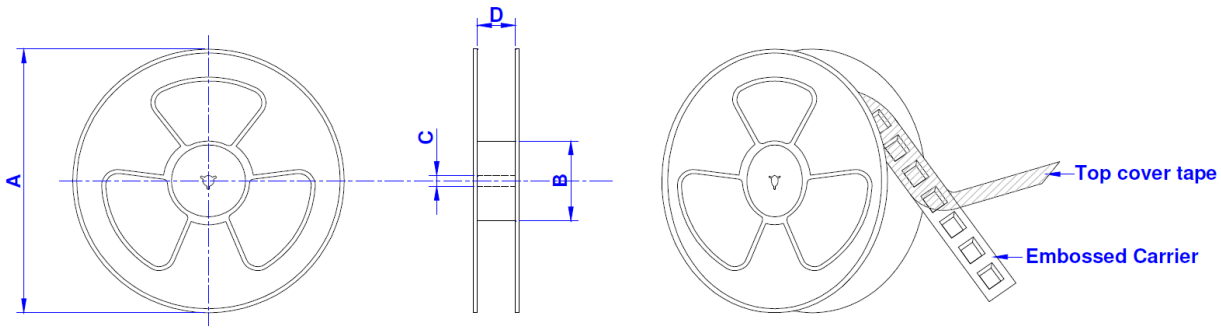
* Splashing water or salt water
* Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
* Vibrations or shocks which exceed the specified condition
* Dew condenses
* Please be careful for the stress to this product by board flexure or something after the mounting.

•TAPE DIMENSION: mm



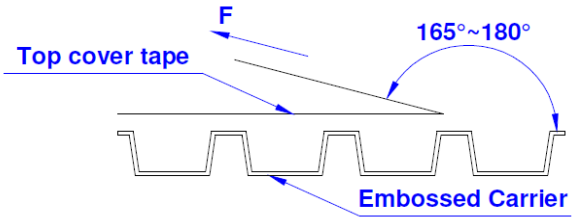
SIZE/mm	W	P	A0	B0	K0	T	F
1005	8.00	2.00	0.65	1.15	0.80	0.80	3.50
1608	8.00	4.00	1.05	1.90	1.00	1.00	3.50

•REEL DIMENSION: mm



SIZE / mm	REEL SIZE	A	B	C	D	QTY/REEL
1005	7" x 12 mm	178	60	10	12.5	10000 PCS
1608	7" x 12 mm	178	60	10	12.5	4000 PCS

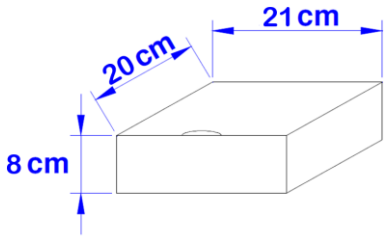
•TEARING OFF FORCE:



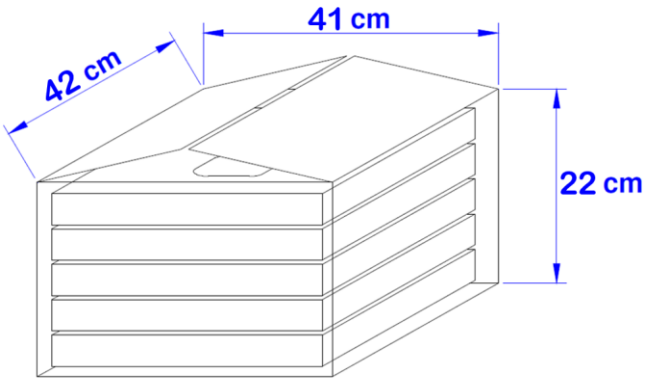
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11stadnard).

Room Temp. (℃)	Room Humidity (%)	Room Atm. (hPa)	Tearing Speed (mm/min)
5 ~ 35	45 ~ 85	860~1060	300

•BOX PACKAGE: cm



7" Small Box



Large Box

SIZE/mm	Reels in Small Box	Small Box in Large Box
1005	4	8
1608	4	8

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