



●FEATURE

1. Molding Wound Chip Inductor.
2. Fit for power line & signal line circuit
3. To help you go pass the CE/FCC standard.
4. Operating Temperature -40 ~ 85°C



●APPLICATION

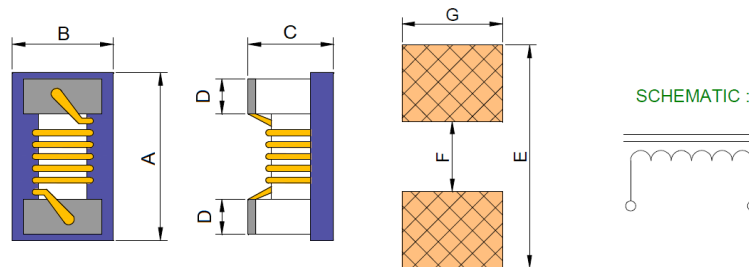
Mobil Device, Handheld Device, LowProfile Device, Panel.

●ORDERING INFORMATION

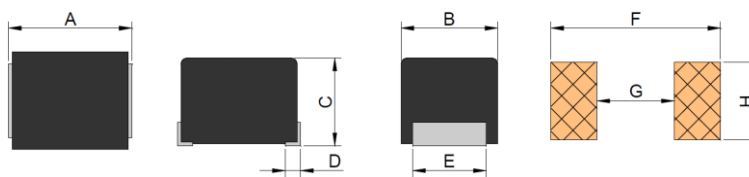
<u>WCF</u>	<u>272520</u>	<u>U</u>	<u>-22N</u>	<u>T</u>
Series	Dimension (L*W*H)	Material code	Inductance(L) (uH)	Tolerance(T) J=±5%, K=±10%

●SHAPE AND DIMENSION

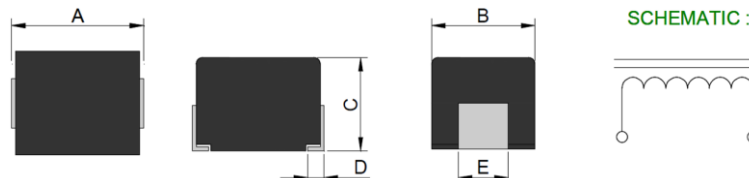
272520 TYPE



322522 TYPE



252018,453232 TYPE



●SPECIFICATION

Unit: mm

TYPE	A	B	C	D	E	F	G	H
272520	2.70±0.30	2.50±0.30	2.00±0.30	0.50±0.15	3.30 Ref.	1.25 Ref.	2.60 Ref.	N/A
252018	2.50±0.30	2.00±0.30	1.80±0.30	0.50±0.10	1.20±0.10	3.50 Ref.	1.50 Ref.	1.50 Ref.
322522	3.20±0.30	2.50±0.30	2.20±0.30	0.50±0.10	1.90±0.10	3.50 Ref.	1.00 Ref.	3.00 Ref.
453232	4.50±0.30	3.20±0.30	3.20±0.30	1.00±0.10	1.20±0.10	5.50 Ref.	2.00 Ref.	4.00 Ref.



•ELECTRICAL CHARACTERISTICS

Part Number	Inductance (L) (uH)	Tolerance (T)	Q value (Min)	L&Q Test Freq. (MHz)	S.R.F (MHz) (Min)	DCR (Ω) (Max)	IDC (mA) (Max)
WCF272520-5N0K	0.005	K	10	100	3000	0.25	2000
WCF272520-10NK	0.010	K	10	100	2500	0.25	1800
WCF272520-12NK	0.012	K	15	100	2400	0.26	1700
WCF272520-15NK	0.015	K	15	100	2300	0.28	1600
WCF272520-18NK	0.018	K	15	100	2200	0.30	1550
WCF272520-22NT	0.022	J,K	20	100	2100	0.35	1500
WCF272520-27NT	0.027	J,K	20	100	2000	0.40	1450
WCF272520-33NT	0.033	J,K	30	100	1600	0.42	1400
WCF272520-39NT	0.039	J,K	35	100	1500	0.45	1350
WCF272520-47NT	0.047	J,K	35	100	1400	0.50	1300
WCF272520-56NT	0.056	J,K	35	100	1300	0.60	1250
WCF272520-68NT	0.068	J,K	35	100	1200	0.65	1240
WCF272520-82NT	0.082	J,K	35	100	1100	0.75	1230
WCF272520-R10T	0.100	J,K	35	100	800	0.80	1220
WCF272520-R12T	0.120	J,K	30	25.20	700	0.30	900
WCF272520-R15T	0.150	J,K	30	25.20	550	0.35	900
WCF272520-R18T	0.180	J,K	30	25.20	500	0.40	850
WCF272520-R22T	0.220	J,K	30	25.20	450	0.50	840
WCF272520-R27T	0.270	J,K	30	25.20	425	0.55	830
WCF272520-R33T	0.330	J,K	30	25.20	400	0.60	820
WCF272520-R39T	0.390	J,K	30	25.20	375	0.65	810
WCF272520-R47T	0.470	J,K	30	25.20	350	0.68	800
WCF272520-R56T	0.560	J,K	30	25.20	325	0.75	800
WCF272520-R68T	0.680	J,K	30	25.20	300	0.85	800
WCF272520-R82T	0.820	J,K	30	25.20	260	1.00	800
WCF272520-1R0T	1.000	J,K	25	7.960	245	1.10	800
WCF272520-1R2T	1.200	J,K	25	7.960	230	1.20	790
WCF272520-1R5T	1.500	J,K	25	7.960	182	1.30	750
WCF272520-1R8T	1.800	J,K	25	7.960	135	1.45	750
WCF272520-2R2T	2.200	J,K	25	7.960	105	1.55	750
WCF272520-2R7T	2.700	J,K	25	7.960	70	1.70	740
WCF272520-3R3T	3.300	J,K	25	7.960	55	1.90	730
WCF272520-3R9T	3.900	J,K	25	7.960	48	2.10	700
WCF272520-4R7T	4.700	J,K	25	7.960	43	2.30	650
WCF272520-5R6T	5.600	J,K	20	7.960	42	2.50	640
WCF272520-6R8T	6.800	J,K	20	7.960	39	2.70	630
WCF272520-8R2T	8.200	J,K	20	7.960	36	3.05	600
WCF272520-100T	10.000	J,K	15	2.520	33	3.50	680
WCF272520-120T	12.000	J,K	15	2.520	30	3.80	650
WCF272520-150T	15.000	J,K	15	2.520	26	4.40	500
WCF272520-180T	18.000	J,K	15	2.520	24	4.80	450
WCF272520-220T	22.000	J,K	15	2.520	22	5.50	450
WCF272520-270T	27.000	J,K	15	2.520	21	6.30	430
WCF272520-330T	33.000	J,K	15	2.520	20	7.10	380
WCF272520-390T	39.000	J,K	10	2.520	18	9.50	330
WCF272520-470T	47.000	J,K	10	2.520	17	11.10	300
WCF272520-560T	56.000	J,K	10	2.520	16	12.10	270
WCF272520-680T	68.000	J,K	10	2.520	15	16.60	250
WCF272520-820T	82.000	J,K	10	2.520	13	19.00	200
WCF272520-101T	100.000	J,K	8	0.796	12	21.00	120

T=Tolerance: J=±5%, K=±10%



Part Number	Inductance (L) (uH)	Tolerance (T)	Q value (Min)	L&Q Test Freq. (MHz)	S.R.F (MHz) (Min)	DCR (Ω) (Max)	IDC (mA) (Max)
WCF252018-R22T	0.220	J,K	25	25.200	230	0.50	430
WCF252018-R27T	0.220	J,K	25	25.200	210	0.55	420
WCF252018-R33T	0.330	J,K	25	25.200	190	0.60	400
WCF252018-R39T	0.390	J,K	25	25.200	175	0.65	375
WCF252018-R47T	0.470	J,K	25	25.200	160	0.68	350
WCF252018-R56T	0.560	J,K	25	25.200	150	0.75	325
WCF252018-R68T	0.680	J,K	25	25.200	135	0.85	300
WCF252018-R82T	0.820	J,K	25	25.200	125	1.00	260
WCF252018-1R0T	1.000	J,K	30	7.960	115	1.10	245
WCF252018-1R2T	1.200	J,K	30	7.960	100	1.20	230
WCF252018-1R5T	1.500	J,K	30	7.960	90	1.30	220
WCF252018-1R8T	1.800	J,K	30	7.960	85	1.45	210
WCF252018-2R2T	2.200	J,K	30	7.960	75	1.55	200
WCF252018-2R7T	2.700	J,K	30	7.960	55	1.70	195
WCF252018-3R3T	3.300	J,K	30	7.960	48	1.90	185
WCF252018-3R9T	3.900	J,K	30	7.960	43	2.10	180
WCF252018-4R7T	4.700	J,K	30	7.960	40	2.30	175
WCF252018-5R6T	5.600	J,K	25	7.960	36	2.50	170
WCF252018-6R8T	6.800	J,K	25	7.960	33	2.70	165
WCF252018-8R2T	8.200	J,K	25	7.960	30	3.05	160
WCF252018-100T	10.000	J,K	25	2.520	27	3.50	155
WCF252018-120T	12.000	J,K	25	2.520	23	3.80	150
WCF252018-150T	15.000	J,K	25	2.520	20	4.40	140
WCF252018-180T	18.000	J,K	25	2.520	18	4.80	130
WCF252018-220T	22.000	J,K	25	2.520	17	5.50	125
WCF252018-270T	27.000	J,K	25	2.520	16	6.30	115
WCF252018-330T	33.000	J,K	25	2.520	15	7.10	110
WCF252018-390T	39.000	J,K	20	2.520	14	9.50	90
WCF252018-470T	47.000	J,K	20	2.520	13	11.00	80
WCF252018-560T	56.000	J,K	20	2.520	12	12.10	75
WCF252018-680T	68.000	J,K	20	2.520	11	16.60	70
WCF252018-820T	82.000	J,K	20	2.520	10	19.00	66
WCF252018-101T	100.000	J,K	15	0.796	9	21.00	60

T=Tolerance: J=±5%, K=±10%



Part Number	Inductance (L) (uH)	Tolerance (T)	Q value (Min)	L&Q Test Freq. (MHz)	S.R.F (MHz) (Min)	DCR (Ω) (Max)	IDC (mA) (Max)
WCF322522-R12T	0.12	J,K	30	25.200	500	0.22	450
WCF322522-R22T	0.22	J,K	30	25.200	350	0.32	450
WCF322522-R33T	0.33	J,K	30	25.200	300	0.40	450
WCF322522-R39T	0.39	J,K	30	25.200	250	0.45	450
WCF322522-R47T	0.47	J,K	30	25.200	250	0.50	450
WCF322522-R56T	0.56	J,K	30	25.200	180	0.55	450
WCF322522-R68T	0.68	J,K	30	25.200	160	0.60	450
WCF322522-R82T	0.82	J,K	30	25.200	140	0.65	450
WCF322522-1R0T	1.00	J,K	30	7.960	120	0.70	400
WCF322522-1R2T	1.20	J,K	30	7.960	100	0.75	390
WCF322522-1R5T	1.50	J,K	30	7.960	85	0.85	370
WCF322522-1R8T	1.80	J,K	30	7.960	80	0.90	350
WCF322522-2R2T	2.20	J,K	30	7.960	75	1.00	320
WCF322522-2R7T	2.70	J,K	30	7.960	70	1.10	290
WCF322522-3R3T	3.30	J,K	30	7.960	60	1.20	260
WCF322522-3R9T	3.90	J,K	30	7.960	55	1.30	250
WCF322522-4R7T	4.70	J,K	30	7.960	50	1.50	220
WCF322522-5R6T	5.60	J,K	30	7.960	45	1.60	200
WCF322522-6R8T	6.80	J,K	30	7.960	40	1.80	180
WCF322522-8R2T	8.20	J,K	30	7.960	35	2.00	170
WCF322522-100T	10.00	J,K	30	2.520	30	2.10	150
WCF322522-120T	12.00	J,K	30	2.520	20	2.50	140
WCF322522-150T	15.00	J,K	30	2.520	20	2.80	130
WCF322522-180T	18.00	J,K	30	2.520	20	3.30	120
WCF322522-220T	22.00	J,K	30	2.520	20	3.70	110
WCF322522-270T	27.00	J,K	30	2.520	20	5.00	80
WCF322522-330T	33.00	J,K	30	2.520	17	5.60	70
WCF322522-390T	39.00	J,K	30	2.520	16	6.40	65
WCF322522-470T	47.00	J,K	30	2.520	15	7.00	60
WCF322522-560T	56.00	J,K	30	2.520	13	8.00	55
WCF322522-680T	68.00	J,K	30	2.520	12	9.00	50
WCF322522-820T	82.00	J,K	30	2.520	11	10.00	45
WCF322522-101T	100.00	J,K	20	0.796	10	11.00	40
WCF322522-121T	120.00	J,K	20	0.796	10	11.00	70
WCF322522-151T	150.00	J,K	20	0.796	8	15.00	65
WCF322522-181T	180.00	J,K	20	0.796	7	17.00	60
WCF322522-221T	220.00	J,K	20	0.796	7	21.00	50

T=Tolerance: J=±5%, K=±10%



Part Number	Inductance (L) (uH)	Tolerance (T)	Q value (Min)	L&Q Test Freq. (MHz)	S.R.F (MHz) (Min)	DCR (Ω) (Max)	IDC (mA) (Max)
WCF453232-R10T	0.10	J,K	35	25.200	300	0.18	800
WCF453232-R12T	0.12	J,K	35	25.200	280	0.20	770
WCF453232-R15T	0.15	J,K	35	25.200	250	0.22	730
WCF453232-R18T	0.18	J,K	35	25.200	220	0.24	700
WCF453232-R22T	0.22	J,K	40	25.200	200	0.25	665
WCF453232-R27T	0.27	J,K	40	25.200	180	0.26	635
WCF453232-R33T	0.33	J,K	40	25.200	165	0.28	605
WCF453232-R39T	0.39	J,K	40	25.200	150	0.30	575
WCF453232-R47T	0.47	J,K	40	25.200	145	0.32	545
WCF453232-R56T	0.56	J,K	40	25.200	140	0.36	520
WCF453232-R68T	0.68	J,K	40	25.200	135	0.40	500
WCF453232-R82T	0.82	J,K	40	25.200	130	0.45	475
WCF453232-1R0T	1.00	J,K	50	7.960	100	0.50	450
WCF453232-1R2T	1.20	J,K	50	7.960	80	0.55	430
WCF453232-1R5T	1.50	J,K	50	7.960	70	0.60	410
WCF453232-1R8T	1.80	J,K	50	7.960	60	0.65	390
WCF453232-2R2T	2.20	J,K	50	7.960	55	0.70	380
WCF453232-2R7T	2.70	J,K	50	7.960	50	0.75	370
WCF453232-3R3T	3.30	J,K	50	7.960	45	0.80	355
WCF453232-3R9T	3.90	J,K	50	7.960	40	0.90	330
WCF453232-4R7T	4.70	J,K	50	7.960	35	1.00	315
WCF453232-5R6T	5.60	J,K	50	7.960	33	1.10	300
WCF453232-6R8T	6.80	J,K	50	7.960	27	1.20	285
WCF453232-8R2T	8.20	J,K	50	7.960	25	1.40	270
WCF453232-100T	10.00	J,K	50	2.520	20	1.60	250
WCF453232-120T	12.00	J,K	50	2.520	18	2.00	225
WCF453232-150T	15.00	J,K	50	2.520	17	2.50	200
WCF453232-180T	18.00	J,K	50	2.520	15	2.80	190
WCF453232-220T	22.00	J,K	50	2.520	13	3.20	180
WCF453232-270T	27.00	J,K	50	2.520	12	3.60	170
WCF453232-330T	33.00	J,K	50	2.520	11	4.00	160
WCF453232-390T	39.00	J,K	50	2.520	10	4.50	150
WCF453232-470T	47.00	J,K	50	2.520	10	5.00	140
WCF453232-560T	56.00	J,K	50	2.520	9	5.50	135
WCF453232-680T	68.00	J,K	50	2.520	9	6.00	130
WCF453232-820T	82.00	J,K	50	2.520	8	7.00	120
WCF453232-101T	100.00	J,K	40	0.796	8	8.00	110
WCF453232-121T	120.00	J,K	40	0.796	6	8.00	110
WCF453232-151T	150.00	J,K	40	0.796	5	9.00	105
WCF453232-181T	180.00	J,K	40	0.796	5	9.50	102
WCF453232-221T	220.00	J,K	40	0.796	4	10.00	100
WCF453232-271T	270.00	J,K	40	0.796	4	12.00	92
WCF453232-331T	330.00	J,K	40	0.796	3.5	14.00	85
WCF453232-391T	390.00	J,K	40	0.796	3	18.00	80
WCF453232-471T	470.00	J,K	40	0.796	3	26.00	62
WCF453232-561T	560.00	J,K	30	0.796	3	30.00	50
WCF453232-681T	680.00	J,K	30	0.796	3	30.00	50
WCF453232-821T	820.00	J,K	30	0.796	2.5	35.00	30
WCF453232-102T	1000.00	J,K	30	0.252	2.5	40.00	30

T=Tolerance: J=±5%, K=±10%



●RELIABILITY

ITEM	TEST CONDITIONS	REMARKS																
Thermal Shock (Temperature Cycle)	Temperature : -40°C/ +85°C kept stabilized for 30 minutes each Cycle: 100 Cycles	Inductance value shall be within ± 10% of the initial value.																
Humidity Resistance	Humidity: 90%~ 95% RH Temperature : 40± 2°C Test Time: 1000 ± 12 Hours	Q-factor shall be within ± 30% of the initial value.																
High Temperature	Temperature : 85 ± 2°C Humidity: 20% Testing Time: 1000 ± 12 Hours	Impedance shall be within ± 20% of the initial value.																
Low Temperature	Temperature : -40 ± 2°C Time: 1000 ± 12 Hours	DCR value shall be within ± 20% of the initial value.																
Temperature and Humidity Cycle	<table border="1"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Humidity</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25 ± 2°C</td> <td>95~100%RH</td> <td>3.0Hr</td> </tr> <tr> <td>2</td> <td>55 ± 2°C</td> <td>95~96%RH</td> <td>9.5Hr</td> </tr> <tr> <td>3</td> <td>25 ± 2°C</td> <td>95~100%RH</td> <td>9.5Hr</td> </tr> </tbody> </table>	Step	Temp	Humidity	Time	1	25 ± 2°C	95~100%RH	3.0Hr	2	55 ± 2°C	95~96%RH	9.5Hr	3	25 ± 2°C	95~100%RH	9.5Hr	■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
	Step	Temp	Humidity	Time														
	1	25 ± 2°C	95~100%RH	3.0Hr														
	2	55 ± 2°C	95~96%RH	9.5Hr														
3	25 ± 2°C	95~100%RH	9.5Hr															
Vibration	Frequency: 10Hz~55Hz Amplitude: 1.5mm Direction: X, Y, Z Time: 2 Hours each																	
IR Reflow Soldering	Solder: H63A (eutectic solder) Solder Temp.: 230 ± 5°C Time: 6 minutes Cycles: x 1	Impedance(inductance) shall be within ± 20% of the initial value. DCR value shall be within ± 20% of the initial value.																
Soldering Heat Resistance	Preheat : 120 ~ 150°C(60 sec) Solder: H63A (eutectic solder) Solder Temp.: 260 ± 5°C Flux: Rosin Dip time: 10± 1 seconds	The chip must have no cracks. More than 75% of the terminal electrode must be covered with solder.																
Bending Strength		The terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions. 272520: ≥ 3.0 kg 252018: ≥ 3.0 kg 322522: ≥ 4.0 kg 453232: ≥ 5.0 kg																
Flexure Strength		No mechanical damage shall be noticed even when the board is bent 2 mm																
Terminal Strength		After solder between copper plate and terminals of coil, push in two directions of X,Y with 2.0kg must no crack !																



● **TEST EQUIPMENT**

1. HP4284A, HP42841A – L, IDC, Q.RDC
2. HP8753D Network analyzer - SRF

● **Operating & Storage Condition**

1. Operating Temp : -40~+85°C
2. Storage Temp : -40~+85°C
3. Storage Life Time : 12 MONTH @25°C , RH 65%

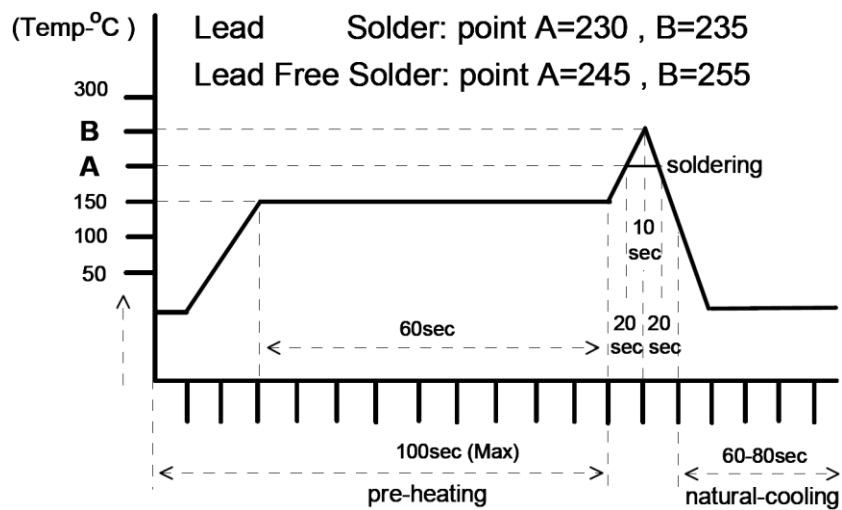
Standard Atmosphere Conditions:

Ambient Temp : 20 ± 15°C; 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°C; Relative Humidity: 75 ± 10%

● **RECOMMEND IR REFLOW CURVE : (TIME: Second)**



Notice: Iron Soldering: 3 Seconds Max. @260°C

● **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.



●CURVE

Fig.1 322522 L vs. Frequency Curve

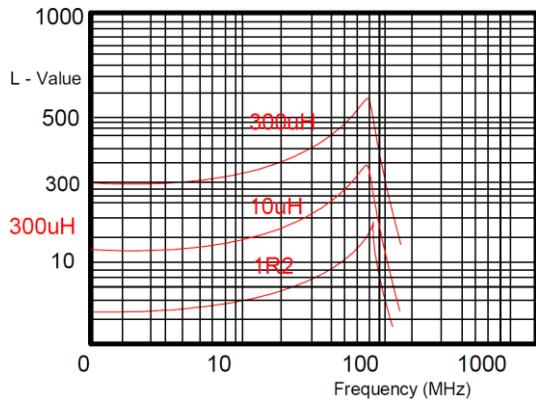
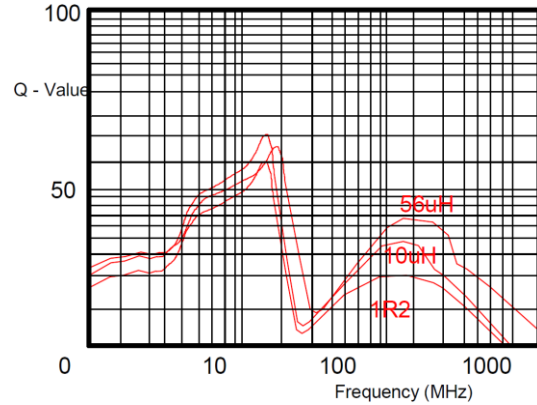
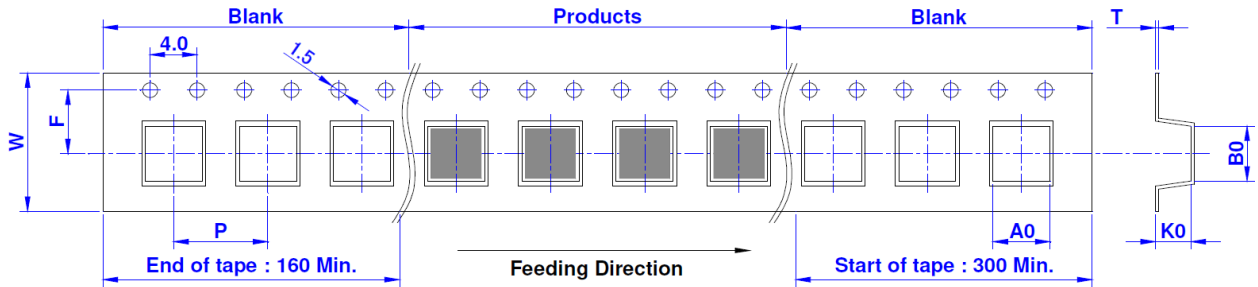


Fig.2 322522 Q vs. Frequency Curve



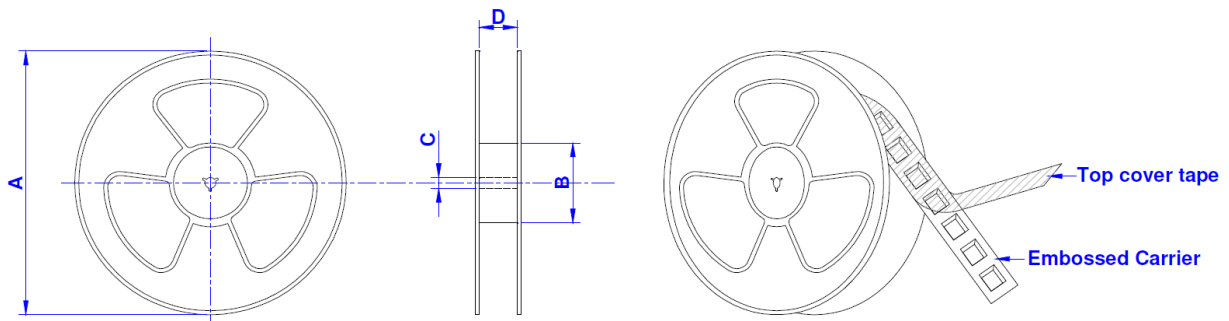


●TAPE DIMENSION: mm



SIZE/mm	W	P	A0	B0	K0	T	F
272520	8.00	4.00	2.80	2.95	2.20	0.23	3.50
252018	8.00	4.00	2.40	2.90	2.00	0.23	3.50
322522	8.00	4.00	2.96	3.60	2.40	0.23	3.50
453232	12.00	8.00	3.30	5.00	3.50	0.30	5.50

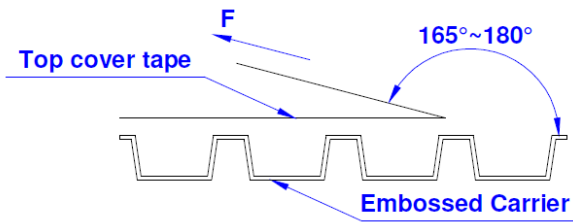
●REEL DIMENSION: mm



SIZE / mm	REEL SIZE	A	B	C	D	QTY/REEL
272520	7" x 8 mm	178	60	12	8.5	2000 PCS
252018	7" x 8 mm	178	60	12	8.5	2000 PCS
322522	7" x 8 mm	178	60	12	8.5	2000 PCS
453232	7" x 12 mm	178	60	16	12.5	500 PCS



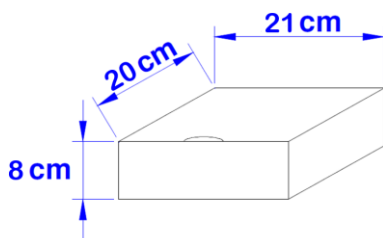
●TEARING OFF FORCE:



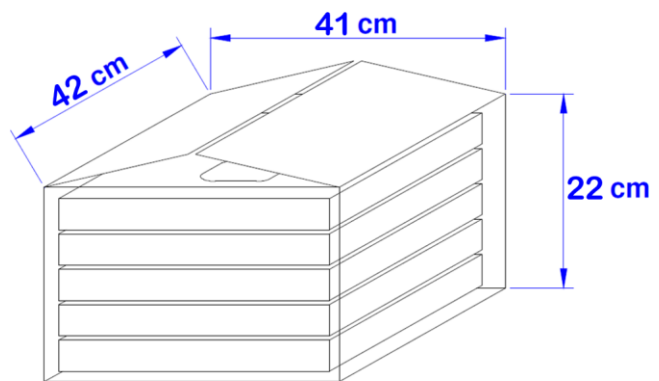
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11 standard).

Room Temp. (°C)	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
272520	5	8
252018	5	8
322522	5	8
453232	4	8



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