

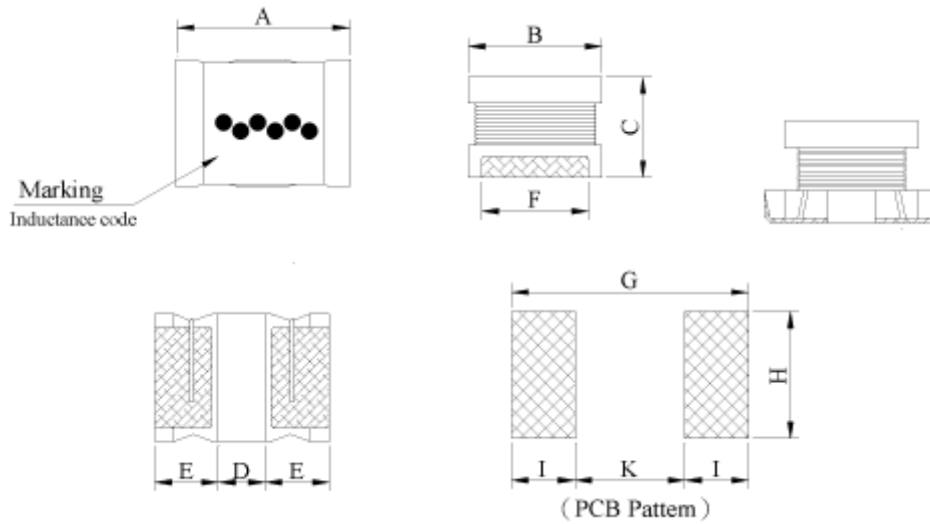
CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

SMD Power Inductors Unshielded



C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
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1. Configuration & Dimensions



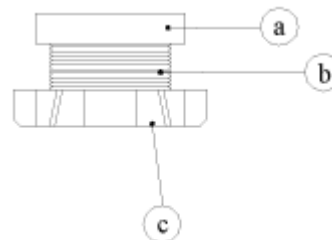
Series	Dimensions [mm]									
	A	B	C	D(typ.)	E	F(ref.)	G(ref.)	H(ref.)	I(ref.)	K(ref.)
CDH3216	3.20±0.3	1.60±0.3	1.85±0.30	1.10	0.90 min.	—	3.80	2.00	1.50	0.80
CDH32	3.20±0.3	2.50±0.3	2.00±0.40	1.30	1.20 ref.	1.20	3.80	2.80	1.40	1.00
CDH3225	3.20±0.3	2.50±0.3	2.00±0.40	1.30	1.20 ref.	1.20	3.80	2.80	1.40	1.00
CDH3226	3.20±0.3	2.50±0.3	1.55±0.15	1.30	1.20 ref.	1.20	3.80	2.80	1.40	1.00
CDH45	4.50±0.3	3.20±0.3	2.60±0.30	1.30	1.60 ref.	2.00	5.40	3.60	2.00	1.40
CDH45A	4.50±0.3	3.20±0.3	2.60±0.40	1.30	1.60 ref.	2.00	5.40	3.60	2.00	1.40
CDH45B	4.50±0.3	3.20±0.3	2.60±0.40	1.30	1.60 ref.	2.00	5.40	3.60	2.00	1.40

2. Schematic Diagram



3. Materials

- a.- Core : Ferrite core
- b.- Wire : Enamelled copper wire (class F)
- c.- Terminal : Ag / Ni / Sn
- d.- Remark : Lead content 200ppm max. include ferrite



CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

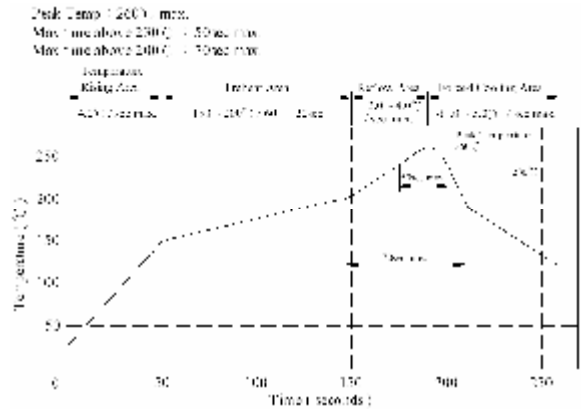


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4. General Specification

- a.- Temp. rise { 40°C max. (CDH3216)
20°C max. (CDH32...CDH45B)
- b.- Rated current (I_{rms}) : Current cause inductance drop within 10% max.
- c.- Storage temp. : -40°C ~ +125°C
- d.- Operating temp. { -40°C ~ +105°C (CDH3216, CDH3226)
-25°C ~ +105°C (CDH32, CDH3225, CDH45, CDH45A, CDH45B)
- e.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

CDH3216 (0.12µH – 100µH)

DWG No.	Inductance (mH)	Test Freq. L (KHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA) max.
CDH3216 – R12M	0.12±20%	1	250.0	0.112	970
CDH3216 – R22M	0.22±20%	1	250.0	0.140	850
CDH3216 – R33M	0.33±20%	1	300.0	0.160	800
CDH3216 – R47M	0.47±20%	1	180.0	0.210	700
CDH3216 – 1R0M	1.00±20%	1	100.0	0.392	510
CDH3216 – 2R2M	2.20±20%	1	50.0	0.574	430
CDH3216 – 4R7M	4.70±20%	1	31.0	0.910	340
CDH3216 – 100K	10.00±10%	1	20.0	1.820	230
CDH3216 – 220K	22.00±10%	1	14.0	4.200	160
CDH3216 – 470K	47.00±10%	1	10.0	11.200	100
CDH3216 – 101K	100.00±10%	1	7.0	16.800	80

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B SMD Power Inductors Unshielded



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CDH32 (1µH - 560µH)

DWG No.	Inductance (mH)	Test Freq. L (MHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA) max.
CDH32 - 1R0M	1.0±20%	1	100.0	0.50	445
CDH32 - 1R2M	1.2±20%	1	100.0	0.60	425
CDH32 - 1R5M	1.5±20%	1	75.0	0.60	400
CDH32 - 1R8M	1.8±20%	1	60.0	0.70	390
CDH32 - 2R2M	2.2±20%	1	50.0	0.80	370
CDH32 - 2R7M	2.7±20%	1	43.0	0.90	320
CDH32 - 3R3M	3.3±20%	1	38.0	1.00	300
CDH32 - 3R9M	3.9±20%	1	35.0	1.10	290
CDH32 - 4R7M	4.7±20%	1	31.0	1.20	270
CDH32 - 5R6M	5.6±20%	1	28.0	1.30	250
CDH32 - 6R8M	6.8±20%	1	25.0	1.50	240
CDH32 - 8R2M	8.2±20%	1	23.0	1.60	225
CDH32 - 100K	10.0±10%	1	20.0	1.80	190
CDH32 - 120K	12.0±10%	1	18.0	2.00	180
CDH32 - 150K	15.0±10%	1	16.0	2.20	170
CDH32 - 180K	18.0±10%	1	15.0	2.50	165
CDH32 - 220K	22.0±10%	1	14.0	2.80	150
CDH32 - 270K	27.0±10%	1	13.0	3.10	125
CDH32 - 330K	33.0±10%	1	12.0	3.50	115
CDH32 - 390K	39.0±10%	1	11.0	3.90	110
CDH32 - 470K	47.0±10%	1	11.0	4.30	100
CDH32 - 560K	56.0±10%	1	10.0	4.90	85
CDH32 - 680K	68.0±10%	1	9.0	5.50	80
CDH32 - 820K	82.0±10%	1	8.5	6.20	70
CDH32 - 101K	100.0±10%	1	8.0	7.00	80
CDH32 - 121K	120.0±10%	1	7.5	8.00	75
CDH32 - 151K	150.0±10%	1	7.0	9.30	70
CDH32 - 181K	180.0±10%	1	6.0	10.20	65
CDH32 - 221K	220.0±10%	1	5.5	11.80	65
CDH32 - 271K	270.0±10%	1	5.0	12.50	65
CDH32 - 331K	330.0±10%	1	5.0	13.00	65
CDH32 - 391K	390.0±10%	1	5.0	22.00	50
CDH32 - 471K	470.0±10%	0.001	5.0	25.00	45
CDH32 - 561K	560.0±10%	0.001	5.0	28.00	40

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B



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CDH3225 (1µH - 560µH)

DWG No.	Inductance (mH)	Test Freq. L (MHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA) max.
CDH3225 - 1R0M	1.0±20%	1	96.0	0.117	800
CDH3225 - 2R2M	2.2±20%	1	64.0	0.169	600
CDH3225 - 4R7M	4.7±20%	1	43.0	0.260	450
CDH3225 - 100K	10.0±10%	1	26.0	0.572	300
CDH3225 - 220K	22.0±10%	1	19.0	0.923	250
CDH3225 - 470K	47.0±10%	1	15.0	1.690	170
CDH3225 - 101K	100.0±10%	1	10.0	4.550	100
CDH3225 - 221K	220.0±10%	1	6.8	10.900	70
CDH3225 - 331K	330.0±10%	1	5.6	13.000	60
CDH3225 - 391K	390.0±10%	1	5.0	22.100	60
CDH3225 - 471K	470.0±10%	1	5.0	24.700	60
CDH3225 - 561K	560.0±10%	0.001	5.0	28.600	60

CDH3226 (1µH - 100µH)

DWG No.	Inductance (mH)	Test Freq. L (MHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA)
CDH3226 - 1R0M	1.0±20%	1	100.0	0.078	1000
CDH3226 - 2R2M	2.2±20%	1	63.0	0.126	790
CDH3226 - 4R7M	4.7±20%	1	43.0	0.195	650
CDH3226 - 100K	10.0±10%	1	26.0	0.390	450
CDH3226 - 150K	15.0±10%	1	26.0	0.754	300
CDH3226 - 220K	22.0±10%	1	19.0	0.923	250
CDH3226 - 330K	33.0±10%	1	17.0	1.430	200
CDH3226 - 470K	47.0±10%	1	15.0	1.690	170
CDH3226 - 680K	68.0±10%	1	12.0	2.860	130
CDH3226 - 101K	100.0±10%	1	10.0	4.550	100

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

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CDH45 (1µH - 2200µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) nom.	RDC (W) max.	Irms1 (mA) ΔT=20°C max.	Irms2 (mA) ΔT=40°C max.
			L (MHz)	Q (MHz)				
CDH45 - 1R0M	1.0±20%	40	1	1	165.0	0.080	1400	1800
CDH45 - 1R5M	1.5±20%	42	1	1	130.0	0.090	1350	1750
CDH45 - 1R8M	1.8±20%	45	1	1	100.0	0.100	1300	1700
CDH45 - 2R2M	2.2±20%	40	1	1	80.0	0.110	1250	1600
CDH45 - 2R7M	2.7±20%	40	1	1	63.0	0.120	1200	1500
CDH45 - 3R3M	3.3±20%	45	1	1	58.0	0.130	1000	1400
CDH45 - 3R9M	3.9±20%	40	1	1	54.0	0.140	960	1320
CDH45 - 4R7M	4.7±20%	36	1	1	45.0	0.150	940	1240
CDH45 - 5R6M	5.6±20%	36	1	1	41.0	0.180	920	1180
CDH45 - 6R8M	6.8±20%	36	1	1	37.0	0.200	860	1100
CDH45 - 8R2M	8.2±20%	36	1	1	34.0	0.250	780	1000
CDH45 - 100M	10.0±20%	48	1	1	30.0	0.300	750	950
CDH45 - 120M	12.0±20%	48	1	1	28.0	0.420	700	800
CDH45 - 150M	15.0±20%	45	1	1	26.0	0.500	650	730
CDH45 - 180M	18.0±20%	42	1	1	22.0	0.600	570	680
CDH45 - 220K	22.0±10%	50	1	1	20.0	0.700	460	630
CDH45 - 270K	27.0±10%	50	1	1	19.0	0.900	360	520
CDH45 - 330K	33.0±10%	55	1	1	18.0	1.100	330	430
CDH45 - 390K	39.0±10%	60	1	1	17.0	1.300	310	410
CDH45 - 470K	47.0±10%	60	1	1	15.0	1.500	285	390
CDH45 - 560K	56.0±10%	58	1	1	14.0	1.600	270	385
CDH45 - 680K	68.0±10%	58	1	1	11.0	2.100	230	330
CDH45 - 820K	82.0±10%	60	1	1	11.0	2.200	215	300
CDH45 - 101K	100.0±10%	60	1	0.796	10.0	2.500	200	270
CDH45 - 121K	120.0±10%	60	1	0.796	9.0	3.000	180	240
CDH45 - 151K	150.0±10%	55	1	0.796	8.5	3.700	165	220
CDH45 - 181K	180.0±10%	55	1	0.796	7.0	4.500	145	200
CDH45 - 221K	220.0±10%	45	1	0.796	6.3	5.400	130	185
CDH45 - 271K	270.0±10%	50	1	0.796	6.0	8.000	110	140
CDH45 - 331K	330.0±10%	55	1	0.796	5.8	11.500	100	120
CDH45 - 391K	390.0±10%	50	1	0.796	5.2	13.000	95	110
CDH45 - 471K	470.0±10%	50	0.001	0.796	5.0	14.200	85	105
CDH45 - 561K	560.0±10%	53	0.001	0.796	4.5	15.500	80	100

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

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CDH45 (1 μ H - 2200 μ H)

CDH45 - 681K	680.0 \pm 10%	45	0.001	0.796	3.5	16.800	75	90
CDH45 - 821K	820.0 \pm 10%	50	0.001	0.796	2.8	20.000	70	85
CDH45 - 102K	1000.0 \pm 10%	30	0.001	0.252	2.5	30.000	60	70
CDH45 - 122K	1200.0 \pm 10%	30	0.001	0.252	2.3	33.500	45	60
CDH45 - 152K	1500.0 \pm 10%	35	0.001	0.252	2.0	38.500	40	55
CDH45 - 182K	1800.0 \pm 10%	35	0.001	0.252	1.8	44.000	35	50
CDH45 - 222K	2200.0 \pm 10%	30	0.001	0.252	1.6	63.000	30	40

CDH45A (1 μ H - 2200 μ H)

DWG No.	Inductance (mH)	Test Freq. L (MHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA) max.
CDH45A - 1R0M	1.0 \pm 20%	1	120.0	0.20	500
CDH45A - 1R2M	1.2 \pm 20%	1	100.0	0.20	500
CDH45A - 1R5M	1.5 \pm 20%	1	85.0	0.30	500
CDH45A - 1R8M	1.8 \pm 20%	1	75.0	0.30	500
CDH45A - 2R2M	2.2 \pm 20%	1	62.0	0.30	500
CDH45A - 2R7M	2.7 \pm 20%	1	53.0	0.32	500
CDH45A - 3R3M	3.3 \pm 20%	1	47.0	0.35	500
CDH45A - 3R9M	3.9 \pm 20%	1	41.0	0.38	500
CDH45A - 4R7M	4.7 \pm 20%	1	38.0	0.40	500
CDH45A - 5R6M	5.6 \pm 20%	1	33.0	0.47	500
CDH45A - 6R8M	6.8 \pm 20%	1	31.0	0.50	450
CDH45A - 8R2M	8.2 \pm 20%	1	27.0	0.56	450
CDH45A - 100M	10.0 \pm 20%	1	23.0	0.56	400
CDH45A - 120M	12.0 \pm 20%	1	21.0	0.62	380
CDH45A - 150M	15.0 \pm 20%	1	19.0	0.73	360
CDH45A - 180M	18.0 \pm 20%	1	17.0	0.82	340
CDH45A - 220K	22.0 \pm 10%	1	15.0	0.94	320
CDH45A - 270K	27.0 \pm 10%	1	14.0	1.10	300
CDH45A - 330K	33.0 \pm 10%	1	12.0	1.20	270
CDH45A - 390K	39.0 \pm 10%	1	11.0	1.40	240
CDH45A - 470K	47.0 \pm 10%	1	10.0	1.50	220
CDH45A - 560K	56.0 \pm 10%	1	9.3	1.70	200
CDH45A - 680K	68.0 \pm 10%	1	8.4	1.90	180
CDH45A - 820K	82.0 \pm 10%	1	7.5	2.20	170
CDH45A - 101K	100.0 \pm 10%	1	6.8	2.50	160

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CDH45A (1µH - 2200µH)

CDH45A - 121K	120.0±10%	1	6.2	3.00	150
CDH45A - 151K	150.0±10%	1	5.5	3.70	130
CDH45A - 181K	180.0±10%	1	5.0	4.50	120
CDH45A - 221K	220.0±10%	1	4.5	5.40	110
CDH45A - 271K	270.0±10%	1	4.0	6.80	100
CDH45A - 331K	330.0±10%	1	3.6	8.20	95
CDH45A - 391K	390.0±10%	1	3.3	9.70	90
CDH45A - 471K	470.0±10%	0.001	3.0	11.80	80
CDH45A - 561K	560.0±10%	0.001	2.7	14.50	70
CDH45A - 681K	680.0±10%	0.001	2.5	17.00	65
CDH45A - 821K	820.0±10%	0.001	2.2	20.50	60
CDH45A - 102K	1000.0±10%	0.001	2.0	25.00	50
CDH45A - 122K	1200.0±10%	0.001	1.8	30.00	45
CDH45A - 152K	1500.0±10%	0.001	1.6	37.00	40
CDH45A - 182K	1800.0±10%	0.001	1.5	45.00	35
CDH45A - 222K	2200.0±10%	0.001	1.3	50.00	30

CDH45B (1µH - 470µH)

DWG No.	Inductance (mH)	Test Freq. L (MHz)	SRF (MHz) min.	RDC (W) max.	IDC (mA) max.
CDH45B - 1R0M	1.0±20%	1	100.0	0.08	1080
CDH45B - 1R5M	1.5±20%	1	85.0	0.09	1000
CDH45B - 2R2M	2.2±20%	1	60.0	0.11	900
CDH45B - 3R3M	3.3±20%	1	47.0	0.13	800
CDH45B - 4R7M	4.7±20%	1	35.0	0.15	750
CDH45B - 6R8M	6.8±20%	1	30.0	0.20	720
CDH45B - 100K	10.0±10%	1	23.0	0.24	650
CDH45B - 150K	15.0±10%	1	20.0	0.32	570
CDH45B - 220K	22.0±10%	1	15.0	0.60	420
CDH45B - 330K	33.0±10%	1	12.0	1.00	310
CDH45B - 470K	47.0±10%	1	10.0	1.10	280
CDH45B - 680K	68.0±10%	1	8.4	1.70	220
CDH45B - 101K	100.0±10%	1	6.8	2.20	190
CDH45B - 151K	150.0±10%	1	5.5	3.50	130
CDH45B - 221K	220.0±10%	1	4.5	4.00	110
CDH45B - 331K	330.0±10%	1	3.6	6.80	100
CDH45B - 471K	470.0±10%	1	3.0	8.50	90

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

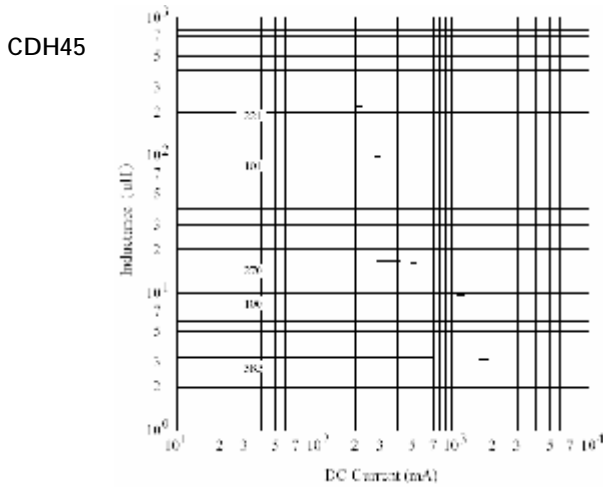
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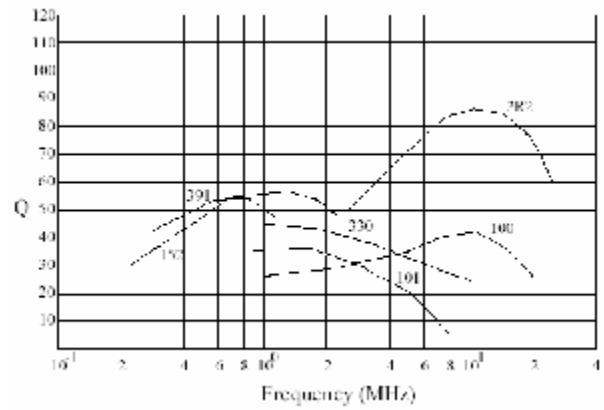
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6. Curve

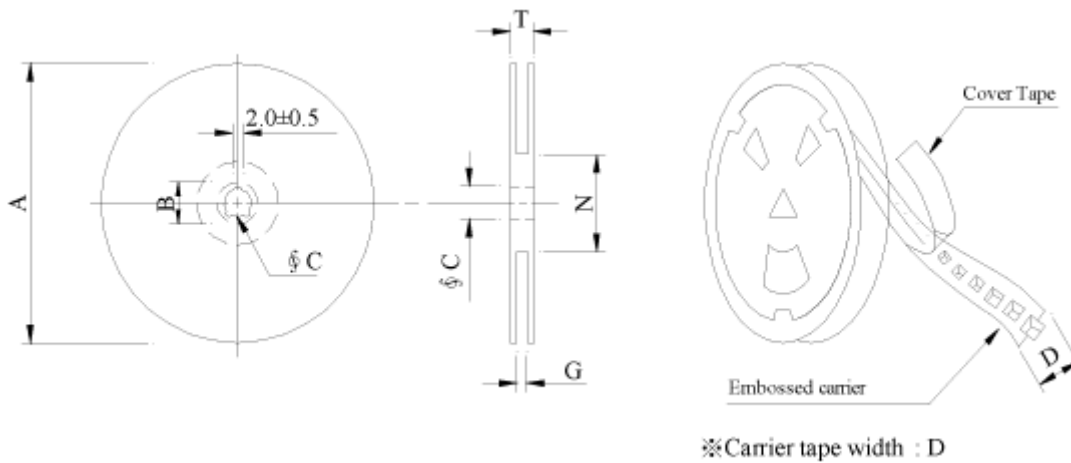
Inductance VS. DC Current Curve



Q VS. Frequency Response



7. Packaging Information

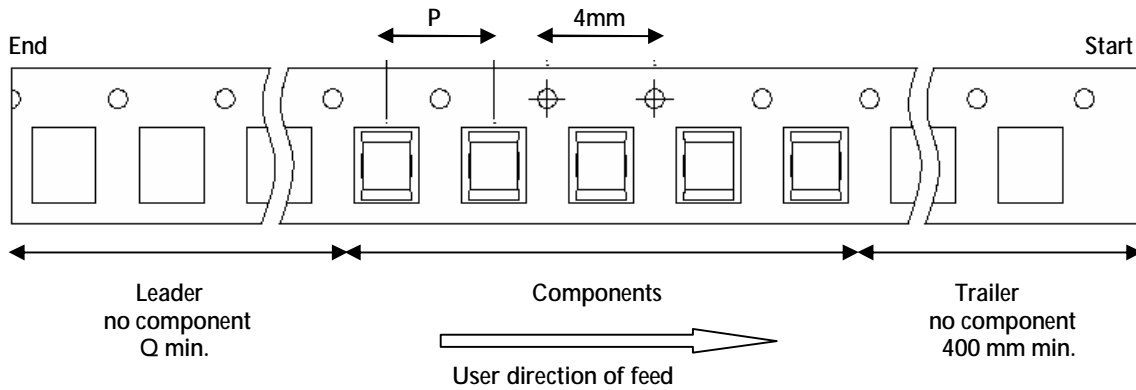


CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B

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(CDH3216, CDH32, CDH3225, CDH3226 à P = 4mm) (CDH45, CDH45A, CDH45B à P = 8mm)
(CDH3216, CDH3226 à Q = 160mm) (CDH32, CDH3225, CDH45, CDH45A, CDH45B à Q = 200mm)

CDH3216, CDH32, CDH3225 & CDH3226

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 - 08	178	21±0.8	13	8	10 ⁺⁰	50 ⁰	12.5

CDH45, CDH45A & CDH45B

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14 ⁺⁰	50 ⁰	16.5
13 - 12	330	21±0.8	13±0.5	12	14 ⁺⁰	50 ⁰	18.4

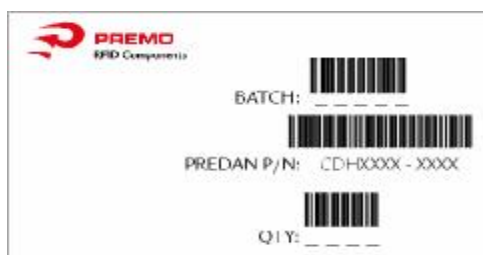
Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
CDH3216	2,000	80	07 - 08	100,000	7.50	42 x 41 x 24
CDH32	2,000	220	07 - 08	100,000	15.0	42 x 41 x 24
CDH3225	2,000	220	07 - 08	100,000	15.0	42 x 41 x 24
CDH3226	2,000	220	07 - 08	100,000	15.0	42 x 41 x 24
CDH45	500	130	07 - 12	20,000	7.20	42 x 41 x 24
CDH45	2,000	540	13 - 12	16,000	6.50	40 x 40 x 24
CDH45A	500	130	07 - 12	20,000	7.20	42 x 41 x 24
CDH45A	2,000	540	13 - 12	16,000	6.50	40 x 40 x 24
CDH45B	500	130	07 - 12	20,000	7.20	42 x 41 x 24
CDH45B	2,000	540	13 - 12	16,000	6.50	40 x 40 x 24

CDH3216 , CDH32 , CDH3225 , CDH3226 , CDH45 , CDH45A & CDH45B SMD Power Inductors Unshielded



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8. Labelling



9. Reliability Test

Test item	Specification	Test condition															
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder	Preheat : 150±25% for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 235±5°C Flux : Rosin Dip time : 4±1 seconds															
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±10%	<table border="0"> <tr> <td>Room temp.</td> <td>→</td> <td>-25±2°C</td> </tr> <tr> <td>15 minutes</td> <td></td> <td>30 minutes</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td>Room temp.</td> <td>→</td> <td>85±2°C</td> </tr> <tr> <td>15 minutes</td> <td></td> <td>30 minutes</td> </tr> </table>	Room temp.	→	-25±2°C	15 minutes		30 minutes				Room temp.	→	85±2°C	15 minutes		30 minutes
Room temp.		→	-25±2°C														
15 minutes			30 minutes														
Room temp.	→	85±2°C															
15 minutes		30 minutes															
Humidity Resistance test	Temperature : 40±2°C Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours																
High temp. Resistance test	Temperature : 105±2°C Applied current : Per specifications Time : 500 hours																

10. Edition Control

Edition	Date	Change description	Made by
1 st	31/08/06	Update Specification	Pablo Pozo

**CDH3216 , CDH32 , CDH3225 ,
CDH3226 , CDH45 , CDH45A &
CDH45B**
SMD Power Inductors Unshielded



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