

## Cautions and Warnings

Please be noted that this spec is only for reference if you have projects designed with the product number listed in. If you are looking for new project design-in, please find BPSD Series specification/datasheet on Chilisin website. Or you may find our sales contact for more information on old part number at your convenience. Appreciated your attention and understanding.

**Note:** Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Chilisin approval. Please contact our sales department before ordering.

## SCD Series



### Features

- RoHS, Halogen Free and REACH Compliance
- Unshielded power inductor
- Various package size and wide inductance range

### Applications

- Graphic cards
- DC/DC converters

### Product Identification

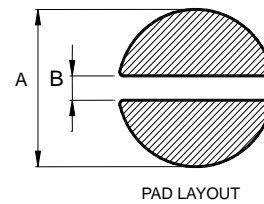


- Packaging: T : Tape and Reel

### Shape and Dimensions



### Recommended Pattern



Dimensions in mm

TYPE	A	B	C	D
SCD 03015	3.3 ± 0.3	3.0 ± 0.3	1.5 ± 0.3	1.0 Typ.
SCD 03021	3.3 ± 0.3	3.0 ± 0.3	2.1 ± 0.3	1.0 Typ.
SCD 0403	4.5 ± 0.3	4.0 ± 0.3	3.2 ± 0.3	1.2
SCD 0502	5.8 ± 0.3	5.2 ± 0.3	2.5 ± 0.3	2.0 Typ.
SCD 0503	5.8 ± 0.3	5.2 ± 0.3	3 ± 0.3	2.0 Typ.
SCD 0504	5.8 ± 0.3	5.2 ± 0.3	4.5 ± 0.4	1.3
SCD 0703	7.8 ± 0.3	7.0 ± 0.3	3.5 ± 0.3	2.1
SCD 0705	7.8 ± 0.3	7.0 ± 0.3	5.0 ± 0.3	2.1
SCD 1004	10.0 ± 0.3	9.0 ± 0.3	4.0 ± 0.5	2.1
SCD 1005	10.0 ± 0.4	9.0 ± 0.4	5.4 ± 0.4	2.1
SCD 1006	10.0 ± 0.4	9.0 ± 0.4	6.5 ± 0.4	2.1

Dimensions in mm

Dim	A	B
SCD 3015	4.5	1.0
SCD 3021	4.5	1.0
SCD 0403	5.5	1.2
SCD 0502	6.8	2.0
SCD 0503	6.8	2.0
SCD 0504	6.8	1.3
SCD 0703	8.8	2.1
SCD 0705	8.8	2.1
SCD 1004	11	2.1
SCD 1005	11	2.1
SCD 1006	11	2.1

# SMD Unshielded Power Inductors - SCD Series

## Standard Specifications

Stamp	Inductance (μH)	RDC (Ω) Max										
		SCD 03015	SCD 03021	SCD 0403	SCD 0502	SCD 0503	SCD 0504	SCD 0703	SCD 0705	SCD 1004	SCD 1005	SCD 1006
R15	0.15			0.0085								
R82	0.82		0.06									
1R0	1.0		0.07	0.033	0.03	0.03						
1R2	1.2			0.035		0.03						
1R4	1.4		0.09	0.038	0.04				0.02			
1R5	1.5		0.11			0.03			0.02			
1R8	1.8		0.11	0.042	0.05	0.03	0.020		0.02			
2R2	2.2	0.10±30%	0.13	0.047	0.06	0.03	0.023	0.03	0.02			
2R7	2.7		0.14	0.052	0.07	0.04			0.02			
3R0	3.0								0.025			
3R3	3.3	0.11±30%	0.17	0.058	0.08	0.05	0.0314		0.03	0.022	0.038	
3R5	3.5						0.030					
3R8	3.8									0.022		
3R9	3.9		0.19	0.076	0.09	0.06			0.03			
4R7	4.7	0.15±30%	0.21	0.094	0.14	0.07	0.0372	0.04	0.04		0.040	
5R6	5.6	0.15±30%	0.22	0.101	0.15	0.08			0.04		0.037	
6R2	6.2			0.110								
6R8	6.8	0.20±30%	0.25	0.117	0.16	0.09	0.057		0.04	0.04	0.037	
7R0	7.0		0.28									
8R2	8.2		0.28	0.132	0.17	0.10			0.05		0.050	
100	10	0.30±30%	0.32	0.182	0.18	0.12	0.10	0.08	0.07	0.05	0.060	
120	12		0.35	0.210	0.20	0.13	0.12	0.09	0.08	0.06	0.070	
150	15	0.58±30%	0.40	0.235	0.22	0.15	0.14	0.10	0.09	0.07	0.080	
180	18		0.48	0.338	0.25	0.22	0.15	0.11	0.10	0.08	0.090	
220	22	0.71±30%	0.58	0.378	0.35	0.22	0.18	0.13	0.11	0.09	0.100	0.08
270	27		0.65	0.522	0.45	0.26	0.20	0.15	0.12	0.10	0.110	
330	33	1.10±30%	0.80	0.540	0.56	0.33	0.23	0.17	0.13	0.12	0.120	
390	39	1.30±30%	0.90	0.587	0.69	0.42	0.32	0.22	0.16	0.15	0.140	
470	47	1.30±30%	1.19	0.844	0.72	0.50	0.37	0.25	0.18	0.17	0.170	
500	50		1.22									
560	56		1.27	0.937	0.84	0.55	0.42	0.28	0.24	0.20	0.190	
680	68	2.20±30%	1.73	1.117	0.90	0.65	0.46	0.33	0.28	0.22	0.220	
750	75		1.90									
820	82		1.99		1.20	0.80	0.60	0.41	0.37	0.30	0.25	
101	100	3.50±30%	2.52	2.000	1.30	0.90	0.70	0.48	0.43	0.34	0.35	
121	120		2.90	1.800	1.38	1.00	0.93	0.54	0.47	0.40	0.40	
151	150		3.36	2.800	1.81	1.30	1.10	0.75	0.64	0.54	0.47	
181	180		5.10	3.200	1.95	1.50	1.38	1.02	0.71	0.62	0.63	
221	220	10.92	5.80	4.000	3.00	2.00	1.57	1.20	0.96	0.72	0.73	
271	270		7.80		3.20	2.50	1.85	1.31	1.11	0.95	0.97	
331	330			5.850	3.82	3.20	2.00	1.50	1.26	1.10	1.15	
391	390				4.68	3.50	2.60		1.77	1.24	1.30	
471	470				5.10	4.20	3.00		1.96	1.53	1.48	1.421
561	560				8.50	4.50	4.19	2.50	2.41	1.90	1.90	
681	680				10.0	6.50	4.44		2.50		2.25	
821	820				12.0	7.50	5.12				2.55	
102	1000				18.0	8.00	10.00		2.80		3.10	2.9
122	1200											3.5
152	1500											3.8
202	2000											6.6
222	2200											8.0
602	6000											14
822	8200											50

**Note: When ordering, please specify tolerance code. Tolerance: K=±10% , M=±20%**

- Operating temperature range - 40°C ~ 105°C(Including self – temperature rise)
- Isat for Inductance drop 10% from its value without current
- Measure Equipment :  
 Test Freq L : SCD03015: (1MHz/1V), SCD1005/1006: 1.0 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V)  
 SCD03021/0403/0502/ 0503: 0.15 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V).  
 SCD0504/0703/0705/1004: 1.0 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V).

L : Agilent/ E4980 or HP4284A (under 1MHz), HP4285A (over 1MHz)

RDC : Chroma 16502

Isat : HP4284+42841A or WK3260B+WK3265B

# SMD Unshielded Power Inductors - SCD Series

## Standard Specifications

Stamp	Inductance (μH)	Isat (A) Max										
		SCD 03015	SCD 03021	SCD 0403	SCD 0502	SCD 0503	SCD 0504	SCD 0703	SCD 0705	SCD 1004	SCD 1005	SCD 1006
R15	0.15			7.5								
R82	0.82		2.200									
1R0	1.0		2.080	3.80	4.50	4.50						
1R2	1.2			3.50		4.20						
1R4	1.4		1.860	3.30	4.00				3.70			
1R5	1.5		1.800			4.10			3.70			
1R8	1.8		1.800	2.91	3.30	3.70	3.50		3.70			
2R2	2.2	0.79	1.390	2.60	2.94	3.50	3.20	3.20	3.70			
2R7	2.7		1.320	2.43	2.50	3.20			3.70			
3R0									3.70			
3R3	3.3	0.73	1.250	2.15	2.35	2.80	2.59		3.70	4.50	2.80	
3R5	3.5						2.40					
3R8	3.8									4.20		
3R9	3.9		1.200	1.98	2.20	2.60			3.70			
4R7	4.7	0.65	1.130	1.70	2.00	2.50	2.30	1.60	3.50		2.60	
5R6	5.6	0.60	0.910	1.60	1.80	2.40			3.30		4.50	
6R2	6.2			1.50								
6R8	6.8	0.77	0.850	1.41	1.70	2.20	1.80		3.10	3.00	4.33	
7R0	7.0		0.820									
8R2	8.2		0.820	1.26	1.40	2.00			2.70		3.50	
100	10	0.45	0.740	1.15	1.20	1.80	1.44	1.44	2.30	2.38	2.60	
120	12		0.640	1.05	1.18	1.75	1.40	1.39	2.00	2.13	2.45	
150	15	0.30	0.600	0.92	1.15	1.70	1.30	1.24	1.80	1.87	2.27	
180	18		0.540	0.84	1.10	1.60	1.23	1.12	1.60	1.73	2.15	
220	22	0.25	0.500	0.76	1.00	1.50	1.11	1.07	1.50	1.60	1.95	3.80
270	27		0.430	0.71	0.86	1.40	0.97	0.94	1.30	1.44	1.76	
330	33	0.20	0.400	0.64	0.76	1.10	0.88	0.85	1.20	1.26	1.50	
390	39	0.17	0.370	0.59	0.75	1.00	0.80	0.74	1.10	1.20	1.37	
470	47	0.17	0.360	0.54	0.73	0.90	0.72	0.68	1.10	1.10	1.28	
500	50		0.330									
560	56		0.310	0.50	0.55	0.85	0.68	0.64	0.94	1.01	1.17	
680	68	0.13	0.300	0.46	0.52	0.80	0.61	0.59	0.85	0.91	1.11	
750	75		0.290									
820	82		0.280		0.50	0.65	0.58	0.54	0.78	0.85	1.00	
101	100	0.10	0.250	0.40	0.40	0.60	0.52	0.51	0.72	0.74	0.97	
121	120		0.200	0.38	0.36	0.58	0.48	0.49	0.66	0.69	0.89	
151	150		0.190	0.30	0.30	0.43	0.40	0.40	0.58	0.61	0.78	
181	180		0.170	0.25	0.26	0.41	0.38	0.36	0.51	0.56	0.72	
221	220	0.07	0.160	0.15	0.25	0.38	0.35	0.31	0.49	0.53	0.66	
271	270		0.140		0.21	0.35	0.29	0.29	0.42	0.45	0.57	
331	330			0.21	0.18	0.28	0.28	0.28	0.40	0.42	0.52	
391	390				0.16	0.26	0.26		0.36	0.38	0.48	
471	470				0.15	0.20	0.12		0.34	0.35	0.42	0.82
561	560				0.14	0.19	0.10	0.14	0.32	0.32	0.33	
681	680				0.13	0.18	0.08		0.29		0.28	
821	820				0.07	0.15	0.05				0.24	
102	1000				0.05	0.13	0.03		0.19		0.20	0.60
122	1200											0.50
152	1500											0.60
202	2000											0.40
222	2200											0.40
602	6000											0.27
822	8200											0.20

### Tolerance Of Inductors

- SCD03015 2.2 ~ 100μH ± 20%
- SCD03021 1.0 ~ 270μH ± 20%
- SCD0403 0.15 ~ 27μH ± 20% 33 ~ 100μH ± 10%
- SCD0502 1.0 ~ 27μH ± 20% 33 ~ 1000μH ± 10%
- SCD0503 1.0 ~ 27μH ± 20% 33 ~ 1000μH ± 10%
- SCD0504 1.0~27μH±20% 33~47μH ±15% 56~1000μH±10%
- SCD0703 10 ~ 27μH ± 20% 33 ~ 330μH ±10%
- SCD0705 1.4 ~ 27μH ± 20% 33 ~ 470μH ±10%
- SCD1004 10 ~ 27μH ± 20% 33 ~ 560μH ±10%
- SCD1005 4.7 ~ 27μH ± 20% 33 ~ 820μH ±10%
- SCD1006 6000μH ~8200μH±20%

Tolerance: K = ±10% , M = ±20%

## SMD Shielded Power Inductors – SCD Series

### Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	Q Ref	Q Frequency (MHz)	SRF (MHz) Typ.	RDC (m $\Omega$ ) Typ.	I <sub>rms</sub> (A) Max	I <sub>sat</sub> (A) Typ.
SCD1307T-1R5□-N	1.5	20	20	7.96 / 0.1V	65	5.0	9.50	20.0
SCD1307T-2R2□-N	2.2	20	22	7.96 / 0.1V	50	6.0	9.00	18.0
SCD1307T-2R7□-N	2.7	20	24	7.96 / 0.1V	40	8.0	8.20	16.0
SCD1307T-3R3□-N	3.3	20	26	7.96 / 0.1V	38	8.7	7.50	15.0
SCD1307T-4R7□-N	4.7	20	25	7.96 / 0.1V	36	10	7.00	13.0
SCD1307T-5R6□-N	5.6	20	24	7.96 / 0.1V	28	15	6.50	11.0
SCD1307T-6R8□-N	6.8	20	24	7.96 / 0.1V	26	17	6.00	10.5
SCD1307T-8R2□-N	8.2	20	24	7.96 / 0.1V	24	19	5.80	9.8
SCD1307T-100□-N	10	20	22	2.52 / 0.1V	22	21	5.60	9.2
SCD1307T-120□-N	12	20	25	2.52 / 0.1V	20	30	4.80	8.0
SCD1307T-150□-N	15	20	28	2.52 / 0.1V	17	34	4.50	7.5
SCD1307T-180□-N	18	20	28	2.52 / 0.1V	16	36	4.20	7.0
SCD1307T-220□-N	22	20	40	2.52 / 0.1V	15	47	3.60	6.5
SCD1307T-270□-N	27	20	35	2.52 / 0.1V	11	60	3.30	5.5
SCD1307T-330□-N	33	20 / 10	35	2.52 / 0.1V	10	65	3.10	5.0
SCD1307T-390□-N	39	20 / 10	28	2.52 / 0.1V	9.0	75	2.90	4.6
SCD1307T-470□-N	47	20 / 10	24	2.52 / 0.1V	7.5	82	2.70	4.2
SCD1307T-560□-N	56	20 / 10	22	2.52 / 0.1V	7.2	95	2.50	3.8
SCD1307T-680□-N	68	20 / 10	24	2.52 / 0.1V	7.0	120	2.30	3.5
SCD1307T-820□-N	82	20 / 10	18	2.52 / 0.1V	6.0	140	2.10	3.2
SCD1307T-101□-N	100	20 / 10	25	0.796 / 0.1V	5.8	180	1.90	3.0
SCD1307T-121□-N	120	20 / 10	20	0.796 / 0.1V	5.5	210	1.80	2.8
SCD1307T-151□-N	150	20 / 10	20	0.796 / 0.1V	4.5	250	1.60	2.6
SCD1307T-181□-N	180	20 / 10	18	0.796 / 0.1V	4.0	280	1.50	2.3
SCD1307T-221□-N	220	20 / 10	15	0.796 / 0.1V	3.8	360	1.30	2.1
SCD1307T-271□-N	270	20 / 10	15	0.796 / 0.1V	3.5	410	1.20	1.8
SCD1307T-331□-N	330	20 / 10	15	0.796 / 0.1V	3.2	520	1.10	1.6
SCD1307T-391□-N	390	20 / 10	12	0.796 / 0.1V	2.5	600	1.00	1.5
SCD1307T-471□-N	470	20 / 10	12	0.796 / 0.1V	2.2	720	0.90	1.4
SCD1307T-561□-N	560	20 / 10	10	0.796 / 0.1V	2.0	880	0.85	1.3
SCD1307T-681□-N	680	20 / 10	10	0.796 / 0.1V	1.6	1000	0.80	1.2
SCD1307T-821□-N	820	20 / 10	10	0.796 / 0.1V	1.5	1300	0.75	1.1
SCD1307T-102□-N	1000	20 / 10	10	0.252 / 0.1V	1.4	1600	0.65	1.0

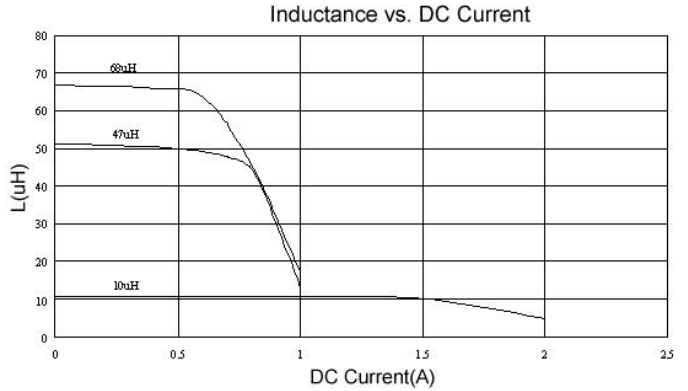
**Note: When ordering, please specify tolerance code. Tolerance: K=±10% , M=±20%**

- Operating temperature range - 40°C ~ 105°C(Including self - temperature rise)
- I<sub>sat</sub> for Inductance drop 10% from its value without current
- I<sub>rms</sub> for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
  - L : Agilent/ E4980 or HP4284A, 100kHz 0.1V
  - Q : Agilent/ E4980 or HP4284A (under 1MHz), HP4285A (over 1MHz)
  - SRF : HP4286A
  - RDC : Chroma 16502
  - I<sub>sat</sub> : HP4284+42841A or WK3260B+WK3265B

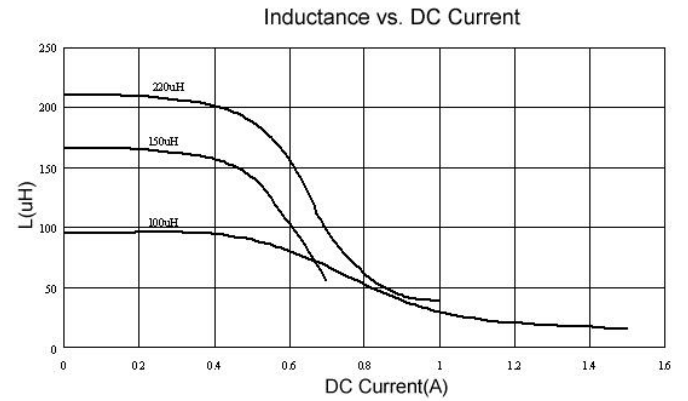
# SMD Unshielded Power Inductors - SCD Series

Test Instruments : HP4294A Impedance / Material Analyzer

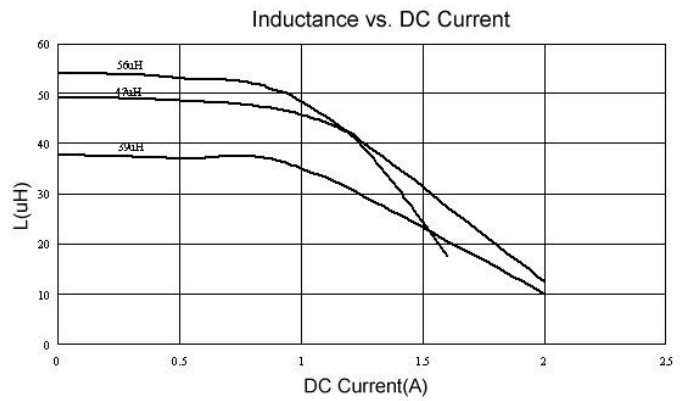
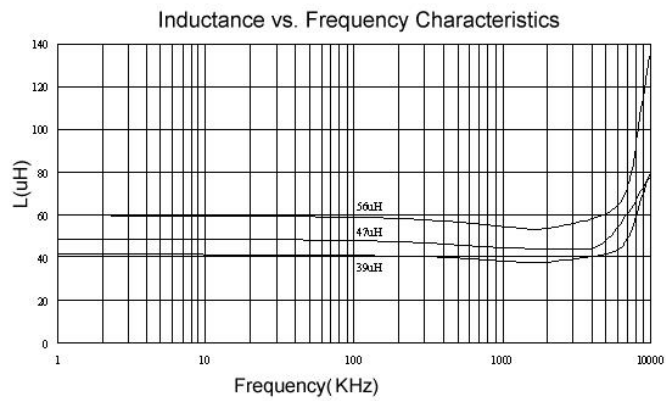
## SCD0403



## SCD0504



## SCD0703

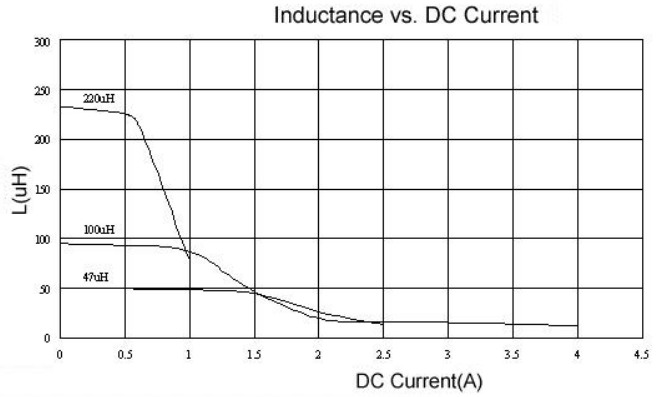


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# SMD Unshielded Power Inductors - SCD Series

Test Instruments : HP4294A Impedance / Material Analyzer

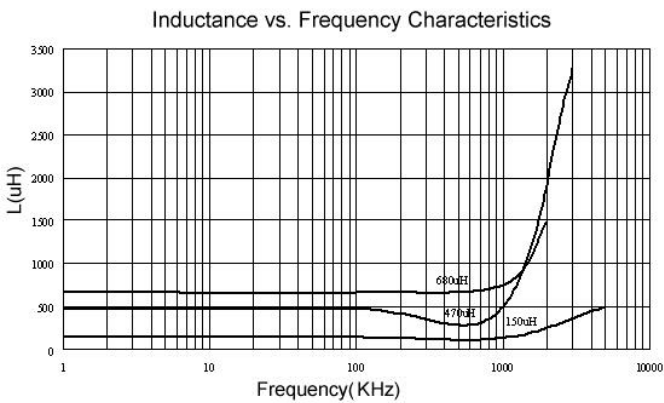
## SCD0705



## SCD1004



## SCD1005



# SMD Unshielded Power Inductors - SCD Series

## Packaging Specifications

Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	C	D	
SCD03015	1.80	1.55	1.75	12	8	4	2	330	100	13	13.4	3000
SCD03021	2.50	1.55	1.75	12	8	4	2	330	100	13	13.4	3000
SCD0403	3.55	1.55	1.75	12	8	4	2	330	100	13	13.4	2000
SCD0502	3.30	1.50	1.75	16	8	4	2	330	100	13	16.0	2000
SCD0503	3.30	1.50	1.75	16	8	4	2	330	100	13	16.0	2000
SCD0504	4.8	1.55	1.75	16	8	4	2	330	100	13	16.0	1500
SCD0703	3.8	1.55	1.75	16	12	4	2	330	100	13	16.0	1000
SCD0705	5.2	1.55	1.75	16	12	4	2	330	100	13	16.0	700
SCD1004	4.5	1.55	1.75	24	12	4	2	330	100	13	24.4	700
SCD1005	5.8	1.55	1.75	24	12	4	2	330	100	13	24.4	700
SCD1006	7.0	1.55	1.75	24	12	4	2	330	100	13	24.4	500



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