



January 2016

Inductors for Power Circuits

Wound Ferrite

CLF Series

CLF7045 Type

CLF7045

REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

REMINDERS

- The storage period is less than 6 months. Be sure to follow the storage conditions (Temperature: 5 to 30°C, Humidity: 10 to 75% RH or less).
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Carefully lay out the coil for the circuit board design of the non-magnetic shield type.
A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- | | |
|---|--|
| (1) Aerospace/Aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

Inductors for Power Circuits

Wound Ferrite

Product compatible with RoHS directive
Compatible with lead-free solders

Overview of CLF7045 type

■ FEATURES

- Magnetic shield type wound inductor for power circuits.
- Wide E-6 Series lineup allows for various usages.

■ APPLICATION

Thin-screen TVs, LCDs, AV equipment, STBs, LED lights, industrial equipment

■ PART NUMBER CONSTRUCTION

CLF	7045	T	-	1R5	N
Series name	LxWxH Dimensions (mm)	Packaging style		Inductance (μH)	Inductance tolerance
7045	7.2×6.9×4.5	T Taping		1R0 1.0	M ±20%
				100 10	N ±30%
				101 100	

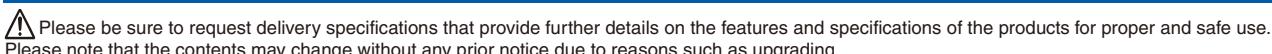
■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range		Package quantity (pieces/reel)	Individual weight (g)
	Operating temperature* (°C)	Storage temperature** (°C)		
CLF7045	-40 to +105	-40 to +105	1000	0.8

* Operating temperature range includes self-temperature rise.

** The Storage temperature range is for after the circuit board is mounted.

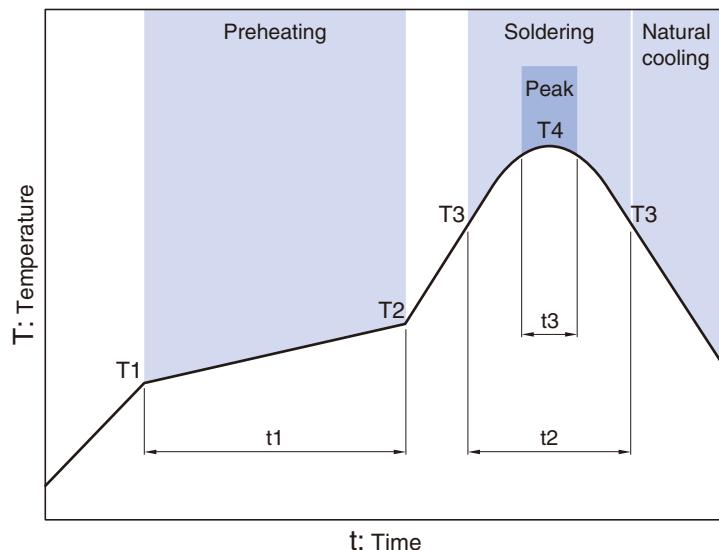
○ RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>

 Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

I N D U C T O R S

CLF7045 type

■ RECOMMENDED REFLOW PROFILE

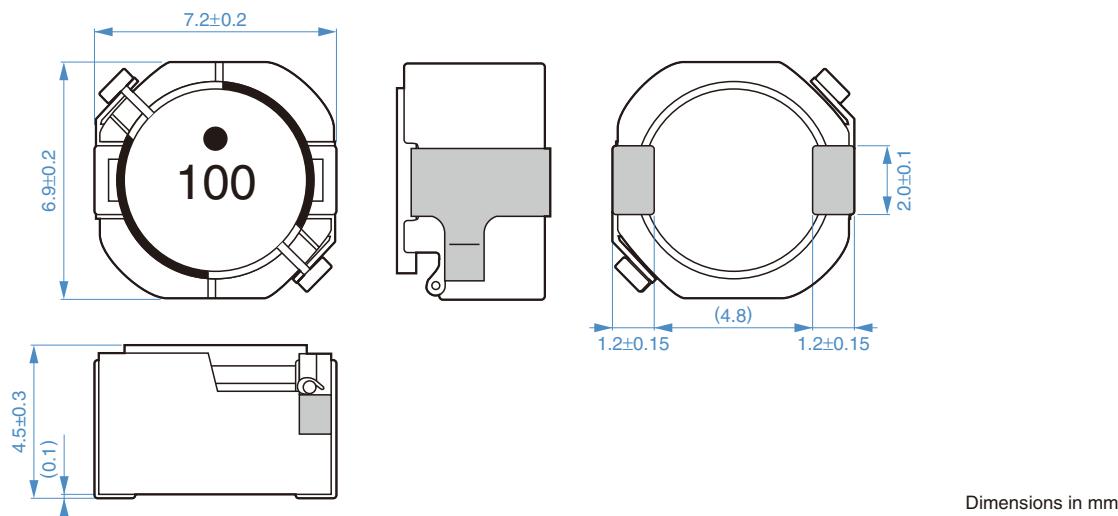


Preheating			Soldering		Peak	
Temp.	Time		Temp.	Time	Temp.	Time
T_1	T_2	t_1	T_3	t_2	T_4	t_3
150°C	180°C	60 to 120s	230°C	30s	250°C	5s

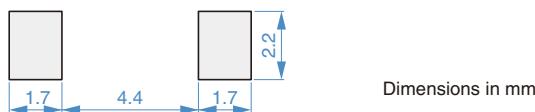
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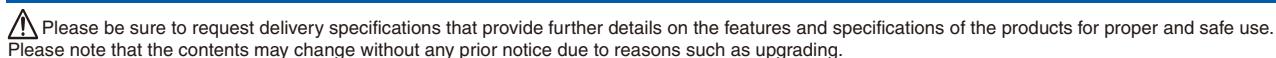
CLF7045 Type

■ SHAPE & DIMENSIONS



■ RECOMMENDED LAND PATTERN



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CLF7045 Type

■ ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

L (μ H)	Tolerance	Measuring frequency (kHz)	DC resistance (Ω)	Rated current*		Part No.
				I _{dc1} (A)	I _{dc2} (A)	
1.0	$\pm 30\%$	100	9.6m $\pm 30\%$	8.9	5.2	CLF7045T-1R0N
1.5	$\pm 30\%$	100	11.0m $\pm 30\%$	7.3	4.9	CLF7045T-1R5N
2.2	$\pm 30\%$	100	14.6m $\pm 30\%$	5.5	4.3	CLF7045T-2R2N
3.3	$\pm 30\%$	100	16.4m $\pm 30\%$	5.0	4.1	CLF7045T-3R3N
4.7	$\pm 30\%$	100	20m $\pm 30\%$	4.1	3.6	CLF7045T-4R7N
6.8	$\pm 30\%$	100	27m $\pm 30\%$	3.3	3.0	CLF7045T-6R8N
10	$\pm 20\%$	100	38m $\pm 20\%$	2.7	2.5	CLF7045T-100M
15	$\pm 20\%$	100	51m $\pm 20\%$	2.3	2.1	CLF7045T-150M
22	$\pm 20\%$	100	69m $\pm 20\%$	1.9	1.8	CLF7045T-220M
33	$\pm 20\%$	100	0.11 $\pm 20\%$	1.55	1.40	CLF7045T-330M
47	$\pm 20\%$	100	0.15 $\pm 20\%$	1.30	1.20	CLF7045T-470M
68	$\pm 20\%$	100	0.21 $\pm 20\%$	1.10	0.95	CLF7045T-680M
100	$\pm 20\%$	100	0.33 $\pm 20\%$	0.90	0.75	CLF7045T-101M
150	$\pm 20\%$	100	0.48 $\pm 20\%$	0.67	0.61	CLF7045T-151M
220	$\pm 20\%$	100	0.66 $\pm 20\%$	0.62	0.52	CLF7045T-221M
330	$\pm 20\%$	100	1.03 $\pm 20\%$	0.49	0.42	CLF7045T-331M
470	$\pm 20\%$	100	1.42 $\pm 20\%$	0.43	0.37	CLF7045T-471M

* Rated current: smaller value of either I_{dc1} or I_{dc2}.

I_{dc1}: When based on the inductance change rate (10% below the initial value)

I_{dc2}: When based on the temperature increase (Temperature increase of 30°C)

○ Measurement equipment

Measurement item	Product No.	Manufacturer
L	4285A	Agilent Technologies
DC resistance	VP-2941A	Panasonic
Rated current I _{dc1}	4285A+42841A+42842C	Agilent Technologies

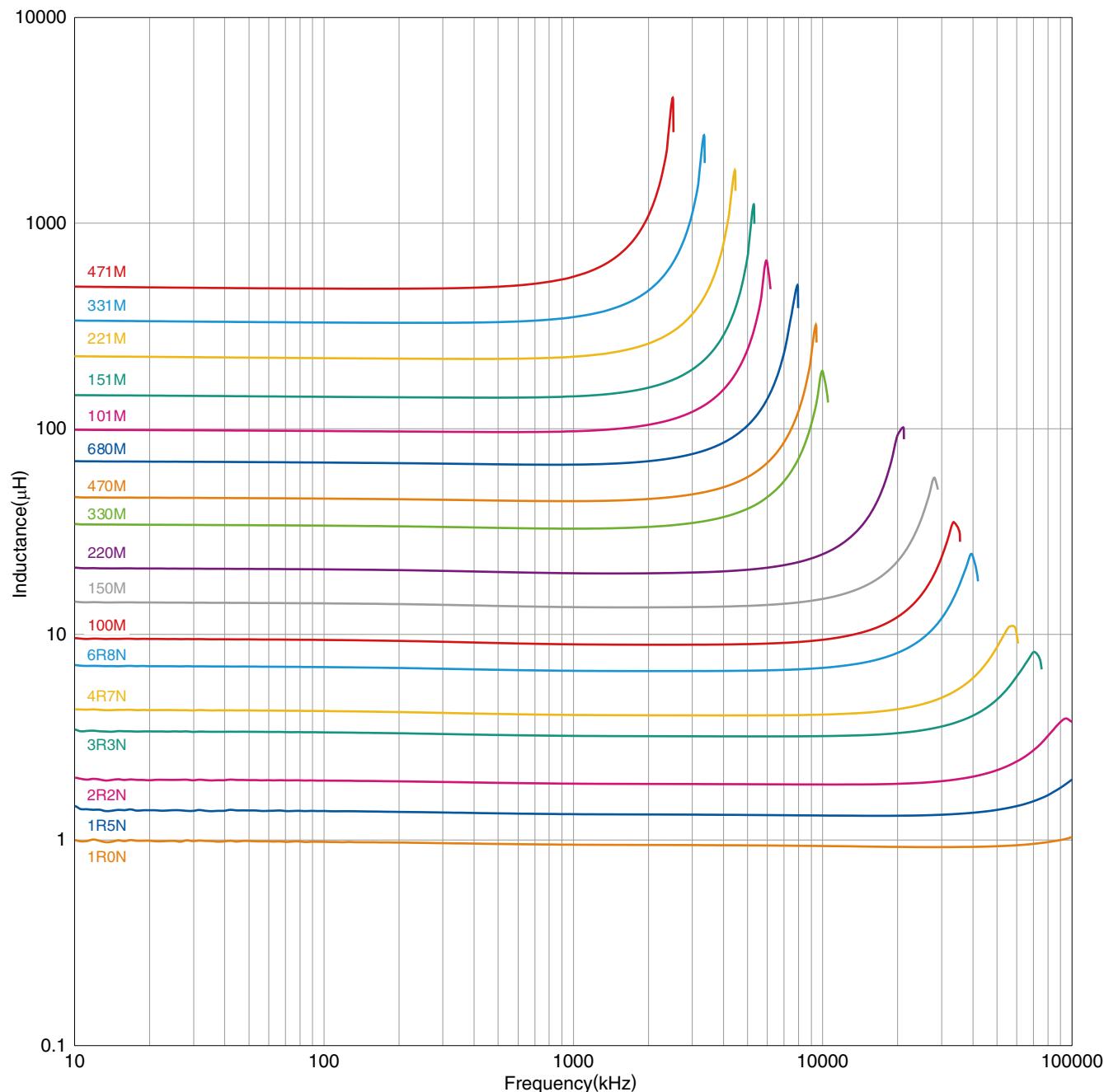
* Equivalent measurement equipment may be used.

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CLF7045 Type

■ ELECTRICAL CHARACTERISTICS

□ L FREQUENCY CHARACTERISTICS GRAPH



○ Measurement equipment

Product No.	Manufacturer
4294A	Agilent Technologies

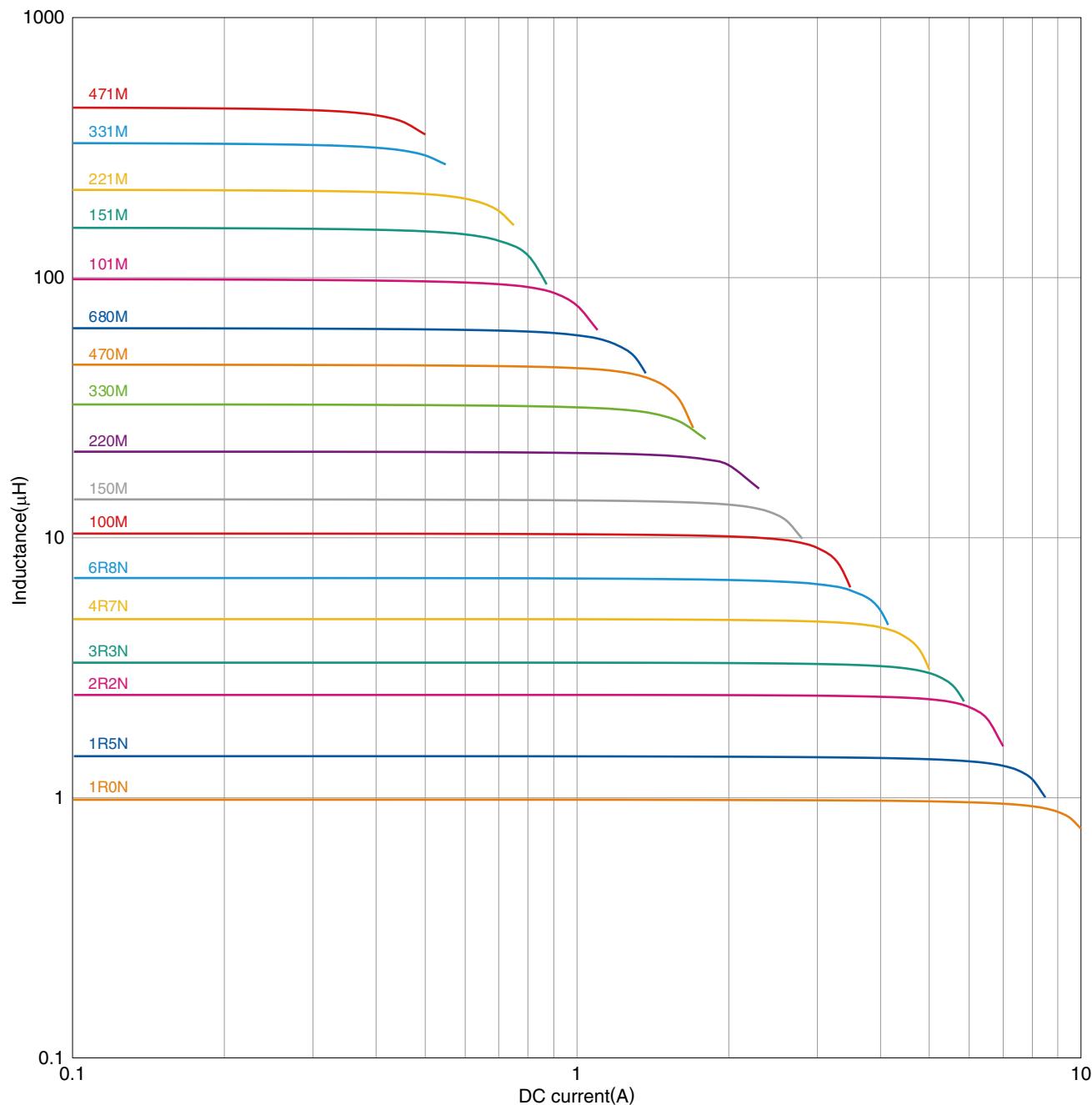
* Equivalent measurement equipment may be used.

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CLF7045 type

■ ELECTRICAL CHARACTERISTICS

□ INDUCTANCE VS. DC BIAS CHARACTERISTICS GRAPH



○ Measurement equipment

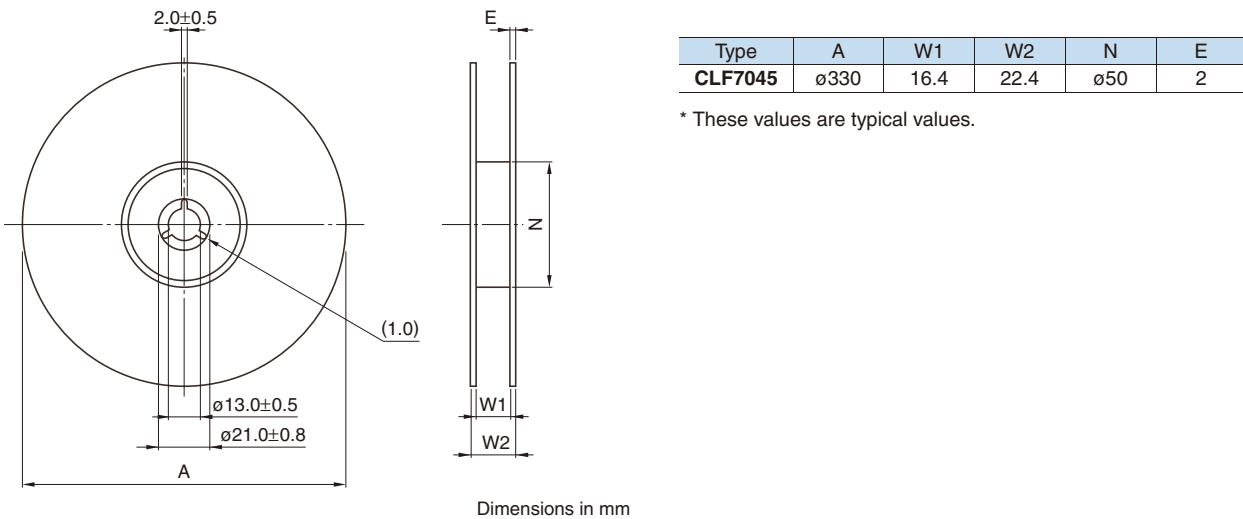
Product No.	Manufacturer
4285A+42841A+42842C	Agilent Technologies

* Equivalent measurement equipment may be used.

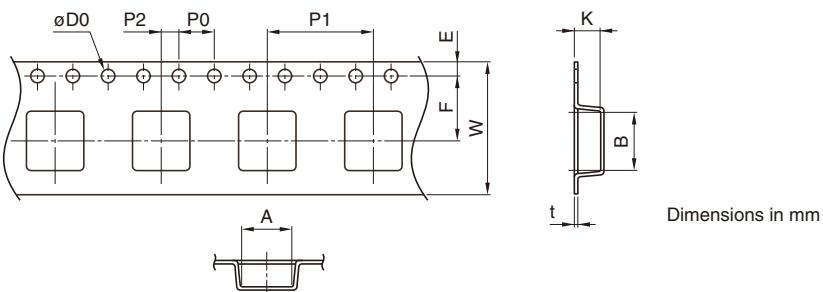
CLF7045 type

■ PACKAGING STYLE

□ REEL DIMENSIONS



□ TAPE DIMENSIONS



Type	A	B	øD0	E	F	P0	P1	P2	W	K	t
CLF7045	7.5	7.5	1.5+0.1/-0	1.75±0.1	7.5±0.1	4.0±0.1	12.0±0.1	2.0±0.1	16.0±0.3	4.9	0.4

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TDK:

[CLF7045T-1R5N](#) [CLF7045T-3R3N](#) [CLF7045T-2R2N](#) [CLF7045T-150M](#) [CLF7045T-6R8N](#) [CLF7045T-100M](#)
[CLF7045T-220M](#) [CLF7045T-4R7N](#) [CLF7045T-6R8N-D](#) [CLF7045T-470M-D](#) [CLF7045T-471M-D](#) [CLF7045T-1R5N-D](#)
[CLF7045T-100M-D](#) [CLF7045T-2R2N-D](#) [CLF7045T-331M-D](#) [CLF7045T-680M-D](#) [CLF7045T-221M-D](#) [CLF7045T-1R0N-D](#) [CLF7045T-101M-D](#) [CLF7045T-3R3N-D](#) [CLF7045T-151M-D](#) [CLF7045T-150M-D](#) [CLF7045T-220M-D](#)
[CLF7045T-4R7N-D](#) [CLF7045T-330M-D](#) [CLF7045T-330M](#) [CLF7045T-1R0N](#) [CLF7045T-150M-H](#) [CLF7045T-680M-H](#)
[CLF7045T-151M-H](#) [CLF7045T-1R0N-H](#) [CLF7045T-3R3N-H](#) [CLF7045T-220M-H](#) [CLF7045T-471M-H](#) [CLF7045T-1R5N-H](#) [CLF7045T-470M-H](#) [CLF7045T-4R7N-H](#) [CLF7045T-221M-H](#) [CLF7045T-330M-H](#) [CLF7045T-6R8N-H](#)
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[CLF7045T-221M](#) [CLF7045T-331M](#) [CLF7045T-470M](#) [CLF7045T-471M](#) [CLF7045T-680M](#) [CLF7045T-1R0N-CA](#)
[CLF7045T-100M-CA](#) [CLF7045T-470M-CA](#) [CLF7045T-3R3N-CA](#) [CLF7045T-680M-CA](#) [CLF7045T-151M-CA](#)
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