■ Power Inductor — ECD H4D28、H6D28 Series

■ Parts Number Explanation

Example:

ECD	H6D28	F	–	R47	M	–	T	W	Z
Product Type	**Size (mm)**	**Application**		**Inductance (uH)**	**Tolerance**		**Package**	**Internal Code**	**Optional**
Wire-wound Power Inductor	H4D28 H6D28			R47：0.47uH R68：0.68uH 4R7：4.7uH 220 ：22.0uH	N ： ±30% M： ±20% K ： ±10%		T：Taping		Z：Default Code

■ Standard Electrical Specifications

Part No.	Inductance	DCR (mΩ)	Isat (A)
	L (μH)	MAX	△L/L0≦35%
ECDH4D28F-4R7M-TWZ	4.7	72	1.32

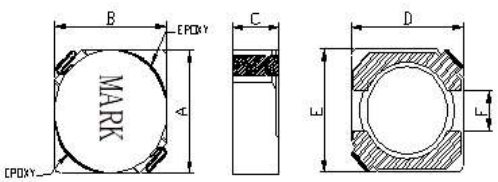
Notes：Test Frequency：100KHZ/0.1V

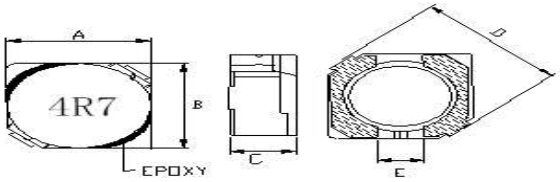
Part No.	Inductance	DCR (mΩ)	DCR (mΩ)	Isat (A)
	L (μH)	MAX	TYP	△L/L0≦35%
ECDH6D28F-1R0N-TWZ	1.0	19	10	3.50
ECDH6D28F-1R5N-TWZ	1.5	20	14	3.40
ECDH6D28F-2R2M-TWZ	2.2	25	16	3.20
ECDH6D28F-3R3M-TWZ	3.3	30	22	3.00
ECDH6D28F-4R7M-TWZ	4.7	39	28	2.50
ECDH6D28F-6R8M-TWZ	6.8	52	37	2.20
ECDH6D28F-100M-TWZ	10	65	52	1.70
ECDH6D28F-120M-TWZ	12	75	62	1.55
ECDH6D28F-150M-TWZ	15	84	70	1.40
ECDH6D28F-220M-TWZ	22	128	96	1.20
ECDH6D28F-330M-TWZ	33	165	146	1.00
ECDH6D28F-470M-TWZ	47	238	200	0.80
ECDH6D28F-680M-TWZ	68	304	280	0.65
ECDH6D28F-820M-TWZ	82	390	360	0.60
ECDH6D28F-101M-TWZ	100	535	465	0.54
ECDH6D28F-151M-TWZ	150	950	780	0.45
ECDH6D28F-221M-TWZ	220	1500	1000	0.37
ECDH6D28F-331M-TWZ	330	1950	1500	0.30
ECDH6D28F-471M-TWZ	470	2730	2100	0.25
ECDH6D28F-681M-TWZ	680	5150	4300	0.20
ECDH6D28F-102M-TWZ	1000	8970	6900	0.14

Notes：Test Frequency：100KHZ/0.25V

■ Dimensions

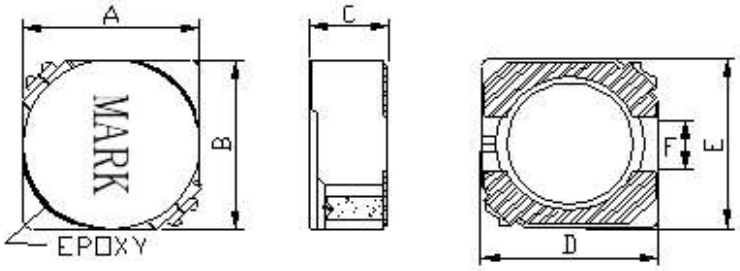
Right angle Base





Note：Using Ink for marking

Curve angle base



Note：Using Ink for marking

Unit: mm

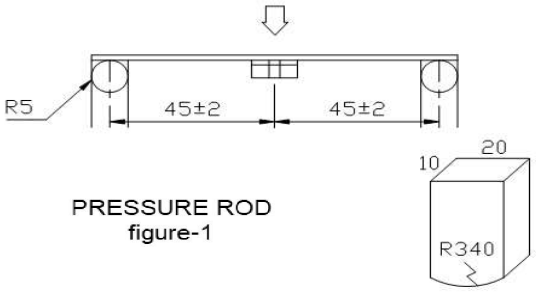
Type	A	B	C	D	E	F
ECDH4D28F	4.7±0.3	4.7±0.3	3.0 max.	6.9 typ.	1.5 typ.	-
ECDH6D28F	6.7±0.3	6.7±0.3	3.0 max.	6.7 typ.	6.7 typ.	2.0 typ.

■ Marking

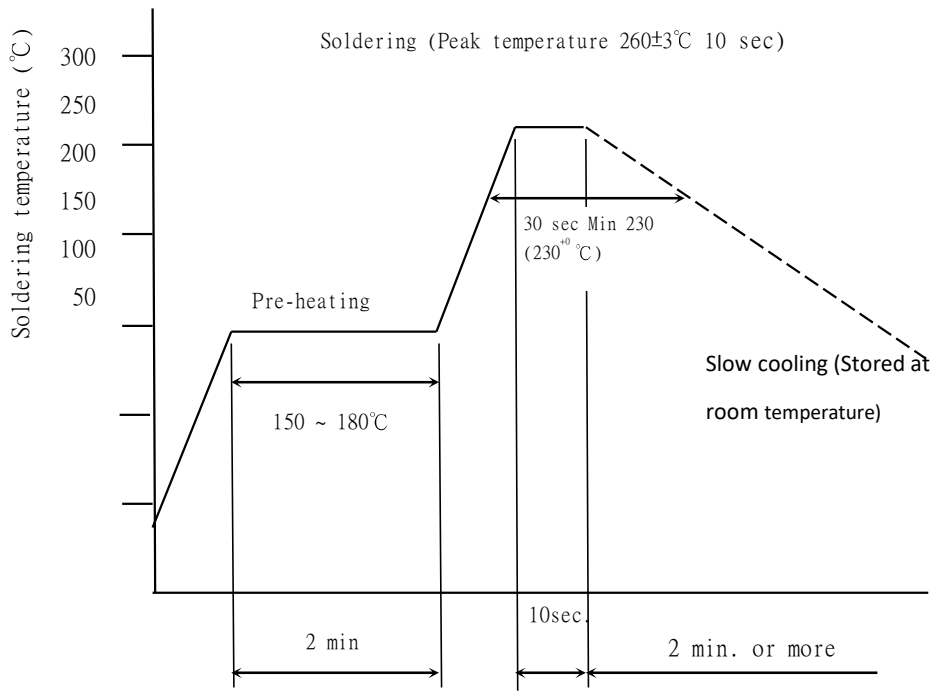
- The inductor is marked with a 3-digit code

Nominal Inductance	
Example	Nominal Value
1R0	1.0 μH
4R7	4.7 μH
100	10 μH
101	100 μH

● Reliability test and requirement

Mechanical		
Item	**Specification and Requirement**	**Test Method**
Substrate bending	△L/Lo≦±5% There shall be no mechanical damage or electrical damage.	The sample shall be soldered onto the printed circuit board in figure 1 and a load applied until the figure in the arrow direction is made approximately 3 mm. (keep time 30 seconds). F(Pressurization)  PRESSURE ROD figure-1
Vibration	△L/Lo≦±5% There shall be no mechanical damage.	The sample shall be soldered onto the printed circuit board and when a vibration having an amplitude of 1.52mm and a frequency of from 10 to 55Hz/1 minute repeated. Should be applied to the 3 directions (X, Y, Z) for 2 hours each. (A total of 6 hours)
Solderability	New solder More than 90%.	Flux (rosin, isopropyl alcohol {JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130～150℃and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2℃. More than 90% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath.

Mechanical

Item	Specification and Requirement	Test Method
Resistance to soldering heat. (reflow soldering)	There shall be no damage or problems.	Temperature profile of reflow soldering  The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.

ELECTRICAL

Item	Specification and Requirement	Test Method
Insulation resistance	There shall be no other damage or problems.	DC 100V voltage shall be applied across this sample of top surface and the terminal. The insulation resistance shall be more than $1 \times 10^8\ \Omega$.
Dielectric withstand voltage	There shall be no other damage or problems.	AC 100V voltage shall be applied for 1minute across set the top surface and the terminal of this sample.
Temperature characteristics	△L /L20℃ ≦±10% 0～2000 ppm/℃	The test shall be performed after the sample has stabilized in an ambient temperature of - 40 to + 125℃, and the value calculated based on the value applicable in a normal temperature and normal humidity shall be △L/L 20℃ ≦± 10%.

ENVIROMENT CHARACTERISTICS

Item	Specification and Requirement	Test Method
High temperature storage.	△L/Lo≦±5% There shall be no mechanical damage.	The sample shall be left for 500 hours in an atmosphere with a temperature of 125±2℃ and a normal humidity. Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.
Low temperature storage.	△L/Lo≦±5% There shall be no mechanical damage.	The sample shall be left for 500 hours in an atmosphere with a temperature of -40±3℃. Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.
Change of temperature.	△L/Lo≦±5% There shall be no other damage of problems.	The sample shall be subject to 5 continuous cycles, such as shown in the table 2 below and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made. Table 2
Moisture storage.	△L/Lo≦±5% There shall be no mechanical damage.	The sample shall be left for 500 hours in a temperature of 40±2℃ and a humidity(RH) of 90～95%. Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 1 hour.

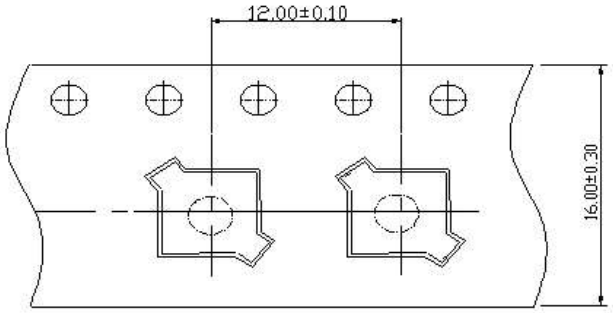
Step.	Temperature	Duration
1	−40 ±3℃ (Thermostat No.1)	10 min.
2	Standard atmospheric	5 sec. or less No.1→No.2
3	125 ±2℃ (Thermostat No.2)	30 min.
4	Standard atmospheric	5 sec. or less No.2→No.1

Test conditions：
The sample shall be reflow soldered onto the printed circuit board in every test.

■ Packaging Information

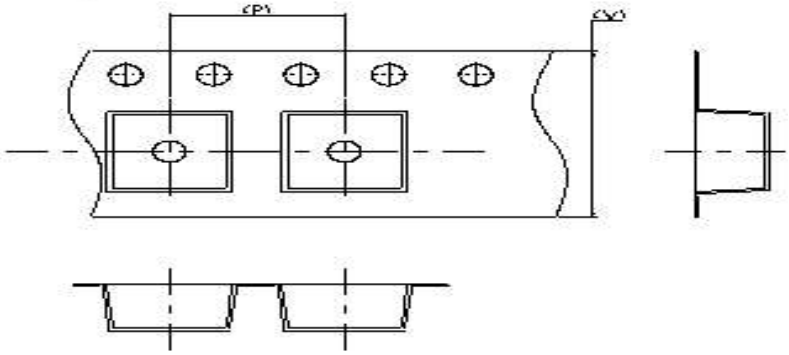
(1) CARRIER TAPE DIMENSIONS（Unit：mm）

ECDH6D28 Series



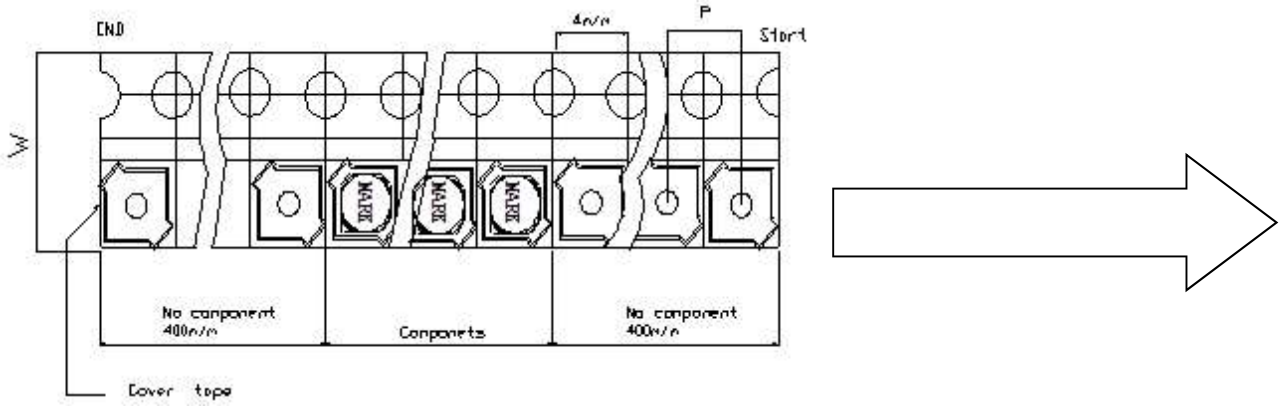
W	16
P	12

ECDH4D28 Series



V	12
P	8

(2) TAPING DIMENSIONS（Unit：mm）

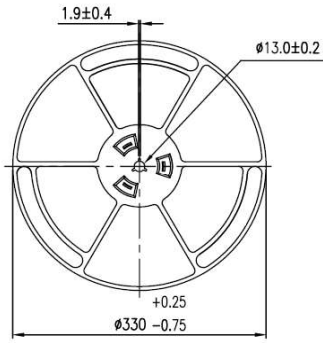


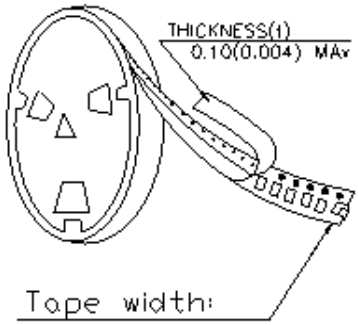
Note:

After the product is ready, the outermost layer of the reel is 400mmMIN and the innermost layer is 400mmMIN.

(3) REEL DIMENSIONS (Unit : mm)

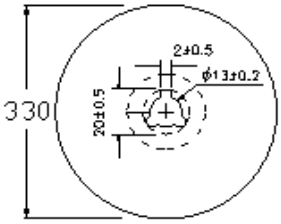
ECDH6D28 Series

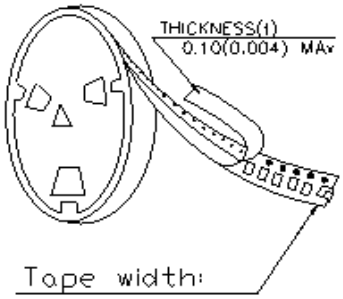




Tape Width：16mm

ECDH4D28 Series





Tape Width：12mm

(4) Quantity (PCS)

Type	pcs / Reel
ECDH4D28F	2000
ECDH6D28F	1000