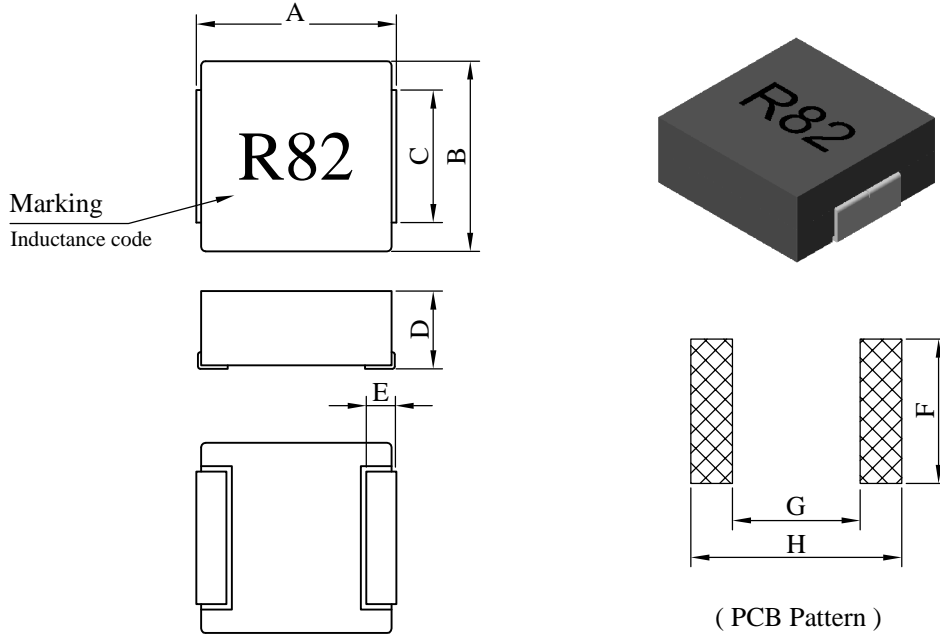


SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	HE1770□□□□S□-□□□		
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I . Configuration and dimensions :



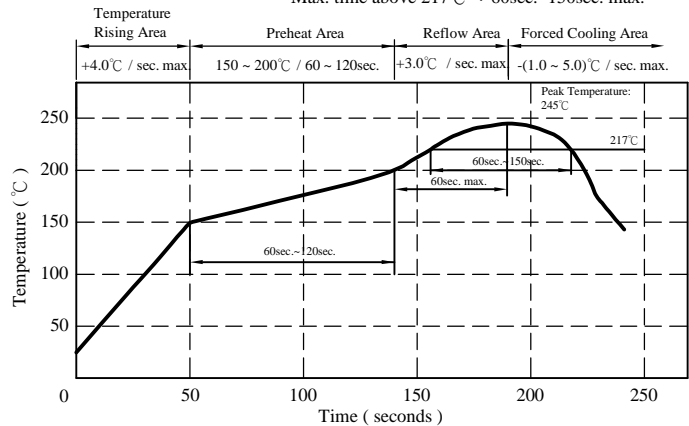
Unit : mm

A	B	C	D	E	F	G	H
18.00 ±0.30	17.15 max.	11.94 ±0.30	7.00 max.	2.70 ±0.40	13.00 ref.	11.50 ref.	19.00 ref.

II . Description :

- a . Powder molding construction
- b . Magnetically shielded
- c . Enamelled copper wire : N class
- d . Product weight : 11.50g (ref.)
- e . Moisture sensitivity Level 2a
- f . Products comply with RoHS' requirements
- g . Halogen free

Peak temp. : 245°C max.
Max. peak temp. -5°C : 30sec. max.
Max. time above 217°C : 60sec.~150sec. max.



III . General specification :

- a . Storage temp. : -55°C ~ +125°C
- b . Operating temp. : -55°C ~ +125°C
(Temp. rise included)
- c . Resistance to solder heat : 260°C . 10 sec.

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IV . Electrical characteristics :

DWG No.	Inductance (uH)	RDC (mΩ)		Isat (A) typ.	Irms (A) typ.
		typ.	max.		
HE1770R82MS□-□□□	0.82 ±20%	0.98	1.08	45.00	56.50
HE17701R0MS□-□□□	1.00 ±20%	1.21	1.27	32.00	55.50
HE17701R5MS□-□□□	1.50 ±20%	1.54	1.62	31.00	48.00
HE17702R2MS□-□□□	2.20 ±20%	1.85	1.98	28.00	43.50
HE17703R3MS□-□□□	3.30 ±20%	2.79	2.93	27.00	35.00
HE17704R7MS□-□□□	4.70 ±20%	3.98	4.18	21.00	30.00
HE17705R6MS□-□□□	5.60 ±20%	4.23	4.44	21.00	28.00
HE17706R8MS□-□□□	6.80 ±20%	5.86	6.15	18.50	22.50
HE17708R2MS□-□□□	8.20 ±20%	7.71	8.10	18.00	21.00
HE1770100MS□-□□□	10.00 ±20%	8.89	9.33	17.00	19.00
HE1770150MS□-□□□	15.00 ±20%	13.70	14.40	12.00	14.00
HE1770220MS□-□□□	22.00 ±20%	20.00	21.00	9.50	12.00
HE1770330MS□-□□□	33.00 ±20%	35.10	37.00	9.00	10.70
HE1770470MS□-□□□	47.00 ±20%	40.70	42.70	8.60	8.70
HE1770560MS□-□□□	56.00 ±20%	55.00	57.80	5.00	7.20
HE1770680MS□-□□□	68.00 ±20%	72.10	75.70	4.50	6.10
HE1770820MS□-□□□	82.00 ±20%	87.30	91.70	4.50	5.50
HE1770101MS□-□□□	100.00 ±20%	105.00	110.00	4.00	5.00

- 1). Electrical specifications at 25°C
- 2). Inductance Test Condition. :500kHz / 0.25V
- 3). Isat base on ΔL / L0A=30% typ.(Approximately transient current)
- 4). Irms base on Temp. rise 40°C typ.
- 5). Rated Voltage : 50V max.

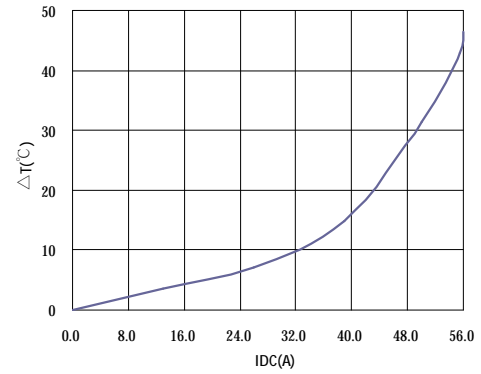
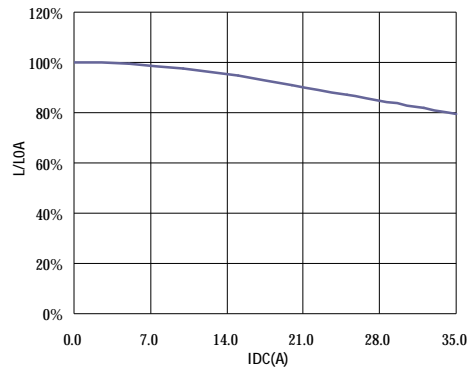
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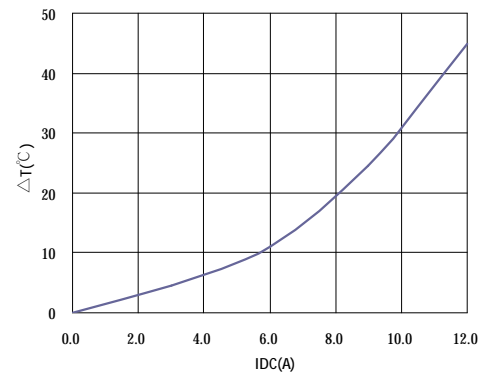
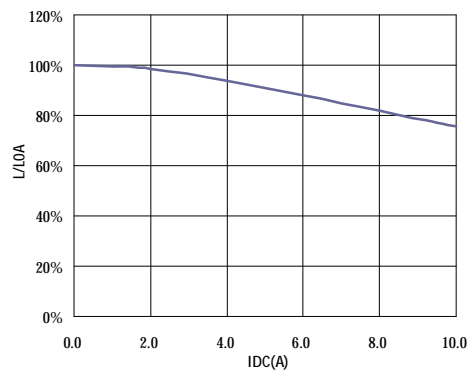
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	HE1770□□□□S□-□□□		
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V . Curve :

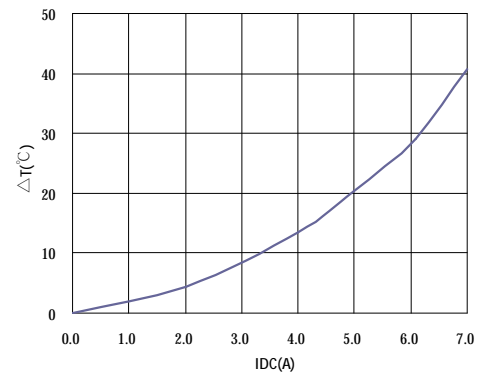
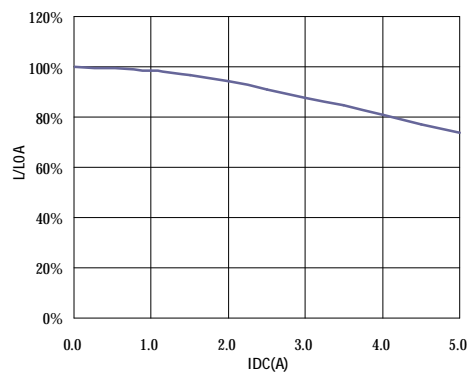
HE17701R0MS□



HE1770220MS□



HE1770680MS□



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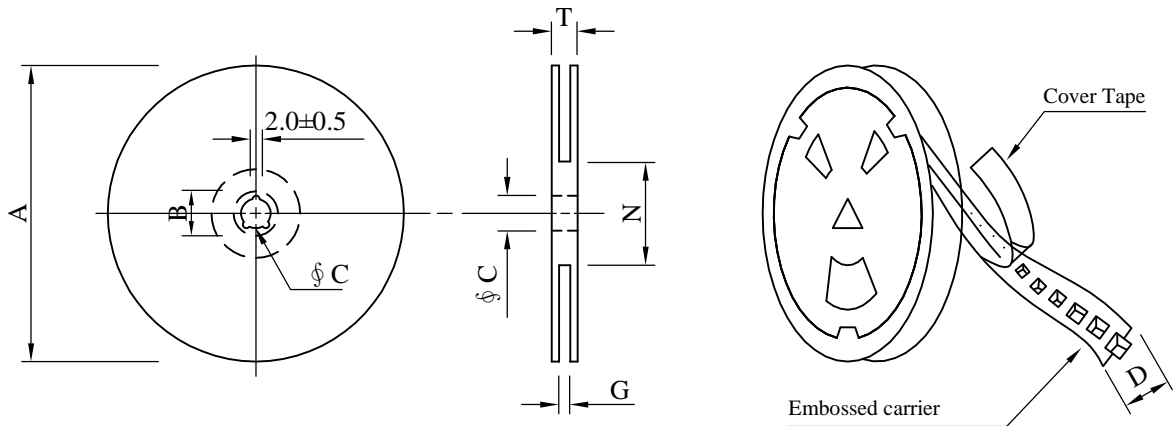
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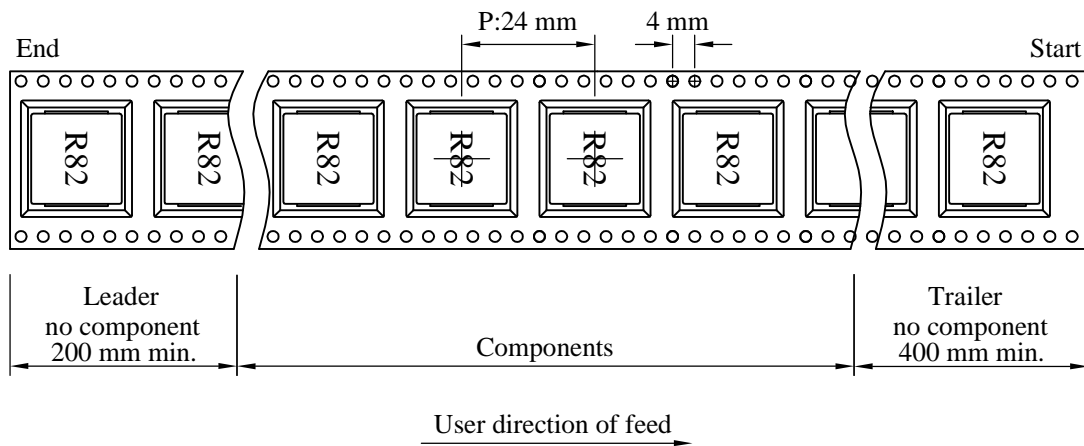
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VI . Packaging information :

(1) Configuration



※Carrier tape width : D



(2) Dimensions

Unit:mm

Style	A	B	C	D	G	N	T
13 - 32	330	21±0.8	13±0.5	32	34 ⁺⁰	100 ⁻⁰	38.4

(3) Q'TY & G.W. Per package

Code	Inner : Reel			Outer : Carton		
	QTY (pcs)	G.W. (g)	Style	QTY (pcs)	G.W. (kg)	Size (cm)
B	150	2,200	13 - 32	600	10.50	38 x 37 x 22

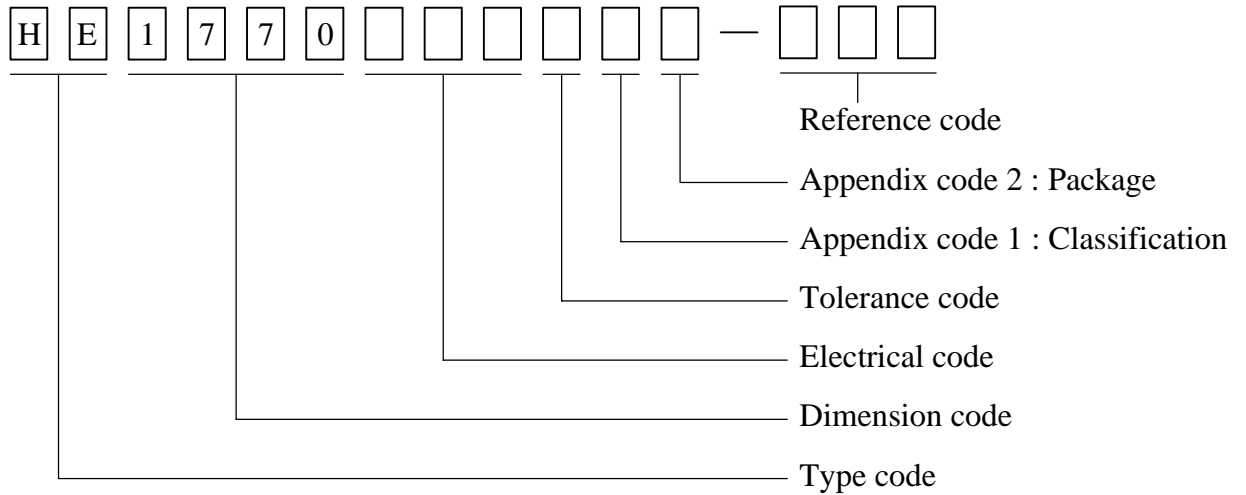
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VII . Drawing number expression :



Appendix code 1 : Product Classification

Appendix code 2 : Package Information

Code	Inner package	Cover tape	Carrier tape	Bag	Package Q'TY	Remark
B	T/R (Reel package)	Adhesive	Non-antistatic	Non-antistatic	150 pcs	

SPECIFICATION FOR APPROVAL

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VIII . Reliability test :

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125±2℃ 2.Time:96±2 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -40℃ ~ +125℃ 2.Number of cycle:100 cycle 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature : 85±2 ℃ 2.Humidity: 85% RH. 3.Time:96±2 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
4.Operational Life	JESD22-A 108	1.Temperature: 125℃ (Temp. rise included) 2.Time:96±2 hours. 3.Rated current	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
5.External Visual	JESD22-B 101 & MIL-STD-883 Method 2009	Inspect product constructions, marking and workmanship.	1.No pollution on the surface of products. 2.Clear marking. 3.No crack.
6.Physical Dimensions	JESD22-B 100	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
7.Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles.	1.No body change in appearance. 2.No marking blurred. 3.Inductance shall not change more than ±20%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitud : 10-2000-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210 & J-STD020D.1	1.Highest temperature : 245±5℃. 2.Time (temp. ≥ 217℃) : 60~150 Second. 3.IR reflow times : 3 times.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
10.Saturation Current	JIS C 6436 & User SPEC.	1.Applied rated current for 5 second. 2.Saturation current	Inductance shall not drop more than 30% typ.
11.Over load	JIS C 6436 & User SPEC.	1.Applied one and half rated current for a period of 5 minutes. 2.Rated current	No electrical or mechanical damage
12.Temperature Rise Current	JIS C 6436 & User SPEC.	1.Applied rated current for 10 minutes. 2.Temperature measure by digital surface thermometer. 3.Irms current	Surface temperature rise is less than 40℃ typ.
13.Solderability Test	J-STD-002 & JESD22-B 102	1.Baking in pre-testing : 150±5℃ / 16Hours±30 min. 2.Peak temperature : 240±5℃ 3.Time (temp. ≥ 217℃) : 60~150 second. 4.IR reflow times : 1 times.	More than 95% soldering coverage min on terminations.
14.Electrical Characteriazation	MIL-STD-202 Method 304 & User SPEC.	1.Operating temperature : -55℃~125℃ 2.Room temperature : 25℃.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
15.Drop	CNS-C6354 & GB/T 2423.8	1.Products shall be mounted on SPEC. PCB and dropped down from a height of 1m 2.Drop total time : 6 time (Every side of sample drop 2 time)	1. Adhesion on PCB shall be enough. 2. Product appearance shall not break. 3. No electrical damage.
16.Terminal Strength Test	IEC 60068-2-21	1.Apply push force to samples mounted on PCB. 2.Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.

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