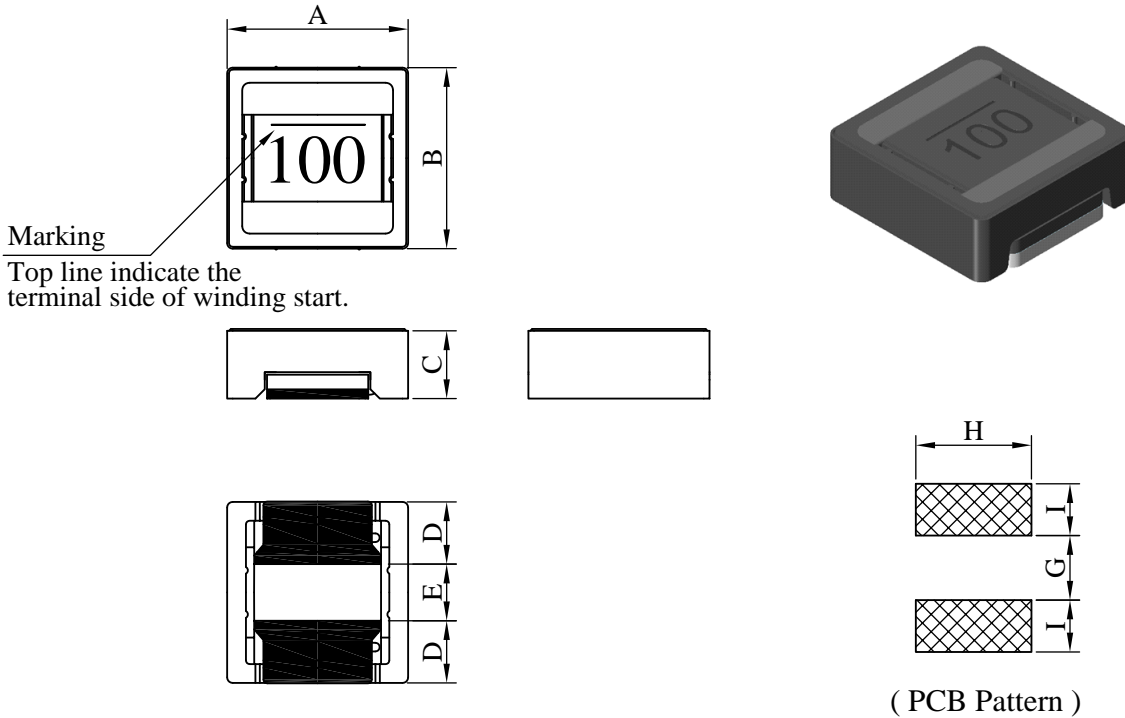


# SPECIFICATION FOR APPROVAL

REF. :

<b>PROD. NAME</b>	Shielded SMD Power Inductor	<b>ABC'S DWG NO.</b>	QS4818□□□□L□-□□□		
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**I . Configuration and dimensions :**



Unit : m/m

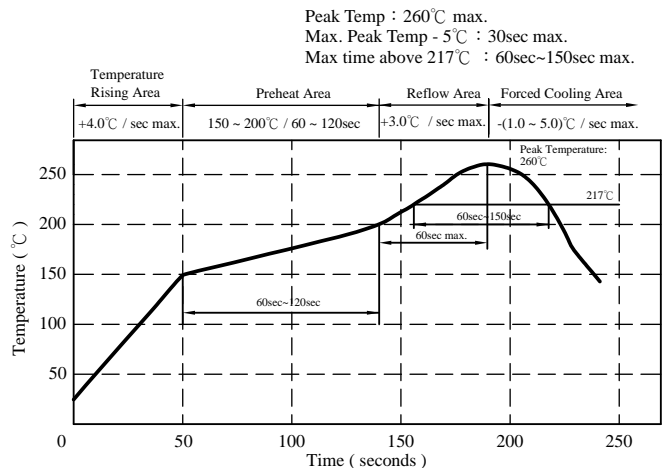
A	B	C	D	E	G	H	I
4.80 ±0.2	4.80 ±0.2	1.80 ±0.2	1.60 ±0.2	1.60 ±0.2	1.17 ref.	4.20 ref.	1.98 ref.

**II . Description :**

- a . Ferrite drum core construction.
- b . Magnetically shielded.
- c . Enamelled copper wire : H class
- d . Product weight : 0.19 g ( ref. )
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free available

**III . General specification :**

- a . Storage temp. : -40°C ----+125°C
- b . Operating temp. : -40°C ----+125°C  
(Temp. rise included)
- c . Resistance to solder heat : 260°C.10 secs.



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## IV . Electrical characteristics :

DWG No.	Inductance ( $\mu$ H)	SRF ( MHz ) typ.	RDC ( m $\Omega$ )		Isat ( A ) typ.	Irms ( A ) typ.
			typ.	max.		
QS48181R0YL□-□□□	1.0 $\pm$ 30%	140	19.2	25.0	3.60	5.10
QS48181R5YL□-□□□	1.5 $\pm$ 30%	105	25.2	35.0	3.00	4.70
QS48182R2YL□-□□□	2.2 $\pm$ 30%	90	33.7	45.0	2.43	3.50
QS48183R3YL□-□□□	3.3 $\pm$ 30%	70	42.8	55.0	2.10	3.10
QS48183R9YL□-□□□	3.9 $\pm$ 30%	65	54.5	70.0	1.90	2.70
QS48184R7YL□-□□□	4.7 $\pm$ 30%	55	59.4	80.0	1.50	2.60
QS48185R6YL□-□□□	5.6 $\pm$ 30%	50	74.3	90.0	1.35	2.30
QS48186R8YL□-□□□	6.8 $\pm$ 30%	45	82.1	100.0	1.25	2.20
QS48188R2YL□-□□□	8.2 $\pm$ 30%	43	97.7	130.0	1.15	1.90
QS4818100ML□-□□□	10.0 $\pm$ 20%	40	109.8	140.0	1.05	1.80
QS4818120ML□-□□□	12.0 $\pm$ 20%	37	132.2	170.0	0.95	1.60
QS4818150ML□-□□□	15.0 $\pm$ 20%	30	176.7	220.0	0.87	1.50
QS4818180ML□-□□□	18.0 $\pm$ 20%	28	214.8	280.0	0.79	1.40
QS4818220ML□-□□□	22.0 $\pm$ 20%	25	280.3	360.0	0.72	1.25
QS4818270ML□-□□□	27.0 $\pm$ 20%	22	317.6	400.0	0.63	1.15
QS4818330ML□-□□□	33.0 $\pm$ 20%	20	399.1	500.0	0.56	0.90
QS4818390ML□-□□□	39.0 $\pm$ 20%	17	439.3	540.0	0.53	0.80
QS4818470ML□-□□□	47.0 $\pm$ 20%	16	504.1	630.0	0.47	0.75
QS4818560ML□-□□□	56.0 $\pm$ 20%	14	643.1	800.0	0.45	0.67
QS4818680ML□-□□□	68.0 $\pm$ 20%	13	778.4	970.0	0.40	0.62
QS4818820ML□-□□□	82.0 $\pm$ 20%	12	960.5	1200.0	0.35	0.57
QS4818101ML□-□□□	100.0 $\pm$ 20%	10	1158.4	1400.0	0.33	0.50

- 1). □ : Packaging information : □ Code
- 2). "- □□□ " : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance Test Freq : 100KHz /0.1V
- 5). Isat base on  $\Delta L / L0 = 35\%$  typ. (Approximately transient current )
- 6). Irms base on Temp. rise 40°C typ.

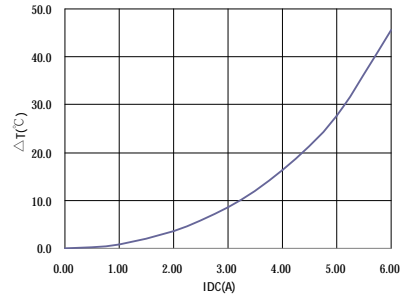
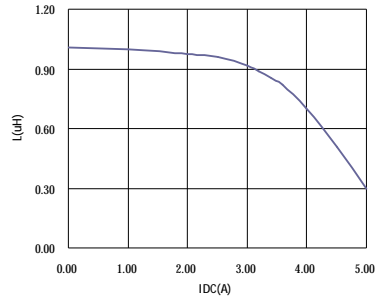
# SPECIFICATION FOR APPROVAL

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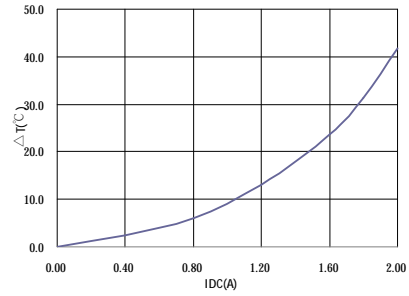
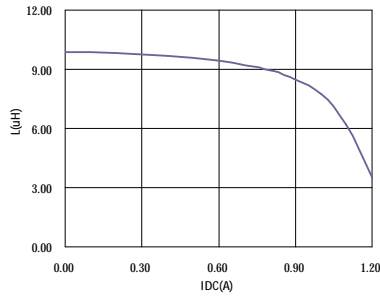
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V . Curve :

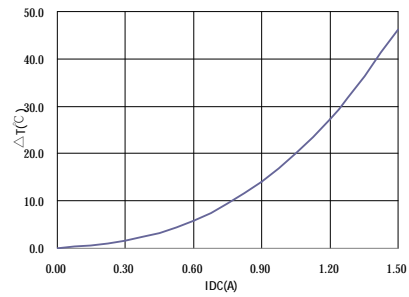
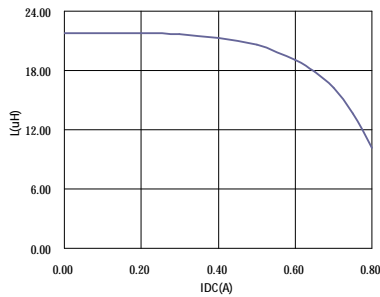
QS48181R0YL□-□□□



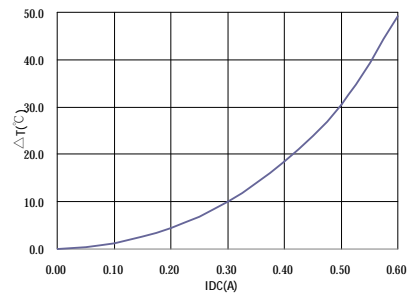
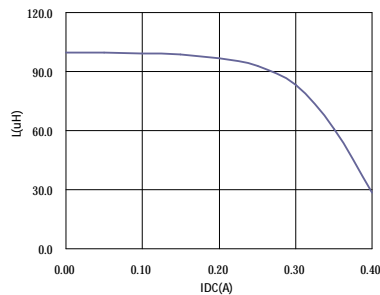
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QS4818220ML□-□□□



QS4818101ML□-□□□



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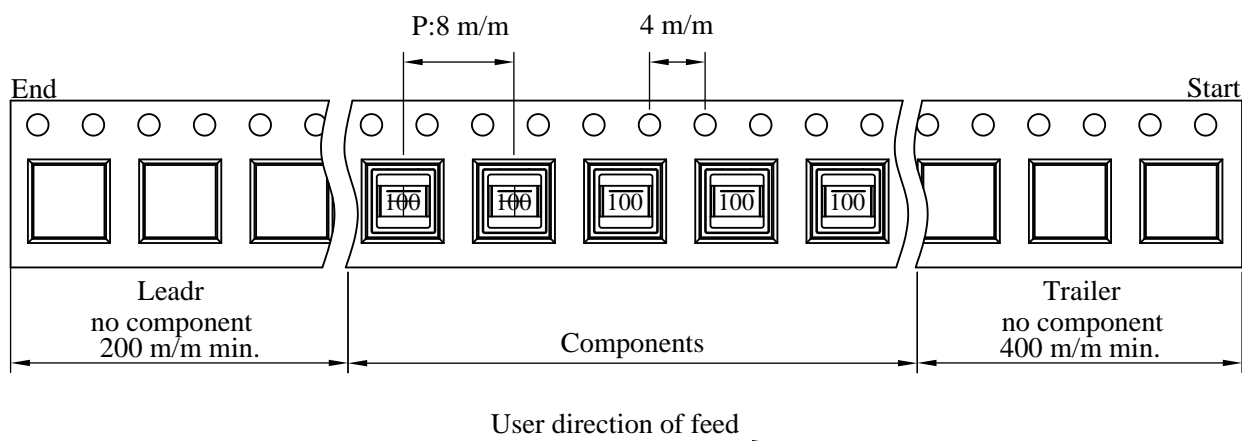
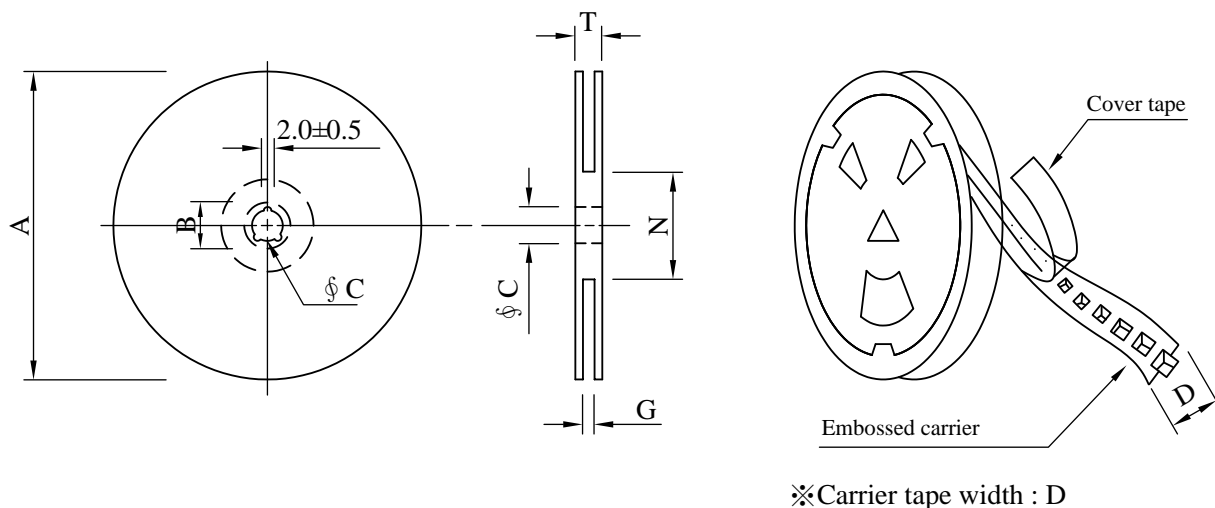
# SPECIFICATION FOR APPROVAL

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## VI . Packaging information :

### ( 1 ) Configuration



### ( 2 ) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14+0	50 <sup>-0</sup>	16.5

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

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
B	800	260	07 - 12	32,000	11.7	42 x 41 x 24
C	1,000	300	07 - 12	40,000	13.2	42 x 41 x 24

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# SPECIFICATION FOR APPROVAL

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## VII . 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.Apply 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 : 260±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.Apply saturation current.	Inductance shall not drop more than 35% typ.
11.Over load	JIS C 6436 & User SPEC.	1.Applied one and half rated current for a period of 5 minutes. 2.Apply 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.Apply 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 : -40℃~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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