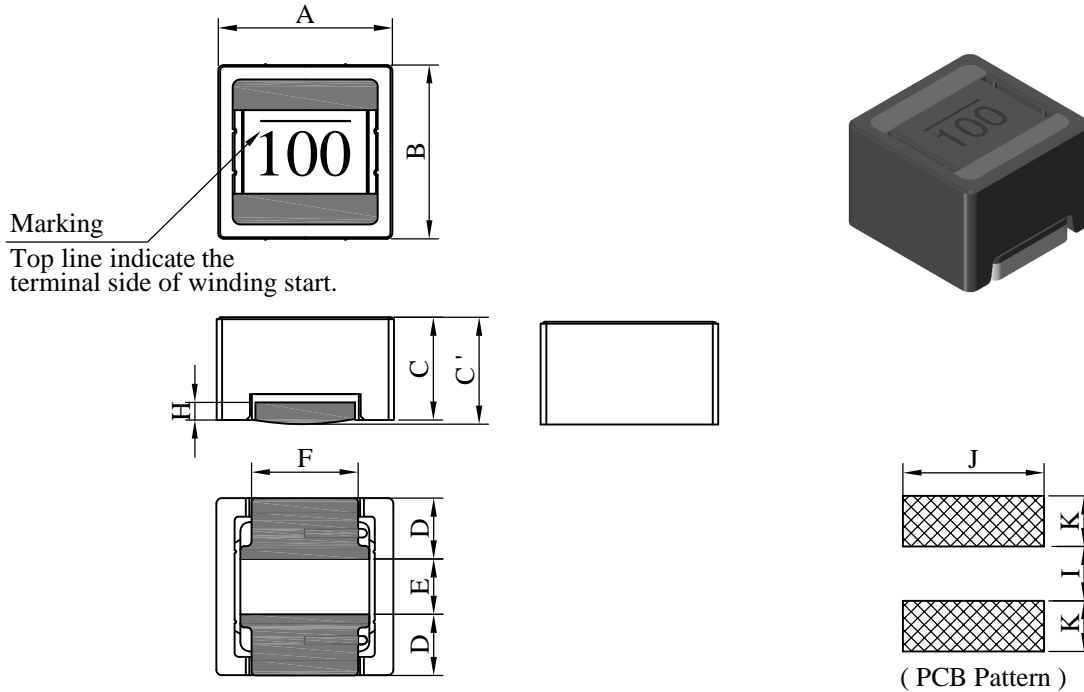


# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	QS3828□□□□L□-□□□		
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## I . Configuration and dimensions :



Unit : mm

A	B	C	C'	D	E	F	H	I	J	K
3.80 ±0.20	3.80 ±0.20	2.80 ±0.20	3.20 max.	1.30 ±0.20	1.20 ±0.20	1.90 ±0.20	0.50 ±0.20	0.80 ref.	2.90 ref.	1.85 ref.

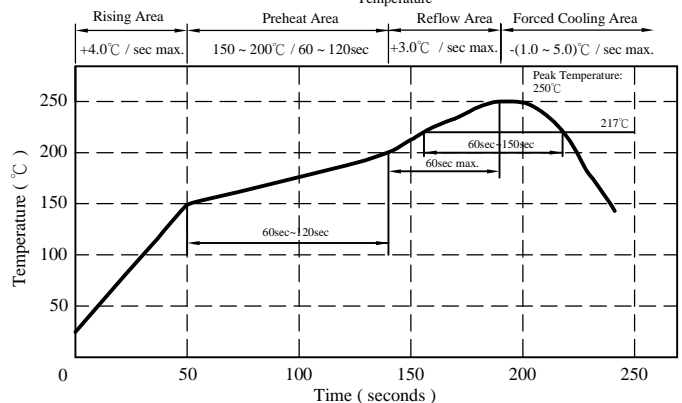
## II . Description :

- a . Ferrite drum core construction
- b . Magnetically shielded
- c . Enamelled copper wire : H class
- d . Product weight : 0.18g ( ref. )
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free

## 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.

Peak Temp : 250°C max.  
Max. Peak Temp -5°C : 30sec max.  
Max time above 217°C : 60sec~150sec max.  
Temperature



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IV . Electrical characteristics :

DWG. No.	Inductance ( $\mu$ H)	SRF (MHz) typ.	RDC (m $\Omega$ )		Isat ( A ) typ.	Irms1 ( A ) typ.	Irms2 ( A ) typ.
			typ.	max.			
QS38283R3YL□-□□□	3.3 $\pm$ 30%	64.0	37.0	48.0	1.700	2.000	2.500
QS38284R7YL□-□□□	4.7 $\pm$ 30%	55.0	51.0	66.0	1.480	1.800	2.400
QS38286R8YL□-□□□	6.8 $\pm$ 30%	36.0	86.0	110.0	1.160	1.140	1.600
QS3828100ML□-□□□	10.0 $\pm$ 20%	27.0	120.0	154.0	0.950	1.040	1.500
QS3828150ML□-□□□	15.0 $\pm$ 20%	23.0	160.0	200.0	0.800	0.950	1.300
QS3828220ML□-□□□	22.0 $\pm$ 20%	20.0	265.0	330.0	0.680	0.760	1.000
QS3828330ML□-□□□	33.0 $\pm$ 20%	19.0	392.0	490.0	0.540	0.500	0.700
QS3828470ML□-□□□	47.0 $\pm$ 20%	12.0	475.0	595.0	0.450	0.450	0.650
QS3828680ML□-□□□	68.0 $\pm$ 20%	9.0	633.0	790.0	0.380	0.360	0.550
QS3828101ML□-□□□	100.0 $\pm$ 20%	8.0	956.0	1150.0	0.320	0.340	0.480

- 1). Electrical specifications at 25°C
- 2). Inductance Test Condition. : 100kHz / 0.1V
- 3). Isat base on  $\Delta L / L0A=35\%$  typ.(Approximately transient current)
- 4). Irms1 base on Temp. rise 20°C typ.
- 5). Irms2 base on Temp. rise 40°C typ.

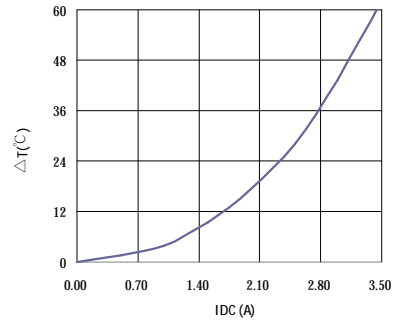
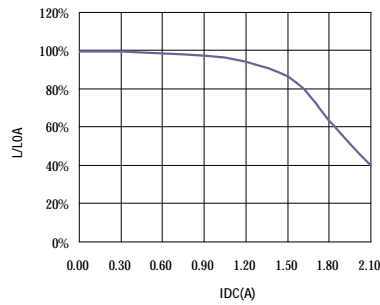
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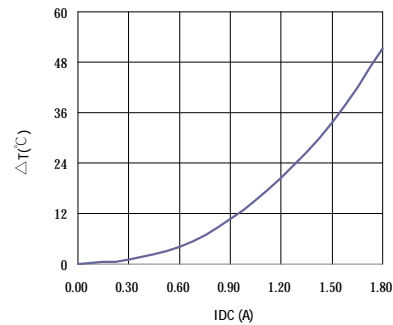
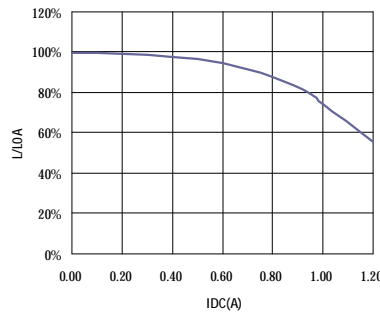
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V . Curve :

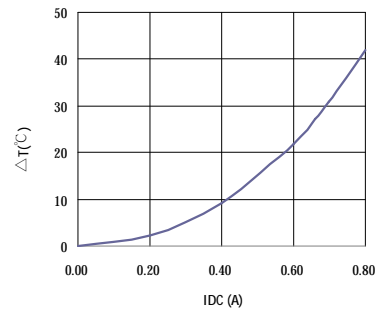
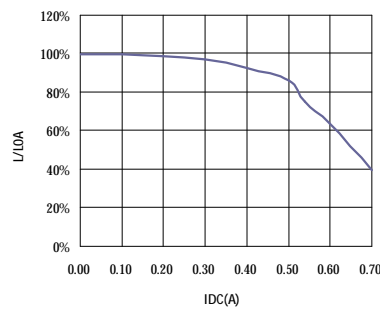
QS38283R3YL□



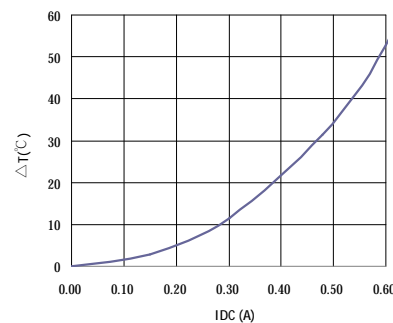
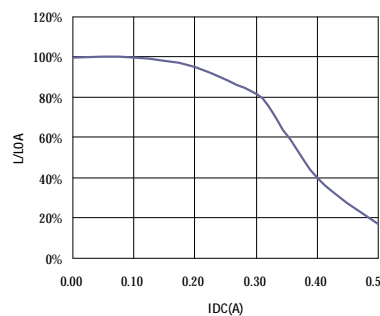
QS3828100ML□



QS3828330ML□



QS3828101ML□



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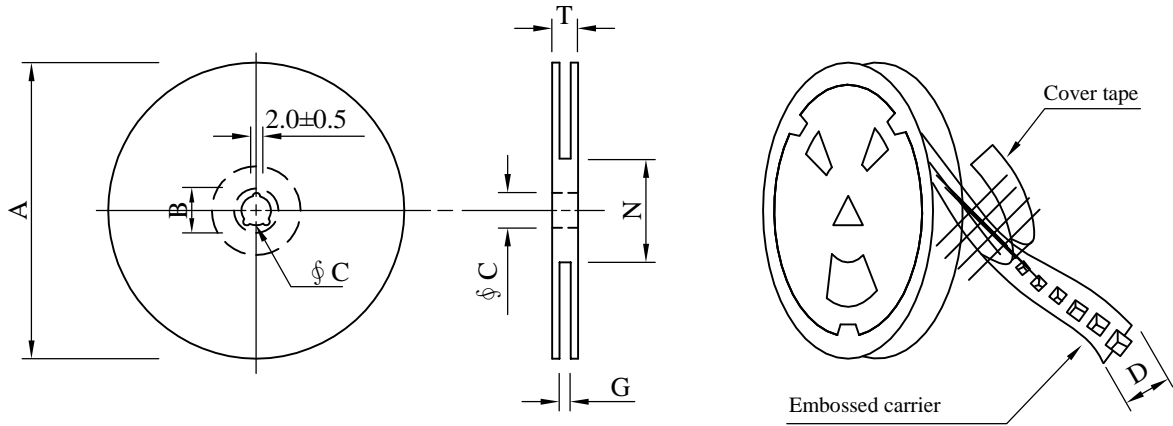
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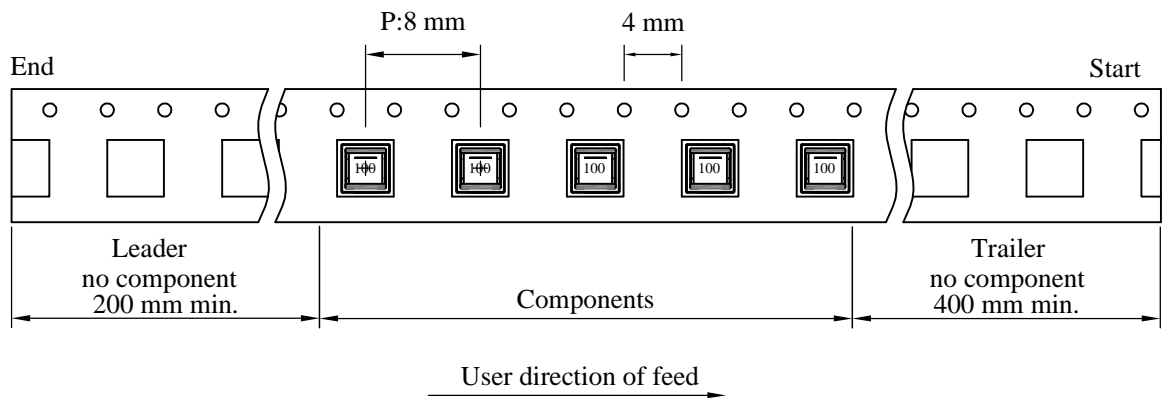
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## VI . Packaging information :

### ( 1 ) Configuration



※Carrier tape width : D



### ( 2 ) Dimensions

Unit:mm

Style	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14 <sup>+0</sup>	50 <sup>-0</sup>	16.5
13 - 12	330	21±0.8	13±0.5	12	14 <sup>+0</sup>	50 <sup>-0</sup>	18.4

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

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (g)	Style	Q'TY (pcs)	G.W. (kg)	Size (cm)
B	500	200	07 - 12	20,000	9.2	42 x 41 x 24
C	2,500	807	13 - 12	20,000	7.7	38 x 37 x 22

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# 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 cycles 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 : 250±5℃. 2.Time ( temp. ≥ 217℃ ) : 60~150 Seconds. 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 seconds. 2.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.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 seconds. 4.IR reflow times : 1 time.	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 the height of 1m 2.Drop total times : 6 times (Every side of sample drop 2 times)	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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