

ISB Series

SMT Shielded Power Inductors – ISB103, ISB104, ISB105

TRIGON
COMPONENTS



FEATURES

- Magnetically shielded construction.
- Compact and thin.
- Wire burst resistant due to special construction.
- RoHS Compliant.

APPLICATION

- DC-DC converter transformer, LCD television set, Digital still camera, VCR, video camera, etc.

ORDERING CODE

ISB103 M 100 T
(1) (2) (3) (4)

(1) SMT Shielded Power Inductors

ISB103
ISB104
ISB105

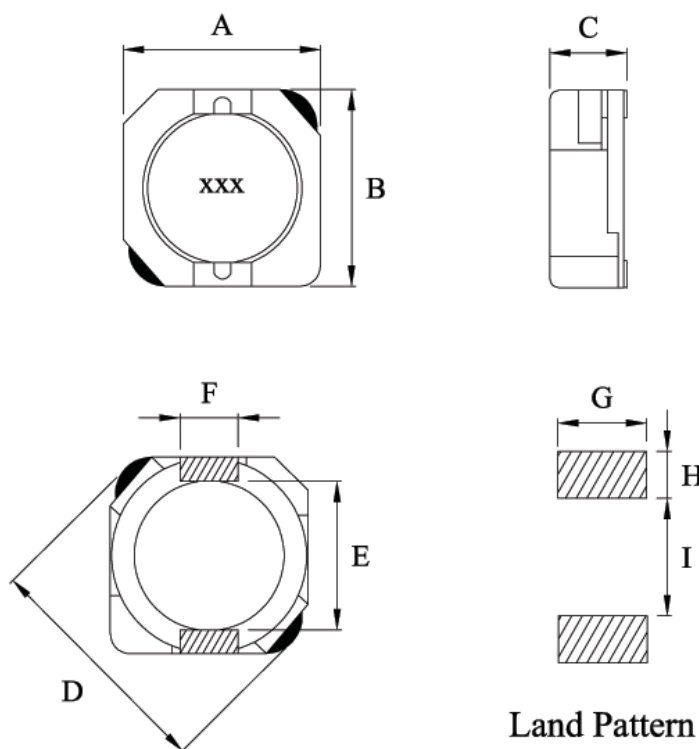
(2) Tolerance Code: K 10%,
L 15%, M 20%, N 30%

(3) Inductance

(4) Package

※Please refer to complete Ordering Code document (ISB103-Ord) for more ordering options.

Configurations:



Inductor

Dimension (mm)

Item	A (max)	B (max)	C (max)	D (max)	E ±0.3	F ±0.1	G	H	I
ISB103	10.3	10.4	3.0	13.5	7.7	3.0	3.6	1.7	7.3
ISB104	10.3	10.4	4.0	13.5	7.7	3.0	3.6	1.7	7.3
ISB105	10.3	10.4	5.0	13.5	7.7	3.0	3.6	1.7	7.3

※Design as Customer's Requested Specifications.

Inductance Range

Item	μH
ISB103	10.00 ~ 150.00
ISB104	1.30 ~ 300.00
ISB105	10.00 ~ 1000.00

ISB Series

SMT Shielded Power Inductors – ISB103

TRIGON
COMPONENTS

Electrical Characteristics for ISB103 Series

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR (Ω) (max)	IDC (A) (max)
ISB103M100	10.00	100	0.0581	2.70
ISB103M120	12.00	100	0.0721	2.25
ISB103M150	15.00	100	0.0865	2.22
ISB103M180	18.00	100	0.1161	1.90
ISB103M220	22.00	100	0.1454	1.78
ISB103M270	27.00	100	0.1759	1.63
ISB103M330	33.00	100	0.2134	1.46
ISB103M390	39.00	100	0.2689	1.32
ISB103M470	47.00	100	0.2986	1.18
ISB103M560	56.00	100	0.3358	1.10
ISB103M680	68.00	100	0.4513	1.04
ISB103M820	82.00	100	0.5138	0.94
ISB103M101	100.00	100	0.7000	0.84
ISB103M121	120.00	100	0.7650	0.76
ISB103M151	150.00	100	0.8763	0.70

※Test Freq. : 100KHz / 1V.

※Operating Temp. : -40°C ~ +85°C

※Inductance drop=25% typ. at IDC.

Inductor

ISB Series

SMT Shielded Power Inductors – ISB104

TRIGON
COMPONENTS

Electrical Characteristics for ISB104 Series

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR (Ω) (max)	IDC (A) (max)
ISB104N1R3	1.30	100	0.0081	10.0
ISB104N2R5	2.50	100	0.010	7.50
ISB104N3R8	3.80	100	0.013	6.00
ISB104N5R2	5.20	100	0.022	5.50
ISB104N7R0	7.00	100	0.027	4.80
ISB104M100	10.00	100	0.035	4.40
ISB104M150	15.00	100	0.050	3.60
ISB104M220	22.00	100	0.073	2.90
ISB104M330	33.00	100	0.093	2.30
ISB104M470	47.00	100	0.128	2.10
ISB104M680	68.00	100	0.213	1.50
ISB104M101	100.00	100	0.304	1.35
ISB104M151	150.00	100	0.506	1.15
ISB104M221	220.00	100	0.756	0.92
ISB104M331	330.00	100	1.090	0.70

※Test Freq. : 100KHz / 1V.

※Operating Temp. : -40°C ~ +85°C

※Inductance drop=35% typ. at IDC.

※ Δ T=40°C rise at Irms.

ISB Series

SMT Shielded Power Inductors – ISB105

TRIGON
COMPONENTS

Electrical Characteristics for ISB105 Series

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR (Ω) (max)	IDC (A) (max)
ISB105M100	10.00	100	0.0258	3.45
ISB105M120	12.00	100	0.0320	3.40
ISB105M150	15.00	100	0.0400	2.83
ISB105M180	18.00	100	0.0460	2.62
ISB105M220	22.00	100	0.0585	2.44
ISB105M270	27.00	100	0.0654	2.24
ISB105M330	33.00	100	0.0814	1.88
ISB105M390	39.00	100	0.1031	1.70
ISB105M470	47.00	100	0.1221	1.56
ISB105M560	56.00	100	0.1448	1.39
ISB105M680	68.00	100	0.1930	1.36
ISB105M820	82.00	100	0.2194	1.20
ISB105M101	100.00	100	0.2470	1.09
ISB105M121	120.00	100	0.2984	1.00
ISB105M151	150.00	100	0.3551	0.91
ISB105M181	180.00	100	0.3943	0.84
ISB105M221	220.00	100	0.4838	0.75
ISB105M271	270.00	100	0.6325	0.68
ISB105M331	330.00	100	0.7800	0.60
ISB105M391	390.00	100	0.9575	0.57
ISB105M471	470.00	100	1.2204	0.50
ISB105M561	560.00	100	1.3524	0.47
ISB105M681	680.00	100	1.5192	0.43
ISB105M821	820.00	100	1.6944	0.39
ISB105M102	1000.00	100	1.9464	0.35

※Test Freq. : 100KHz / 1V.

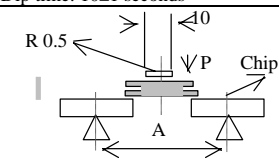
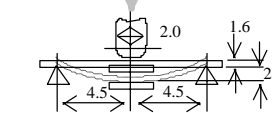
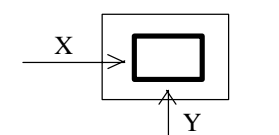
※Operating Temp. : -40°C ~ +85°C

※Inductance drop=25% typ. at IDC.

ISB Series

SMT Shielded Power Inductors

TRIGON
COMPONENTS

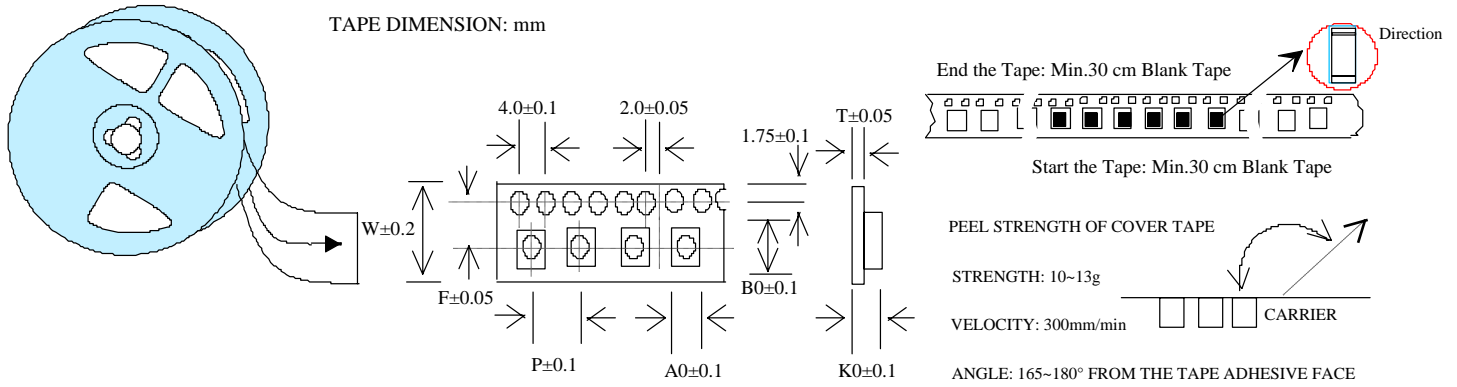
NO	ITEM	TEST CONDITIONS	Sample Qty/pcs	Spec	Test Day Time	Modify Day	Result	
1	Dimension	Actual Size ..	10	Meet Spec	2001/07/12 ~2001/07/12		OK	
2	Thermal shock (Temperature Cycle)	Temperature:-20 °C/ +85 °C kept stabilized for 30 minutes each Cycle: 100 Cycles(power off)	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/18		OK	
3	Humidity Resistance	Humidity: 90%~ 95% RH Temperature: 40±2°C Test Time: 120 ± 2 Hours	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/02/18		OK	
4	High Temperature	Temperature: 85±2°C Humidity: 20% Testing Time: 120±2 Hours	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/18		OK	
5	Low Temperature	Temperature: -20±2°C Time: 120±2 Hours	10	Elec. no variation Appearance	2001/07/12 ~2001/07/18		OK	
6	Temperature and Humidity Cycle	Step	Temp	Humidity	Time	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/19
		1	25±2°C	95~100%RH	3.0Hr			
		2	55±2°C	95~96%RH	9.5Hr			
		3	25±2°C	95~100%RH	9.5Hr			
7	Vibration	Frequency: 10Hz~55Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 Hours each	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/16		OK	
8	Dipping Verification	Temp Control Solder @ Temp 230±5°C / 3 Sec > 75%	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	
9	IR Reflow Soldering	Go through real SMT IR-Reflow.... Solder Temp.: 230±5°C Time: 90 Sec. Cycles: x 1	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	
10	Soldering Heat Resistance	Preheat:120 ~ 150°C (6 sec) Solder:H63A(eutectic solder) Solder Temp.: 260±5 °C Flux: Rosin Dip time: 10±1 seconds	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	
11	Bending Strength		10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/18		OK	
11	Flexure Strength		10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	
12	Terminal Strength		10	After solder between copper plate and terminals of coil, push in two directions of X,Y with 2.0kg must no crack	2001/07/12 ~2001/07/12		OK	
13	High- Voltage	100 V DC between core & winding	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	
14	ORT: on going Reliability test	Elec loading & spec test... base on Spec for approval	10	Elec. no variation Appearance no deformation	2001/07/12 ~2001/07/12		OK	

Inductor

ISB Series

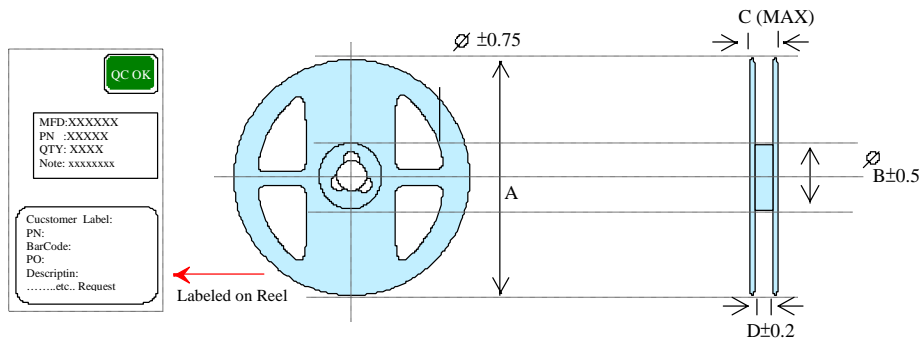
SMT Shielded Power Inductors

TRIGON
COMPONENTS



SIZE/mm	W	P	A0	B0	K0	T	F
ISB103	24.00	16.00	10.60	10.80	4.10	0.35	11.5
ISB104	24.00	16.00	10.60	10.80	4.10	0.35	11.5
ISB105	24.00	16.00	10.60	10.80	4.10	0.35	11.5

Reel Dimensions:(mm) [Reel Color 7"=White, 13"=Dark Blue]



SIZE/mm	A	B	C	D	REEL SIZE	QTY/REEL
ISB103	330	100	29	24.5	13"	0.8K
ISB104	330	100	29	24.5	13"	0.8K
ISB105	330	100	29	24.5	13"	0.8K

BOX Package: (Unit: cm)

