DATA SHEET

Gapped SMD beads
Soft Ferrites

New data

2004 Nov 01

FERROXCUBE
A YAGEO COMPANY

GAPPED SMD BEADS FOR POWER INDUCTORS

General data

ITEM	SPECIFICATION
Strip material	copper (Cu), tin (Sn) plated
Solderability	*"IEC 60068-2-58"*, Part 2, Test Ta, method 1
Taping method	*"IEC 60286-3"* , *"EIA 481-1"* and *"EIA 481-2"*

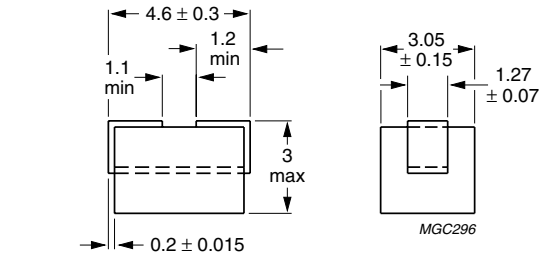
Grades, parameters and type numbers

GRADE	L at 1 MHz (nH)	I_{max}(1) (A)	TYPE NUMBER
BDS 3/3/4.6; mass ≈ 0.15 g (2)			
3C96	50 ± 20 %	20	BDS3/3/4.6-3C96-A50
	75 ± 20 %	15	BDS3/3/4.6-3C96-A75
BDS 4.6/3/8.9; mass ≈ 0.5 g (3)			
3C96	100 ± 20%	20	BDS4.6/3/8.9-3C96-A100
	150 ± 20%	20	BDS4.6/3/8.9-3C96-A150

Note

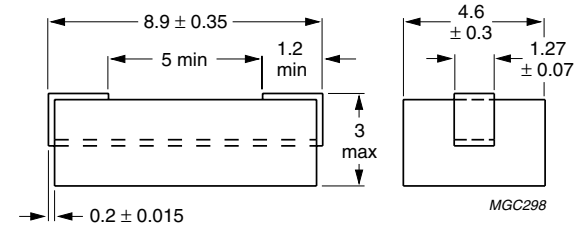
1. I_{max} is the saturation rated current.
2. DC resistance <0.6 mΩ.
3. DC resistance <1.0 mΩ

Mechanical data



Dimensions in mm.

Fig.1 BDS 3/3/4.6.



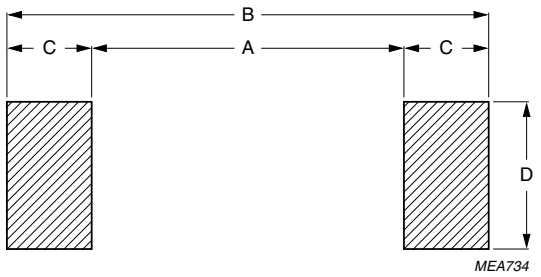
Dimensions in mm.

Fig.2 BDS 4.6/3/8.9.

RECOMMENDED DIMENSIONS OF SOLDER LANDS

Table 1 Reflow soldering

SIZE	DIMENSIONS (mm)			
	A	B	C	D
BDS 3/3/4.6	2.8	6.4	1.8	3.3
BDS 4.6/3/8.9	7.0	10.8	1.9	3.3



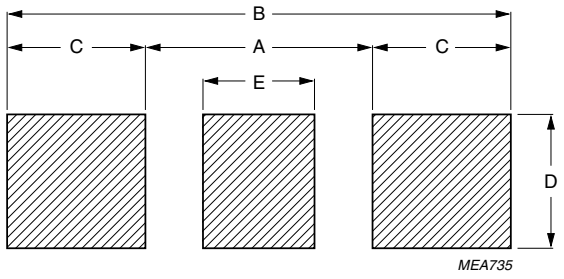
For dimensions see Table 1.

Dimensions of solder lands are based on a solder paste layer thickness of approximately 200 μm (≈0.7 mg solder paste per mm^2).

Fig.3 Reflow and vapour phase soldering.

Table 2 Wave soldering

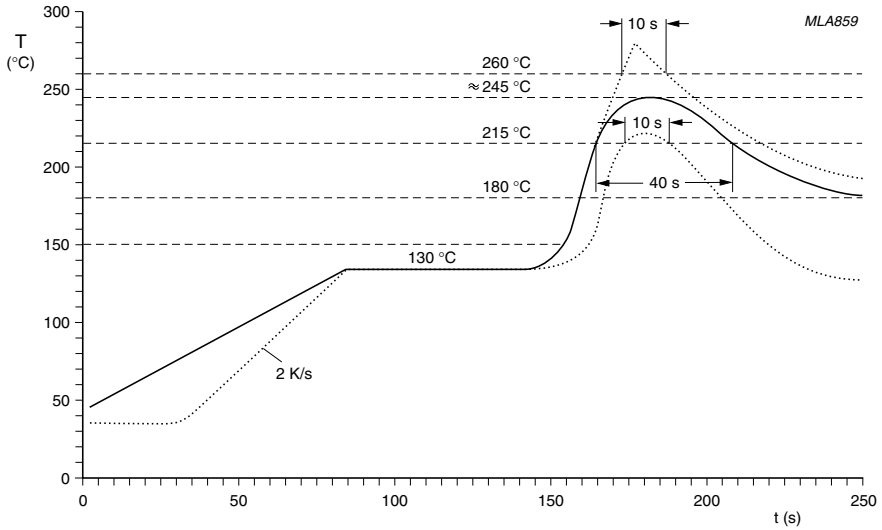
SIZE	DIMENSIONS (mm)				
	A	B	C	D	E
BDS 3/3/4.6	2.0	6.4	2.2	3.0	0.8
BDS 4.6/3/8.9	6.0	12.2	3.1	3.0	2.5



For dimensions see Table 2.

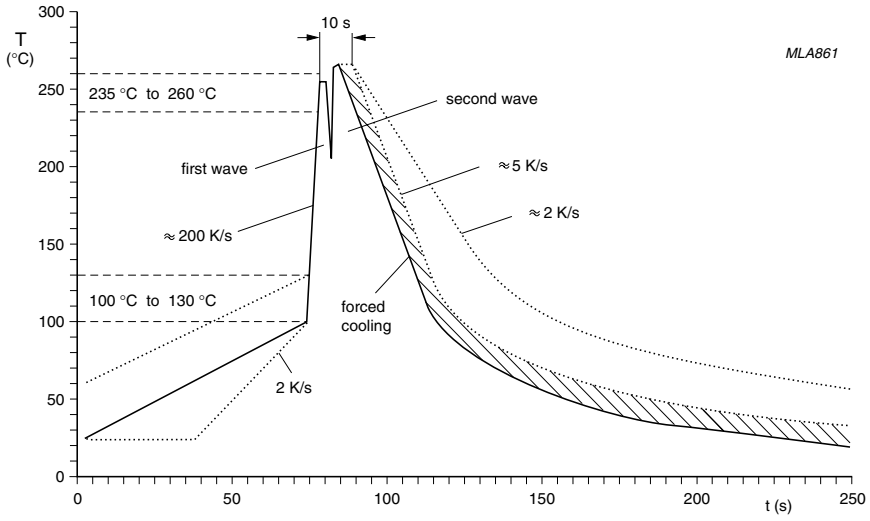
Fig.4 Wave soldering.

Soldering profiles



Typical values (solid line).
Process limits (dotted lines).

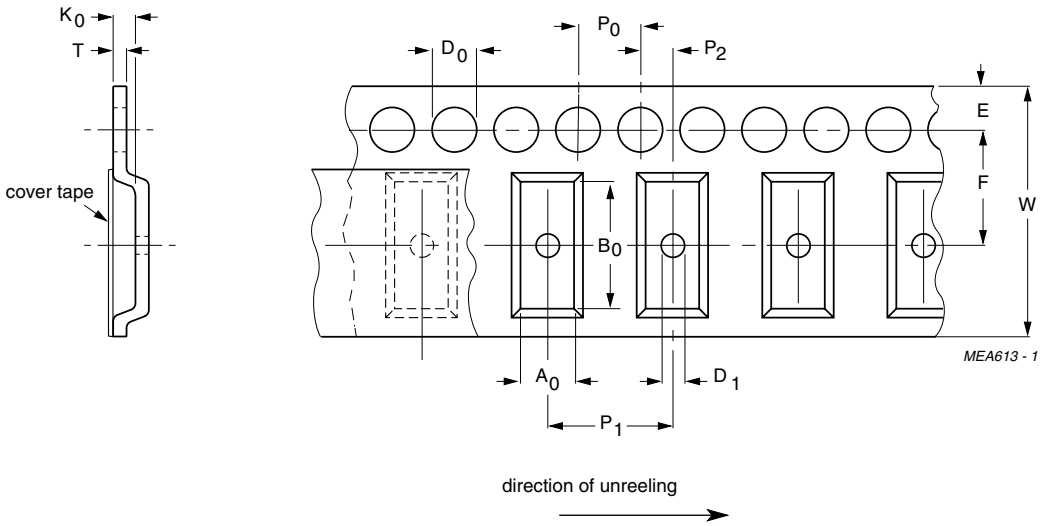
Fig.5 Reflow soldering.



Typical values (solid line).
Process limits (dotted lines).

Fig.6 Double wave soldering.

BLISTER TAPE AND REEL DIMENSIONS

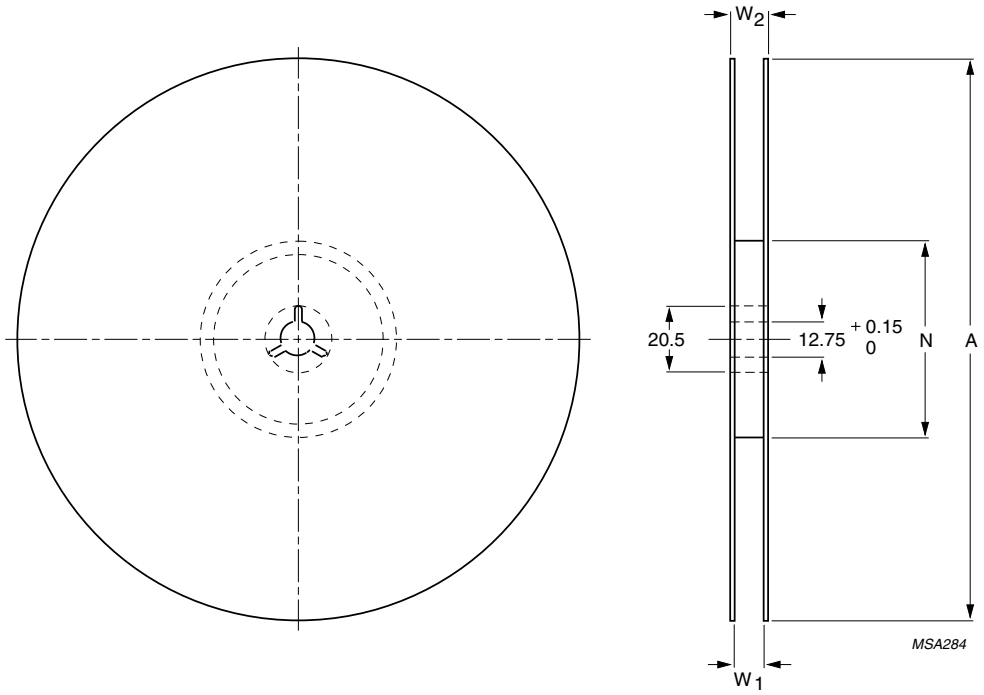


For dimensions see Table 3.

Fig.7 Blister tape.

Table 3 Physical dimensions of blister tape; see Fig.7

SIZE	DIMENSIONS (mm)	
	BDS3/3/4.6	**BDS4.6/3/8.9**
A_0	3.45 ±0.1	5.1 ±0.1
B_0	5.1 ±0.1	9.4 ±0.1
K_0	3.1 ±0.1	3.1 ±0.1
T	0.25 ±10%	0.3 ±0.05
W	12.0 ±0.3	16.0 ±0.3
E	1.75 ±0.1	1.75 ±0.1
F	5.5 ±0.05	7.5 ±0.1
D_0	1.5 +0.1	1.5 +0.1
D_1	≥1.5	≥1.5
P_0	4.0 ±0.1	4.0 ±0.1
P_1	8.0 ±0.1	8.0 ±0.1
P_2	2.0 ±0.05	2.0 ±0.1



Dimensions in mm.
For dimensions see Table 4.

Fig.8 Reel.

Table 4 Reel dimensions; see Fig.8

SIZE	DIMENSIONS (mm)			
	A	**N**	**W_1**	**W_2**
12	330	100 ±5	12.4	≤16.4
16	330	100 ±5	16.4	≤20.4

DATA SHEET STATUS DEFINITIONS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

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PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
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Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support	sup	These products are **not** recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.