

DATA SHEET

SMD beads
EMI-suppression products

Supersedes data of September 2004

2008 Sep 01

SMD BEADS FOR EMI SUPPRESSION

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"

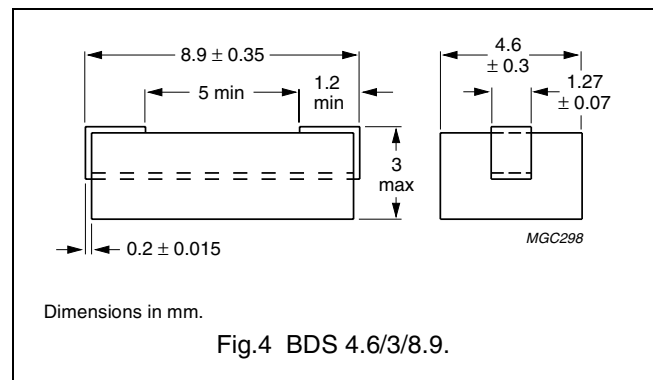
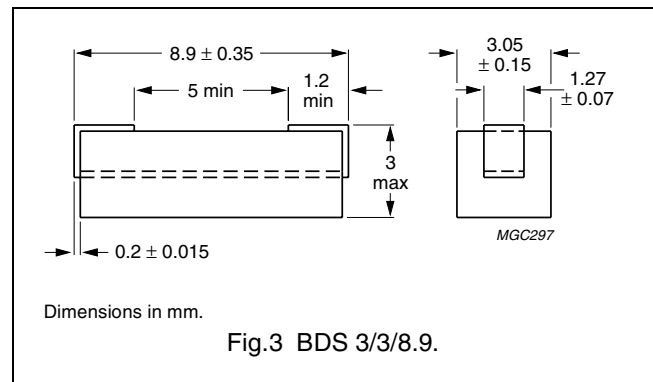
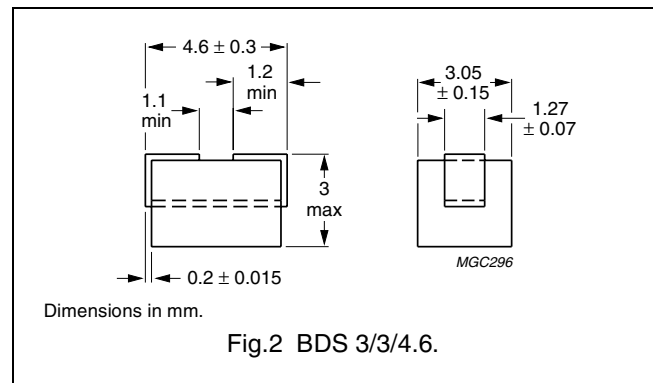
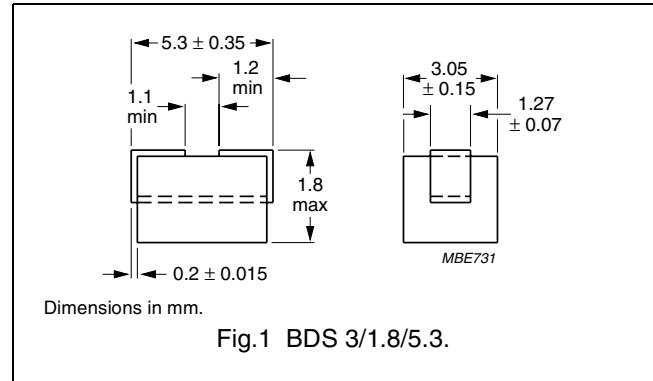
Grades, parameters and type numbers

GRADE	$ Z_{typ} ^{(1)}$ (Ω)	at f (MHz)	TYPE NUMBER
BDS 3/1.8/5.3; mass ≈ 0.1 g⁽²⁾			
3S1	28	10	BDS 3/1.8/5.3-3S1
	33	25	
	25	100	
4S2	25	25	BDS 3/1.8/5.3-4S2
	38	100	
	45	300	
BDS 3/3/4.6; mass ≈ 0.15 g⁽²⁾			
3S1	25	3	BDS3/3/4.6-3S1
	45	10	
	35	25	
4S2	30	25	BDS3/3/4.6-4S2
	50	100	
	55	300	
BDS 3/3/8.9; mass ≈ 0.3 g⁽³⁾			
3S1	55	3	BDS 3/3/8.9-3S1
	80	10	
	55	25	
4S2	65	25	BDS 3/3/8.9-4S2
	100	100	
	110	300	
BDS 4.6/3/8.9; mass ≈ 0.5 g⁽³⁾			
4S2	65	25	BDS 4.6/3/8.9-4S2
	100	100	
	110	300	

Note

1. Typical values, $|Z|_{min}$ is -20% .
2. DC resistance < 0.6 m Ω .
3. DC resistance < 1.0 m Ω

Mechanical data



RECOMMENDED DIMENSIONS OF SOLDER LANDS

Table 1 Reflow soldering

SIZE	DIMENSIONS (mm)			
	A	B	C	D
BDS 3/1.8/5.3	2.8	7.2	2.2	3.3
BDS 3/3/4.6	2.8	6.4	1.8	3.3
BDS 3/3/8.9	7.0	10.8	1.9	3.3
BDS 4.6/3/8.9	7.0	10.8	1.9	3.3

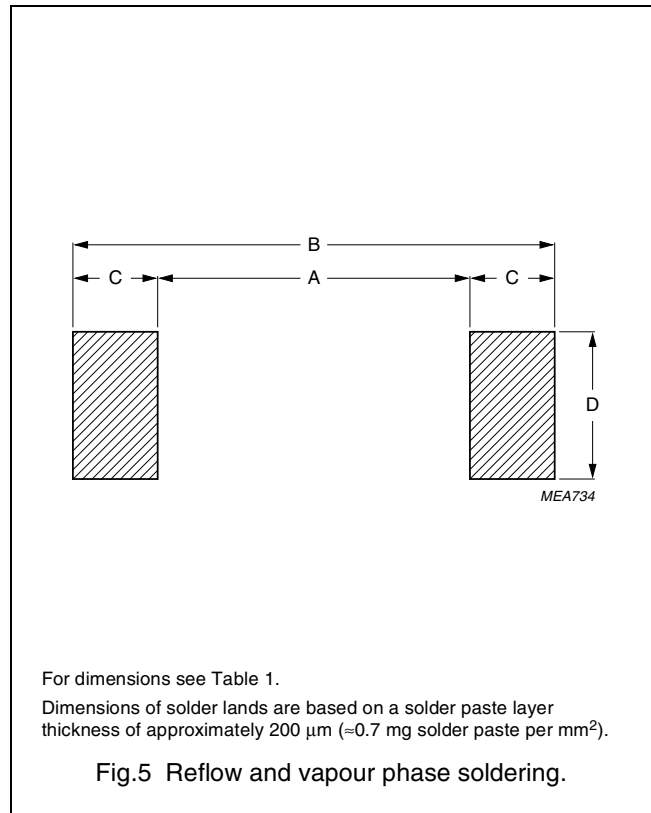
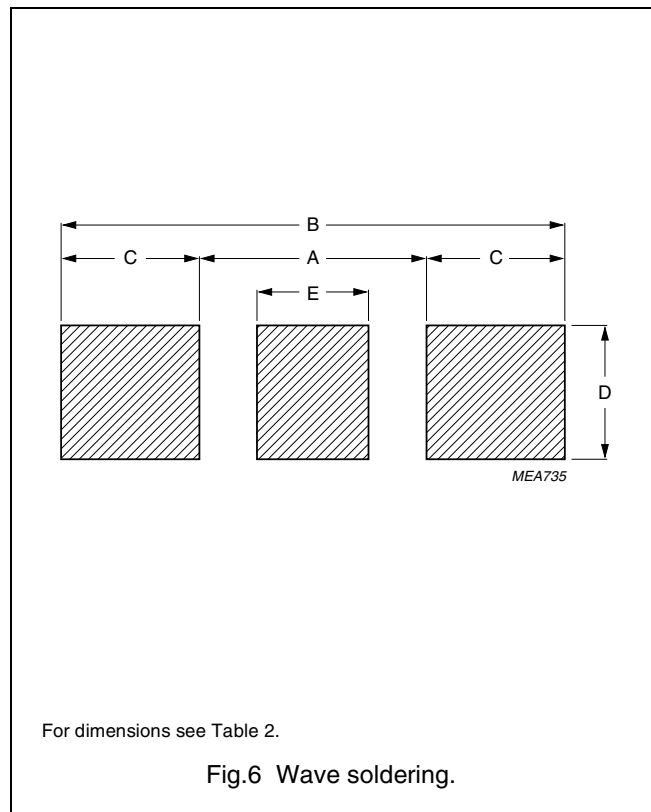


Table 2 Wave soldering

SIZE	DIMENSIONS (mm)				
	A	B	C	D	E
BDS 3/1.8/5.3	2.0	7.2	2.6	3.0	0.8
BDS 3/3/4.6	2.0	6.4	2.2	3.0	0.8
BDS 3/3/8.9	6.0	12.2	3.1	3.0	2.5
BDS 4.6/3/8.9	6.0	12.2	3.1	3.0	2.5



Soldering profiles

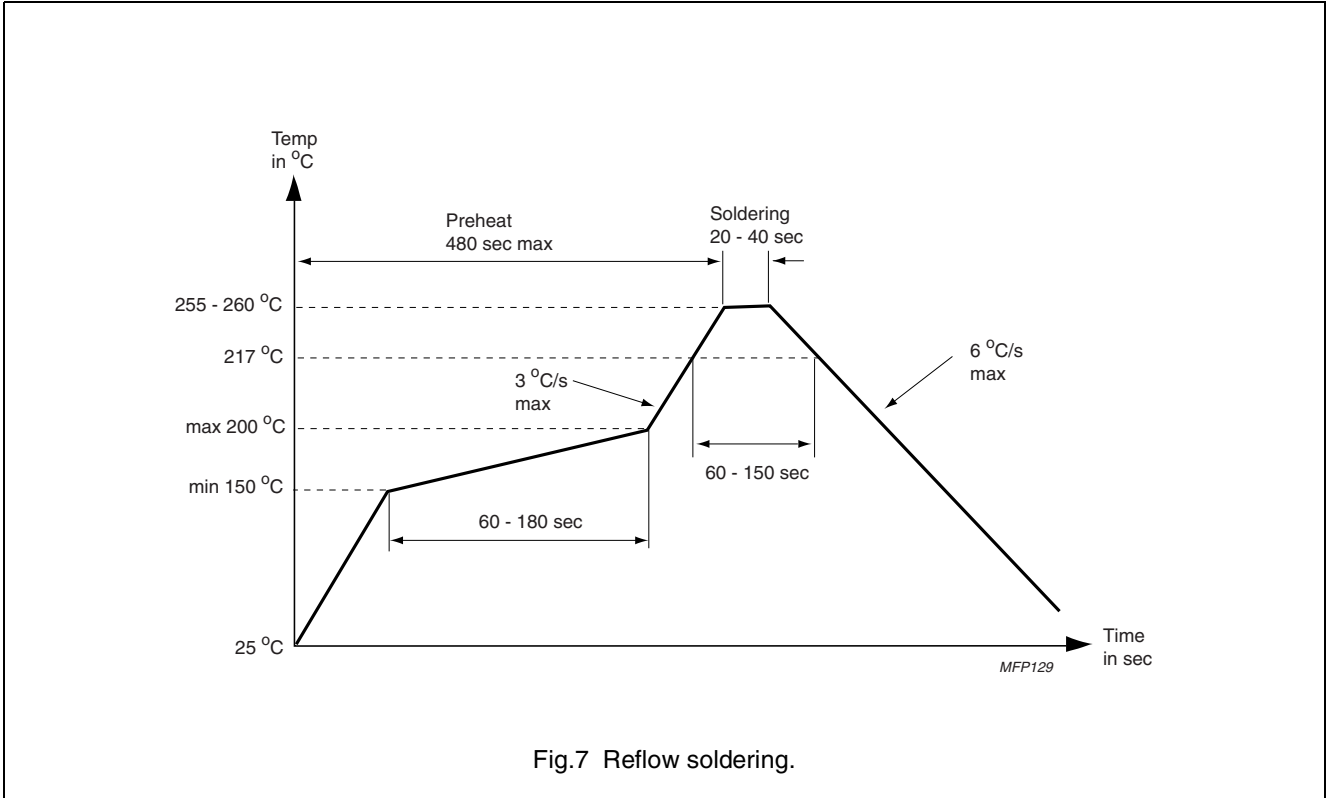
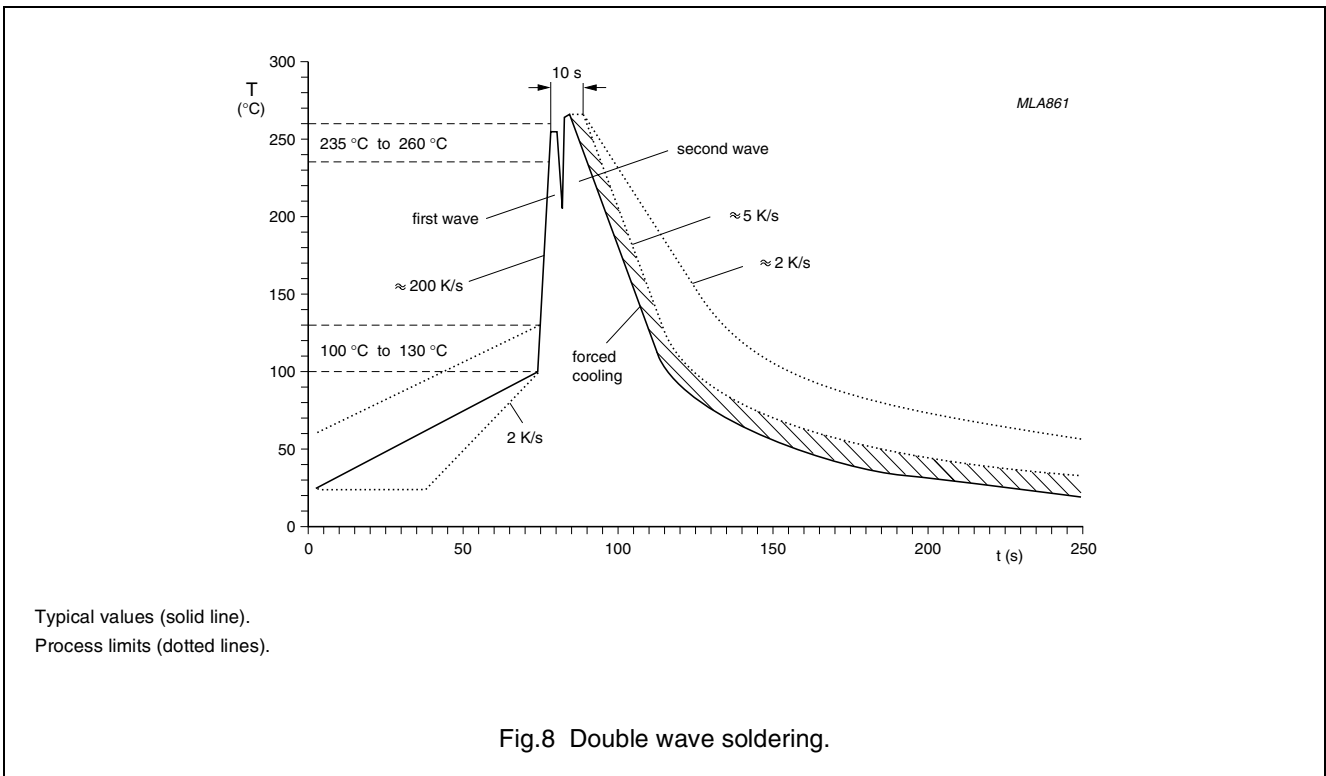


Fig.7 Reflow soldering.



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

Fig.8 Double wave soldering.

BLISTER TAPE AND REEL DIMENSIONS

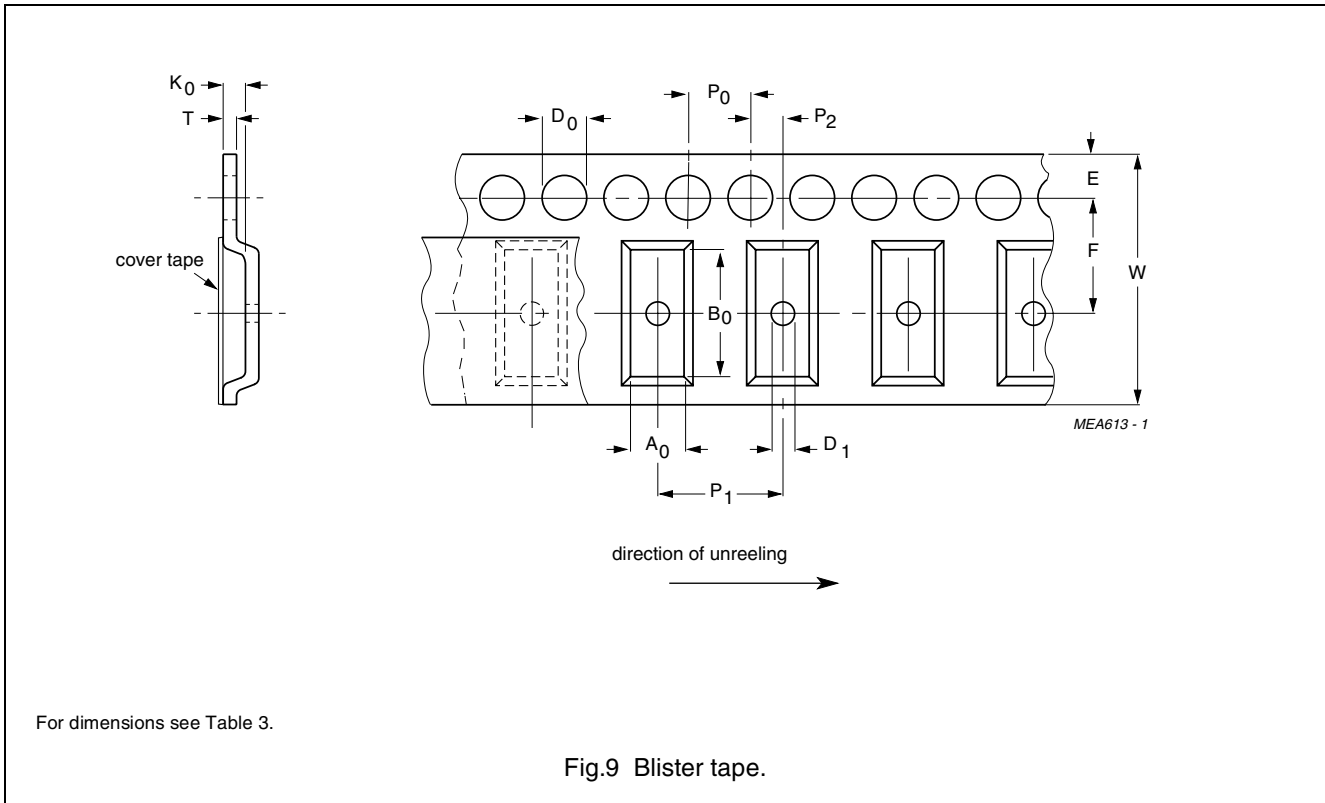


Table 3 Physical dimensions of blister tape; see Fig.9

SIZE	DIMENSIONS (mm)			
	BDS3/1.8/5.3	BDS3/3/4.6	BDS3/3/8.9	BDS4.6/3/8.9
A_0	3.25 ± 0.1	3.45 ± 0.1	3.45 ± 0.1	5.1 ± 0.1
B_0	5.85 ± 0.1	5.1 ± 0.1	9.4 ± 0.1	9.4 ± 0.1
K_0	2.0 ± 0.1	3.1 ± 0.1	3.1 ± 0.1	3.1 ± 0.1
T	0.3 ± 0.05	$0.25 \pm 10\%$	0.35 ± 0.05	0.3 ± 0.05
W	12.0 ± 0.3	12.0 ± 0.3	16.0 ± 0.3	16.0 ± 0.3
E	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
F	5.5 ± 0.05	5.5 ± 0.05	7.5 ± 0.1	7.5 ± 0.1
D_0	$1.5 + 0.1$	$1.5 + 0.1$	$1.5 + 0.1$	$1.5 + 0.1$
D_1	≥ 1.5	≥ 1.5	≥ 1.5	≥ 1.5
P_0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
P_1	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1
P_2	2.0 ± 0.1	2.0 ± 0.05	2.0 ± 0.1	2.0 ± 0.1

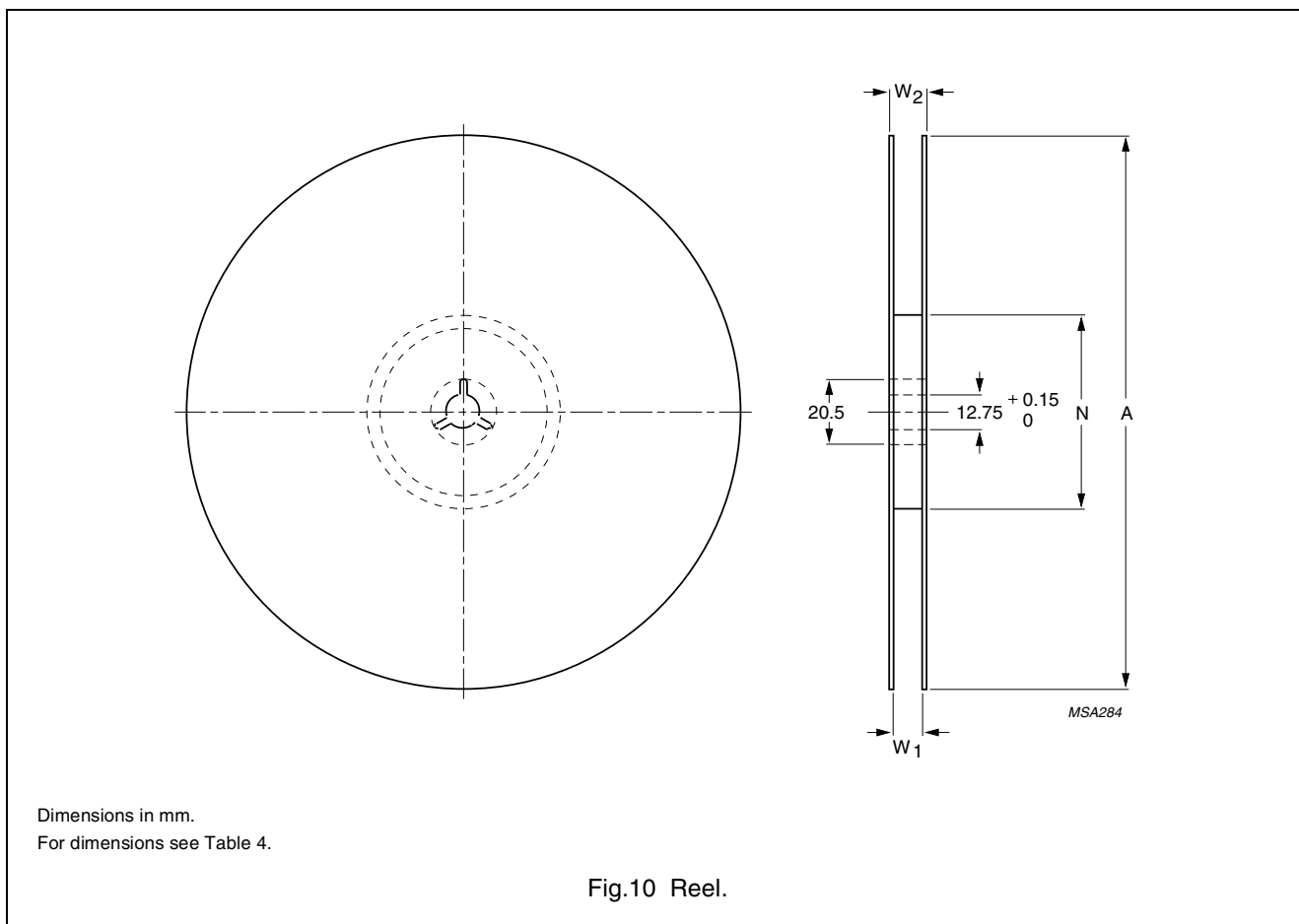


Table 4 Reel dimensions; see Fig.10

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




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DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
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