

DATA SHEET

CHIP RESISTORS

Packing



PACKING

TAPE AND REEL SPECIFICATIONS

All tape and reel specifications are in accordance with "IEC 60286-3". Basic dimensions are given in Figs 1, 2 and 5, and Tables 1, 2 and 3.

PAPER/PE TAPE

ADVANTAGE - PE TAPE

- Better anti-moisture
- Less fiber
- Meet ISO 14000 environmental regulation

MATERIAL CHARACTERISTIC - PE TAPE

PE is a polymer material commonly used for food containers, plastic bags and toys, so safe for human being. In addition, it is recyclable

conform ISO14000 environmental packing and America F.D.A restrain regulation.

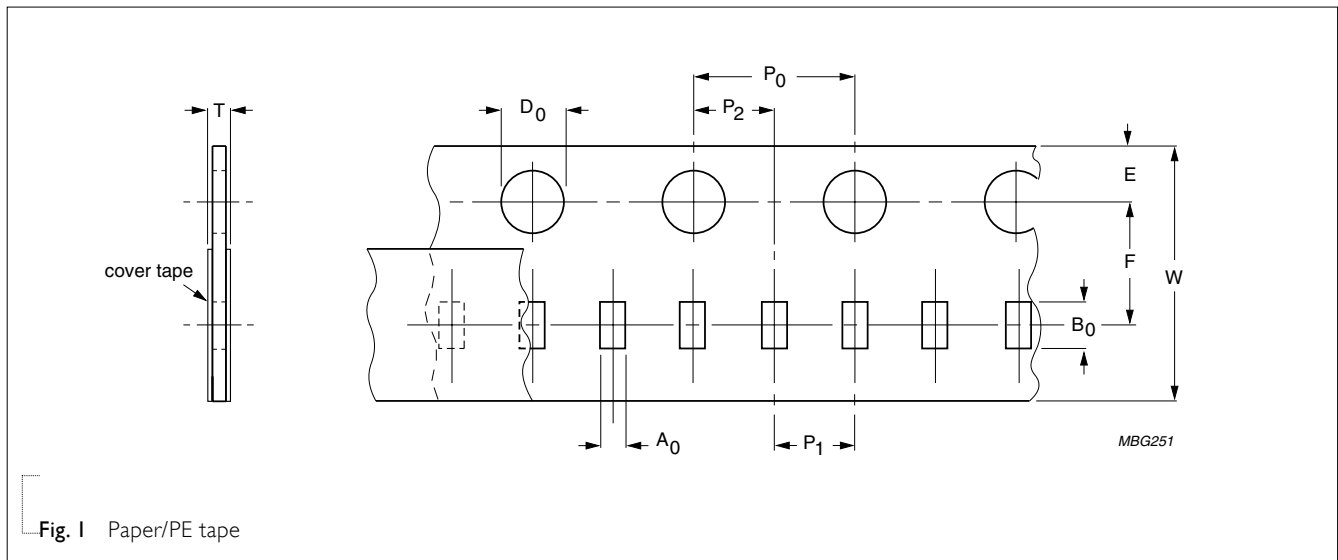


Fig. 1 Paper/PE tape

Table I Dimensions of paper/PE tape for relevant chip resistors size; see Fig.1

PRODUCT SIZE CODE	SYMBOL										Unit: mm
	A_0	B_0	W	E	F	P_0	P_1	P_2	$\text{Ø}D_0$	T	
0201	0.45 ±0.10	0.75 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	2.0±0.05	2.0 ±0.05	1.5 +0.1/-0	0.35 ±0.10	
0402	0.65 ±0.10	1.15 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	2.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.53 ±0.10	
0603	1.10 ±0.10	1.90 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.70 ±0.10	
0805	1.65 ±0.10	2.40 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.85 ±0.10	
1206	1.90 ±0.10	3.50 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.85 ±0.10	
1210	2.80 ±0.10	3.50 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.85 ±0.10	
0404/ 2 × 0402	1.20 ±0.10	1.20 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	2.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.53 ±0.10	
4 × 0402	1.20 ±0.10	2.20 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	2.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.70 ±0.10	
4 × 0603	2.00 ±0.10	3.50 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.85 ±0.10	
0616 (16P8R)	1.80 ±0.20	4.40 ±0.20	12.0 ±0.30	1.75 ±0.10	5.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.70 ±0.10	
0612 (10P8R)	2.00 ±0.10	3.50 ±0.10	8.0 ±0.20	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	4.0 ±0.05	2.0 ±0.05	1.5 +0.1/-0	0.85 ±0.10	

EMBOSSED/BLISTER TAPE

ENVIRONMENTAL CONSIDERATIONS

- Cover tape, carrier tape and reel do not contain environmentally harmful PVC materials.
 - Tape and reel are antistatic.
- Because the carrier tape is made of polycarbonate, a homogeneous material (mono-plastic), it is ideally suited for recycling.
- Compared to other PVC-free materials polycarbonate shows excellent stiffness and very little deformation with temperature.

EMBOSSED/BLISTER TAPE

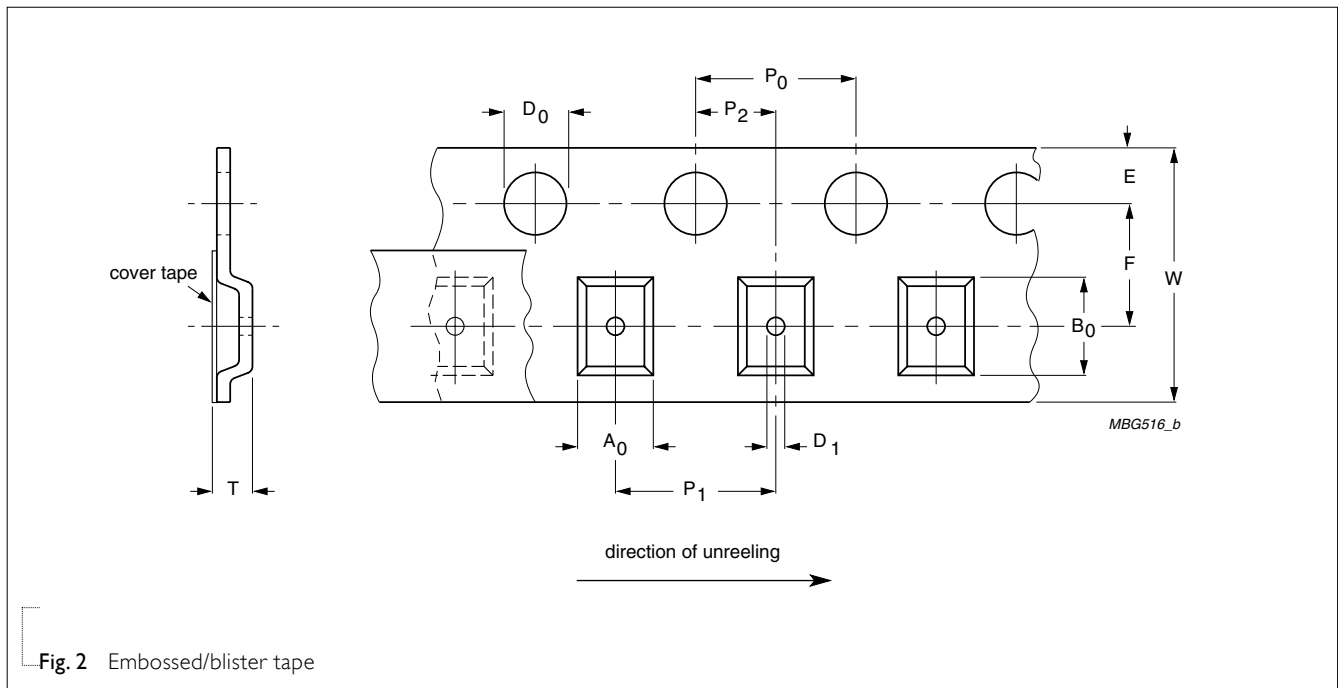


Fig. 2 Embossed/blister tape

Table 2 Dimensions of embossed/blister tape for relevant chip resistors size; see Fig.2

PRODUCT SIZE CODE	SYMBOL											Unit: mm
	A_0	B_0	W	E	F	P_0	P_1	P_2	$\varnothing D_0$	$\varnothing D_1$	T	
1218	3.50 ± 0.20	4.80 ± 0.20	12 ± 0.20	1.75 ± 0.10	5.5 ± 0.05	4.0 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	$1.5 +0.1/-0$	$1.50 +0.25/-0$	1.0 ± 0.10	
2010	2.80 ± 0.20	5.40 ± 0.20	12 ± 0.20	1.75 ± 0.10	5.5 ± 0.05	4.0 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	$1.5 +0.1/-0$	$1.50 +0.25/-0$	1.0 ± 0.10	
2512	3.50 ± 0.20	6.70 ± 0.20	12 ± 0.20	1.75 ± 0.10	5.5 ± 0.05	4.0 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	$1.5 +0.1/-0$	$1.50 +0.25/-0$	1.0 ± 0.10	
1220 (8P4R)	3.20 ± 0.20	5.60 ± 0.20	12 ± 0.20	1.75 ± 0.10	5.5 ± 0.05	4.0 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	$1.5 +0.1/-0$	$1.50 +0.25/-0$	1.0 ± 0.10	
1225 (10P8R)	3.50 ± 0.20	6.70 ± 0.20	12 ± 0.20	1.75 ± 0.10	5.5 ± 0.05	4.0 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	$1.5 +0.1/-0$	$1.50 +0.25/-0$	1.0 ± 0.10	

LEADER/TRAILER TAPE SPECIFICATION

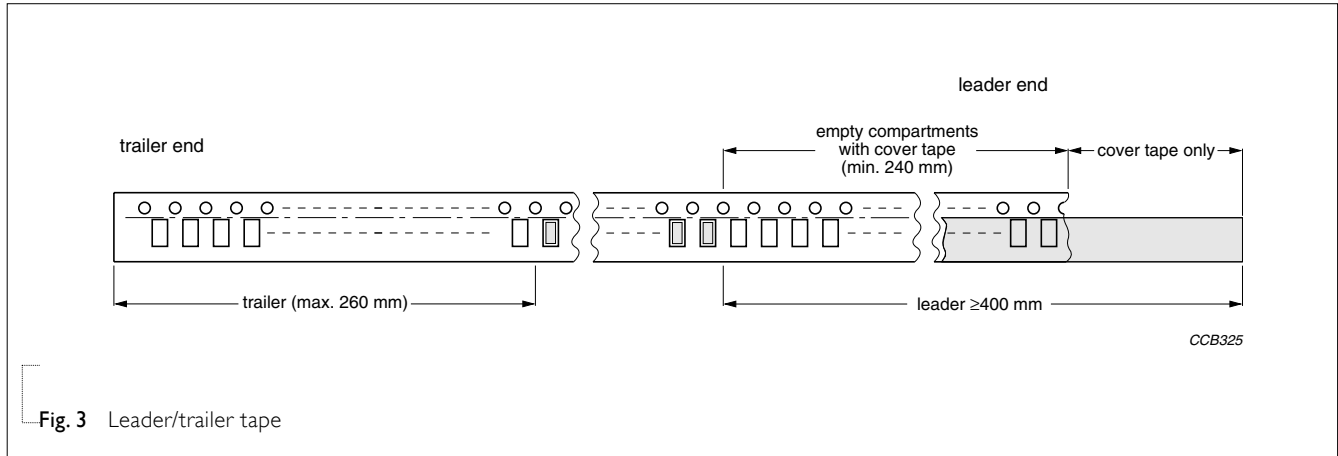


Fig. 3 Leader/trailer tape

TAPING REQUIREMENTS

- Resistance side faces up.
- Component is free and not sticking to top and/or bottom tape.
- Component should be easy to remove from carrier tape and the chip cavity should have no mechanical damage.

PEEL-OFF FORCE

Peel-off forces of both paper/PE and embossed/blister tapes are in accordance with "IEC 60286-3"; that is, at a peel-off speed of 300 ±30 mm/minute, 0.2 N to 1.0 N for 8 mm tape and 0.1 N to 1.3 N for tape larger than 8 mm. The peel-off angle should be between 165° and 180°.

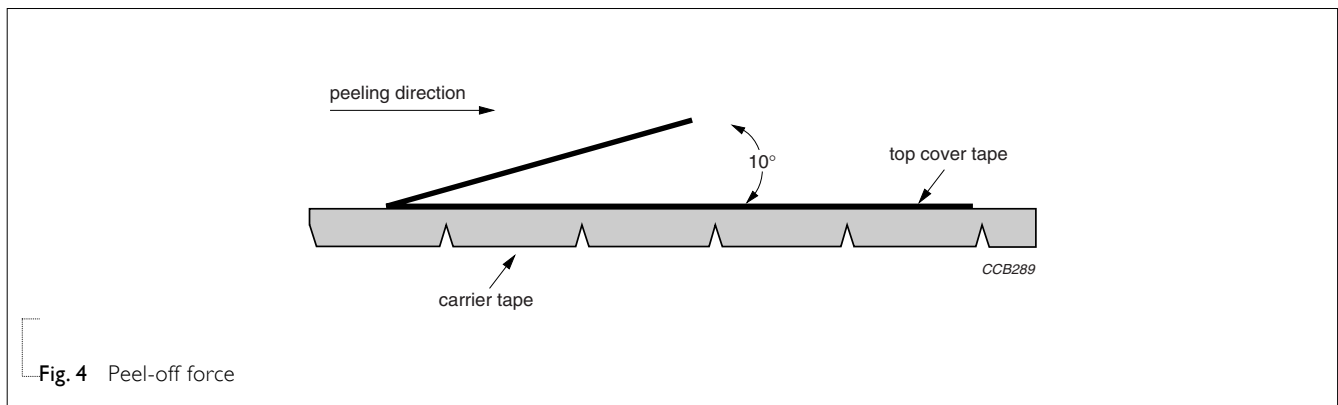


Fig. 4 Peel-off force

REEL SPECIFICATION

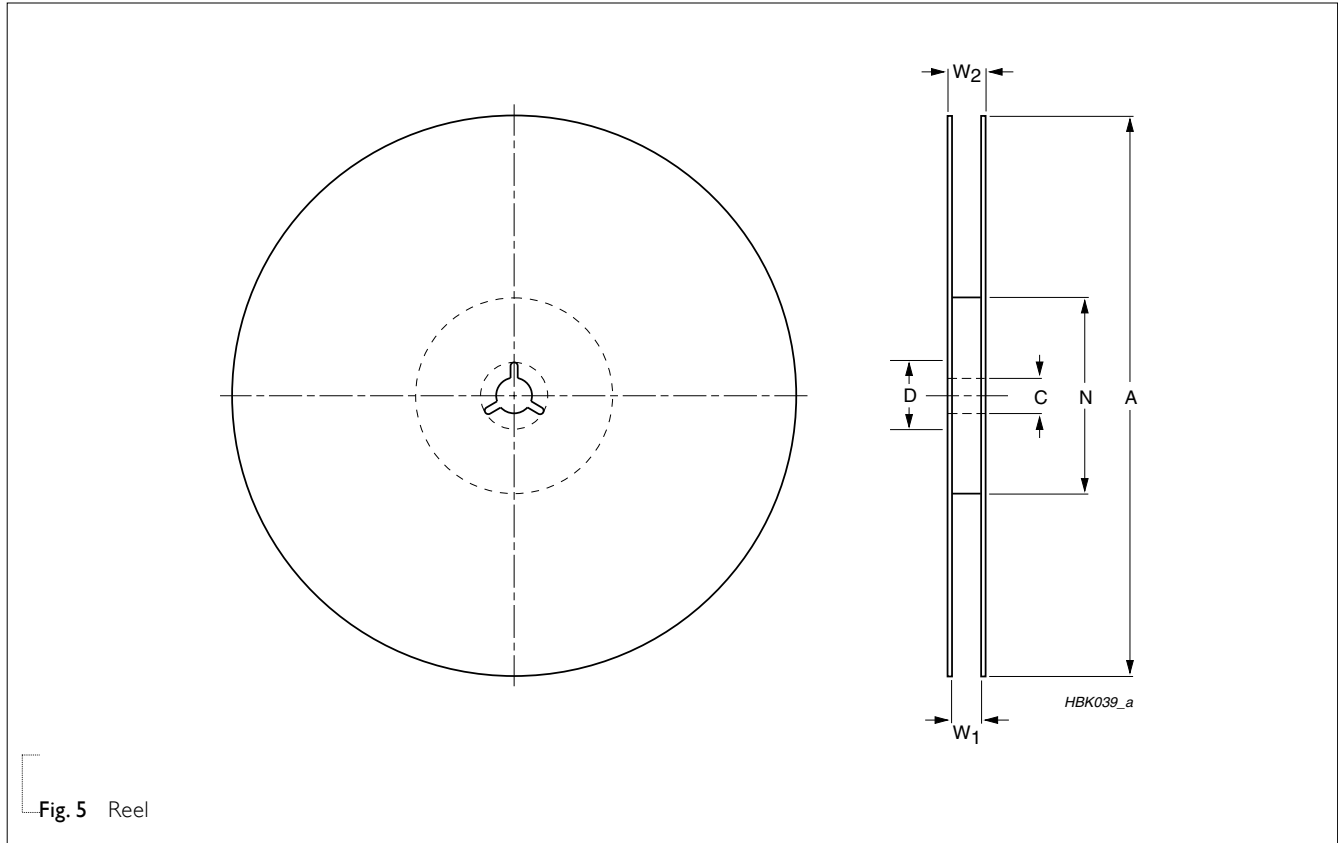


Fig. 5 Reel

Table 3 Dimensions of reel specification for relevant chip resistors size; see Fig.5

PRODUCT SIZE CODE	QUANTITY PER REEL	REEL SIZE		SYMBOL						unit: mm
		8 mm tape width	12 mm tape width	A	N	C	D	W ₁	W ₂ max.	
0201	10,000	7" (Ø178 mm)	---	180 +0/-3						
	20,000	10" (Ø254 mm)	---	254 +0/-3						
	50,000	13" (Ø330 mm)	---	330 +0/-3						
0402	10,000	7" (Ø178 mm)	---	180 +0/-3						
	20,000	10" (Ø254 mm)	---	254 +0/-3						
	50,000	13" (Ø330 mm)	---	330 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	9.0 ±0.3	11.4 ±1.0	
0603/ 0805/1206	5,000	7" (Ø178 mm)	---	180 +0/-3						
	10,000	10" (Ø254 mm)	---	254 +0/-3						
	20,000	13" (Ø330 mm)	---	330 +0/-3						
1210	5,000	7" (Ø178 mm)	---	180 +0/-3						
	20,000	13" (Ø330 mm)	---	330 +0/-3						
1218	4,000	---	7" (Ø178 mm)	180 +0/-3						
2010	4,000	---	7" (Ø178 mm)	180 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	13.0 ±0.3	15.4 ±1.0	
2512	4,000	---	7" (Ø178 mm)	180 +0/-3						

Table 3 Dimensions of reel specification for relevant chip resistor size; see Fig.5 (continued)

PRODUCT SIZE CODE	QUANTITY PER REEL	REEL SIZE		SYMBOL						unit: mm	
		8 mm tape width	12 mm tape width	A	N	C	D	W ₁	W _{2 max.}		
0404	10,000	7" (Ø178 mm)	---	180 +0/-3							
2 × 0402 (4P2R)	10,000	7" (Ø178 mm)	---	180 +0/-3							
	50,000	13" (Ø330 mm)	---	330 +0/-3							
4 × 0402 (8P4R)	10,000	7" (Ø178 mm)	---	180 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	9.0 ±0.3	11.4 ±1.0		
	40,000	13" (Ø330 mm)	---	330 +0/-3							
4 × 0603 (8P4R)	5,000	7" (Ø178 mm)	---	180 +0/-3							
	20,000	13" (Ø330 mm)	---	330 +0/-3							
1220 (8P4R)	4,000	---	7" (Ø178 mm)	180 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	13.0 ±0.3	15.4 ±1.0		
0616 (16P8R)	5,000	7" (Ø178 mm)	---	180 +0/-3							
0612 (10P8R)	5,000	7" (Ø178 mm)	---	180 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	9.0 ±0.3	11.4 ±1.0		
	20,000	13" (Ø330 mm)	---	330 +0/-3							
1225 (10P8R)	4,000	---	7" (Ø178 mm)	180 +0/-3	60 +1/-0	13.0 ±0.2	21 ±0.8	13.0 ±0.3	15.4 ±1.0		

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 5	Nov 16, 2004	-	- PE tape added - Bulk-case removed. - Yageo /Phycomp brand combined
Version 4	Jul 25, 2003	-	- Updated company logo
Version 3	Jul 16, 2001	-	- 0201 packing information added
Version 2	May 30, 2001	-	- Converted to Phycomp brand