

DATA SHEET

Packaging
SMD Chip and MELF resistors

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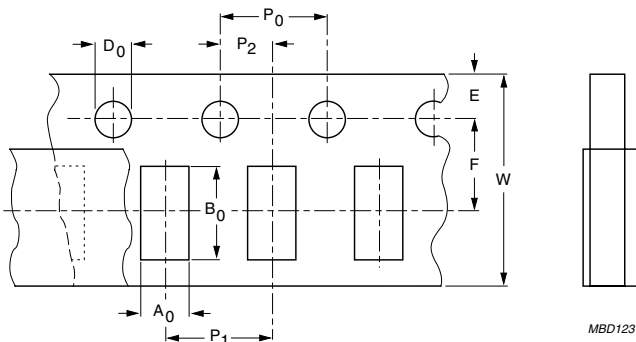
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TAPE AND REEL

All tape and reel specifications are in accordance with the second edition of "IEC 60286-3, JIS-C-0806 and EIA-481-1". Basic dimensions are given in Figs 1, 2, 3, 4 and Tables 1 and 2.

Cardboard and blister tape



For dimensions see Table 1.

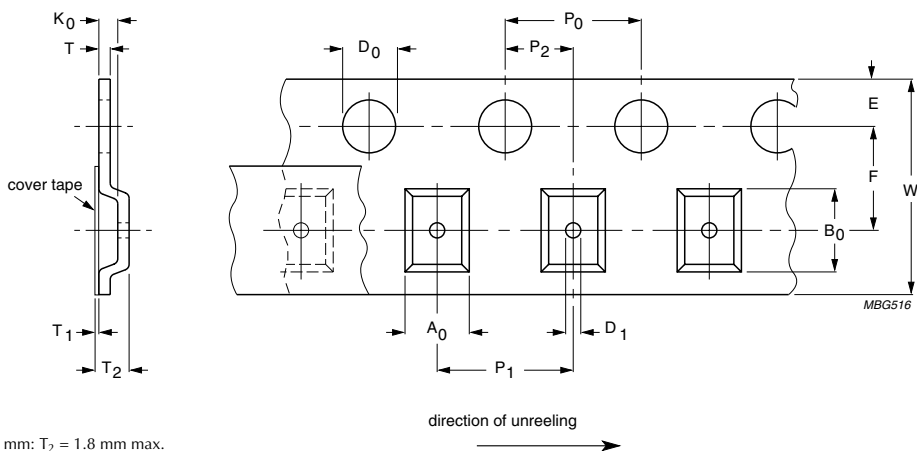
Carrier tape thickness:

0.43 ± 0.05 mm (0402)

0.6 ± 0.05 mm (0603; 0805)

0.75 ± 0.05 mm (1206).

Fig.1 Cardboard tape.



For $W = 8$ mm: $T_2 = 1.8$ mm max.

For $W = 12$ mm: $T_2 = 2.7$ mm max.

For dimensions see Table 1.

Fig.2 Blister tape.

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Table 1 Dimensions of cardboard and blister tape for relevant chip size; see Figs 1 and 2

SYMBOL	CARDBOARD TAPE (IEC 60286-3, TYPE I)				BLISTER TAPE (IEC 60286-3, TYPE II)			UNIT
	PRODUCT SIZE CODE FLAT CHIP				PRODUCT SIZE CODE MELF			
	0402	0603	0805	1206	0102	0204	0207	
A ₀	0.7	1.1	1.6	1.9	1.3 +0/−0.05	1.55 ±0.1	2.4 ±0.1	mm
B ₀	1.2	1.9	2.38	3.5	2.45 +0.5/−0	3.7 ±0.1	6.0 ±0.1	mm
P ₁	2.0	4.0 ±0.1						mm
P ₂	2.0 ±0.05							mm
P ₀	4.0 ±0.1							mm
D ₀	1.5 +0.1/−0							mm
E	1.75 ±0.1							mm
F	3.5 ±0.05						5.5 ±0.05	mm
W	8.0 ±0.3						12.0 ±0.3	mm

Leader/trailer tape specification

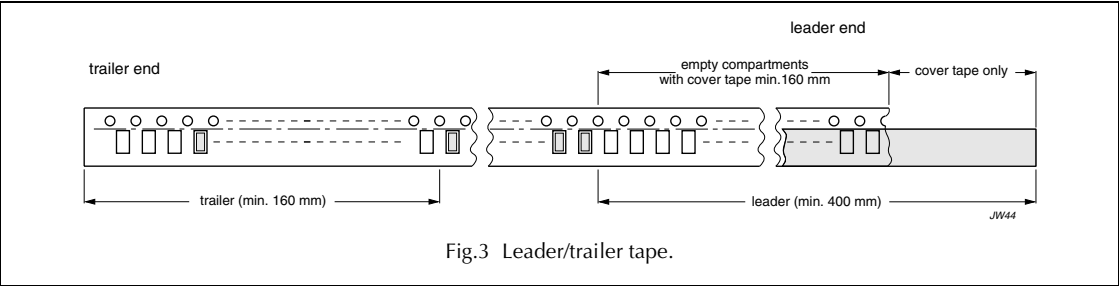


Fig.3 Leader/trailer tape.

The minimum length of the leader is 400 mm, which includes a minimum 160 mm of carrier tape with empty compartments and sealed by the cover tape.
The minimum length of the trailer is 160 mm carrier tape with empty compartments and sealed by the cover tape.

PEEL-OFF FORCE

Peel-off forces are 0.1 N to 1.0 N for 8 mm tape and 0.1 N to 1.3 N for 12 mm tape at a peel-off speed of 300 ±10 mm/minute. The peel-off angle should be between 165° and 180°.

Environmental considerations

- Cover tape, carrier tape and reel do not contain environmentally-harmful PVC materials.
- Because the carrier tape is made of either paper (paper tape) or polycarbonate (blister tape) and the reel is polystyrene, they are ideally suited for recycling.
- The reels can be reused if returned to the factory.
- Tape and reel are antistatic.

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Reel specification

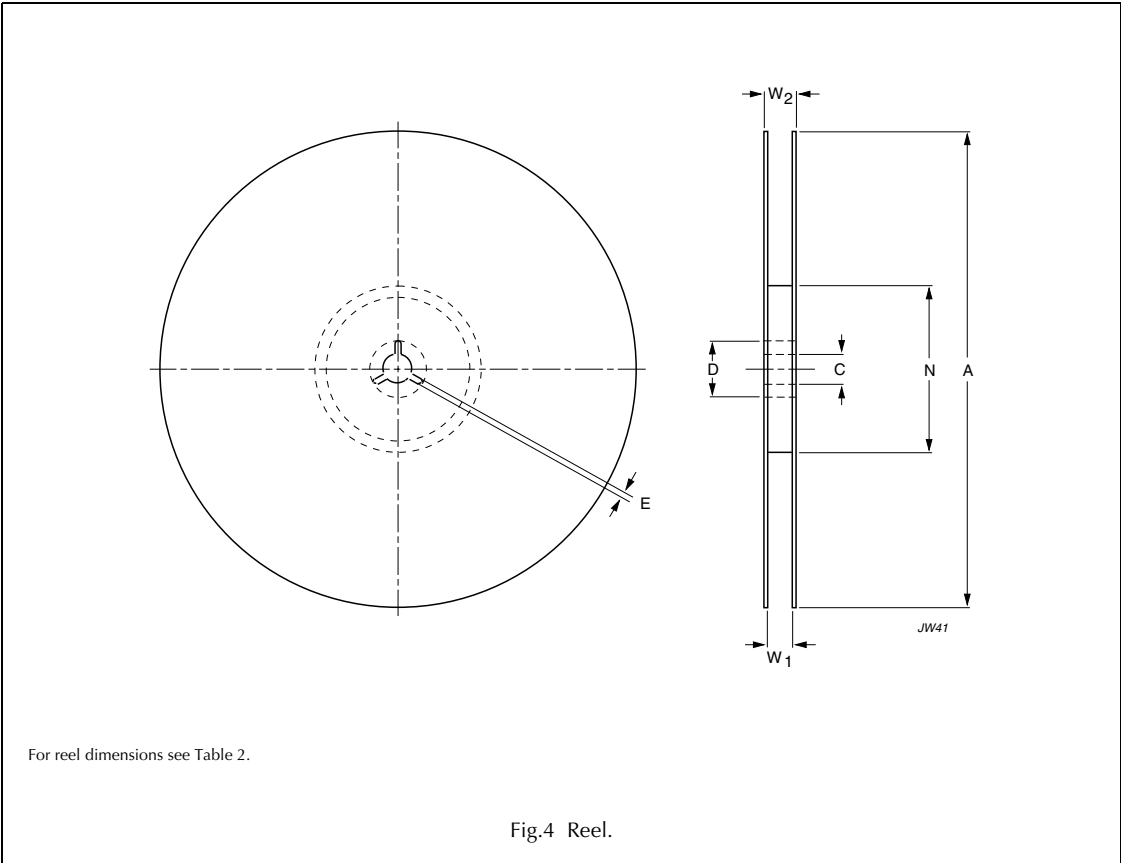


Table 2 Packaging codes, quantities and reel dimensions in millimetres; see Fig.4

DESCRIPTION	VALUE								
Packaging code	P1	B1	BL	P5	E0	B0	PW	B2	B7
Units per reel	1000	1000	3000	5000	10000	10000	20000	2000	7000
A	180					330		180	330
W ₁	8.4 +1.5/0							12.4 +1.5/0	
W _{2max}	14.4							18.4	
E	2.5 ±0.5								
D	22.5 ±2.0								
C	13.0 +0.5/-0.25								
N	62								

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BULK CASE SPECIFICATION

The bulk case specification is in accordance with "IEC 60286-6".

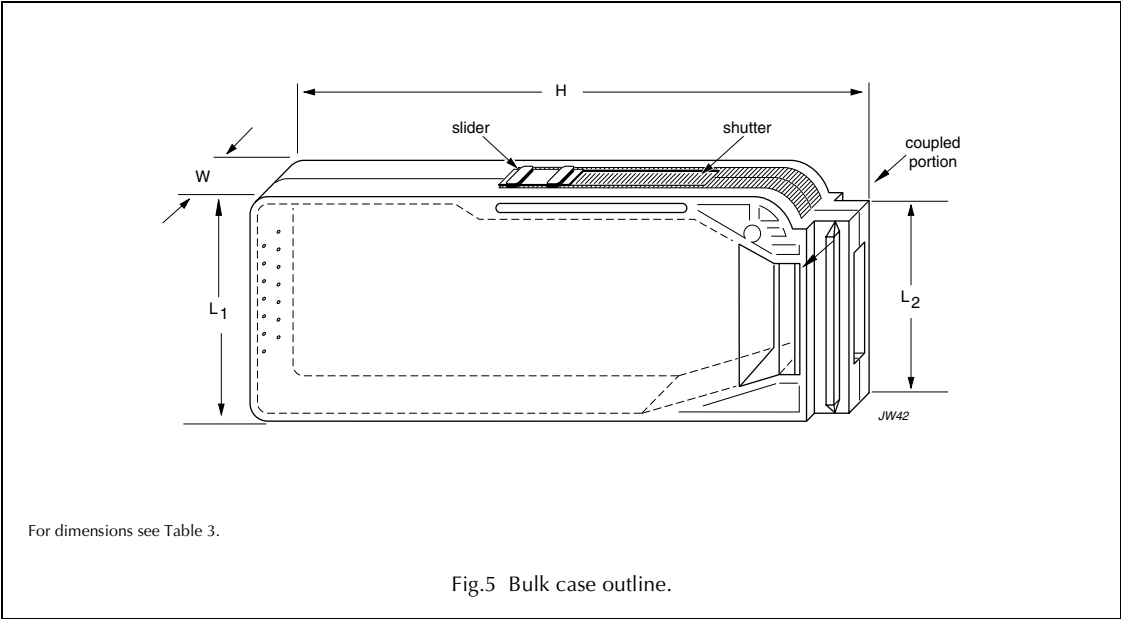


Table 3 Packaging codes, quantities and bulk case dimensions in millimetres; see Fig.5

DESCRIPTION	VALUE	
Packaging code	M3	M8
Units per reel	3000	8000
L ₁	36	
L ₂	31.5	
W	12	
H	110	