
Packing information for IPAD™, protection, rectifiers, thyristors and AC Switches

Introduction

This technical note provides details about packing for axial, through hole, surface mounting and chip scale packages.

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1 Tape and reel delivery mode

1.1 Tape dimensions for surface mount packages

Unless otherwise specified in product specification.

Table 1: Surface mount devices - all dimensions in millimeters

Package	Drive hole spacing B0	Component spacing A	Drive hole diameter D0	Pocket hole diameter D1	Distance between hole lines F	Pocket depth K	Tape width W	Hole interval P0
D ² PAK	4 ±0.1	12±0.1	1.55 ±0.05	1.8±0.1	11.5±0.1	4.8±0.1	24±0.3	2 ±0.1
DPAK	4 ±0.1	8 ± 0.1	1.55 ±0.05	1.6 ±0.1	7.5±0.1	2.65 ±0.1	16±0.3	2 ±0.1
LFCSP 4x4	4 ±0.2	8 ± 0.1	1.5 +0.1/-0	1.5 min.	5.5±0.05	1.1 ±0.1	12±0.3	2 ±0.05
LFCSP 5x5	4 ±0.1	4 ±0.1	1.55 ±0.05	1.5 min.	5.5 ±0.05	2.9 ±0.1	12 ±0.3	2 ±0.05
MELF	4 ±0.1	4 ±0.1	1.55 ±0.05	1 +0.2.5/-0	3.5 ±0.05	1.83 ±0.1	8 ±0.3	2 ±0.05
MiniMELF	4 ±0.1	8 ±0.1	1.5+0.1/-0	1.5 min.	5.5 ±0.05	1.2 ±0.1	12 ±0.3	2 ±0.05
Power SO-10	4 ±0.1	24 ±0.1	1.5+0.1/-0	1.5 min.	11.5 ±0.05	3.9 ±0.1	24 ±0.3	2 ±0.1
Power SO-20	4 ±	8 ±0.1	1.55 ±0.05	1.6 ±0.1	7.5 ±0.1	2.65 ±0.1	16 ±0.3	2 ±0.1
PowerFLAT 5x6	4 ±0.1	24 ±0.1	1.55 ±0.05	1.5 min.	11.5 ±0.1	4.25 ±0.1	24 ±0.3	2 ±0.1
PPAK	4 ±0.1	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	0.8 ±0.1	12 ±0.3	2 ±0.05
QFN 1.45x1-6L	4 ±0.2	4 ±0.2	1.5 ±0.1		3.5 ±0.3	0.75	8 +0.3/-0.1	2 ±0.5
QFN 1.5x1.7-8L	4 ±0.2	4 ±0.2	1.5 ±0.1	1 min.	3.5 ±0.3	0.75	8 +0.3/-0.1	2 ±0.5
QFN 1.7x1.35-8L	4 ±0.1	8 ±0.2	1.5 +0.1/-0	1.5 min.	5.5 ±0.05	1.1 ±0.1	12 ±0.3	2 ±0.05
QFN 1.8x2-6L	4 ±0.2	4 ±0.2	1.5 ±0.1		3.5 ±0.3	0.75	8 +0.3/-0.1	2 ±0.5
QFN 1x1-6L	4 ±0.1	8 ±0.1	1.55 ±0.05	1.6 ±0.1	7.5 ±0.01	2.65 ±0.1	16 ±0.3	2 ±0.1
QFN 2.5x1-10L	4 ±0.2	4 ±0.2	1.55 ±0.05		3.5 ±0.05	0.55 ±0.1	8 +0.3/-0.1	2 ±0.5
QFN 2.5x1.5-12L	4 ±0.2	4 ±0.2	1.5 ±0.1		3.5 ±0.3	0.75	8 +0.3/-0.1	2 ±0.5

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Package	Drive hole spacing B0	Component spacing A	Drive hole diameter D0	Pocket hole diameter D1	Distance between hole lines F	Pocket depth K	Tape width W	Hole interval P0
QFN 2x2-8L	4 ±0.1	4 ±0.1	1.5 ±0.05	1 ±0.25	3.5 ±0.05	1 ±0.05	8 ±0.3	2 ±0.05
QFN 3.3x1.5-16L	4 ±0.2	4 ±0.1	1.55 ±0.1	1.5 min.	5.5 ±0.05	8 ±0.1	12 ±0.3	2 ±0.05
QFN 3.5x1.2-16L	4 ±0.2	4 ±0.2	1.5 ±0.1		3.5 ±0.3	0.75	8 +0.3/-0.1 ±0.3	2 ±0.5
QFN 3x3-12L	4 ±0.1	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	1.1 ±0.1	12 ±0.3	2 ±0.05
QFN 3x3-16L	4 ±0.1	8 ±0.1	1.5 ±0.05	1.5 min.	5.5 ±0.05	1.1	12 ±0.3	2 ±0.05
QFN 3x3-6L	4 ±0.1	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	0.7 ±0.1	12 ±0.3	2 ±0.05
QFN 4x4-24L	4 ±0.2	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	1.1 ±0.1	12 ±0.3	2 ±0.05
QFN 4x5-16L	4 ±0.1	2 ±0.05	1.55 ±0.05	0.4 ±0.005	3.5 ±0.05	0.47 ±0.02	8 ±0.1	2 ±0.05
QFN 5x5-14L	4 ±0.1	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	1.1 ±0.1	12 ±0.3	2 ±0.05
QFN 5x5-5L	4 ±0.2	8 ±0.2	1.5 ±0.1	1.5 min.	5.5 ±0.05	1.1 ±0.1	12 ±0.3	2 ±0.05
QFN 6x6-36L	4 ±0.1	12 ±0.1	1.5+0.1/-0	1.5 min.	7.5 ±0.1	1.1 ±0.1	16 ±0.3	2 ±0.1
QSOP24	4 ±0.1	8 ±0.1	1.5+0.1/-0	1.6 +1/-0.1	7.5 ±0.1	2.1 ±0.1	16 ±0.3	2 ±0.1
QSOP28	4 ±0.1	8 ±0.1	1.5+0.1/-0	1.6 +1/-0.1	7.5 ±0.1	2.1 ±0.1	16 ±0.3	2 ±0.1
SMA	4 ±0.1	4 ±0.1	1.5 ±0.1	1.5 min.	5.5 ±0.05	2.29 ±0.1	12 ±0.3	2 ±0.05
SMA Flat	4 ±0.1	4 ±0.1	1.5 ±0.1	1.5 min.	5.5 ±0.05	2.29 ±0.1	12 ±0.3	2 ±0.05
SMB	4 ±0.1	8 ±0.1	1.5 ±0.5	1.5 min.	5.5 ±0.05	2.74 ±0.1	12 ±0.3	2 ±0.05
SMB Flat	4 ±0.1	8 ±0.1	1.55 ±0.05	1.5 min.	5.5 ±0.1	1.3 ±0.1	12 ±0.3	2 ±0.1
SMB Flat-3L	4 ±0.1	8 ±0.1	1.55 ±0.05	1.5 min.	5.5 ±0.1	1.3 ±0.1	12 ±0.3	2 ±0.1
SMC	4 ±0.1	8 ±0.1	1.5 ±0.5	1.5 min.	7.5 ±0.1	2.75 ±0.1	16 ±0.3	2 ±0.1
SO-20	4 ±0.1	12 ±0.1	1.5+0.1/-0	1.5 min.	11.5 ±0.05	6.5 max.	24 ±0.3	2 ±0.1
SO-8	4 ±0.1	8 ±0.1	1.5+0.1/-0	1.6 min.	5.5 ±0.05	2.6 ±0.1	12 ±0.3	2 ±0.05
SO-8W	4 ±0.1	12 ±0.1	1.5+0.1/-0	1.5 min.	7.5 ±0.3	2.6 ±0.1	16 ±0.3	2 ±0.05
SOD123	4 ±0.1	4 ±0.1	1.55 ±0.05	1 (+0.25/-0)	3.5 ±0.3	1.2 ±0.1	8 ±0.3	2 ±0.05

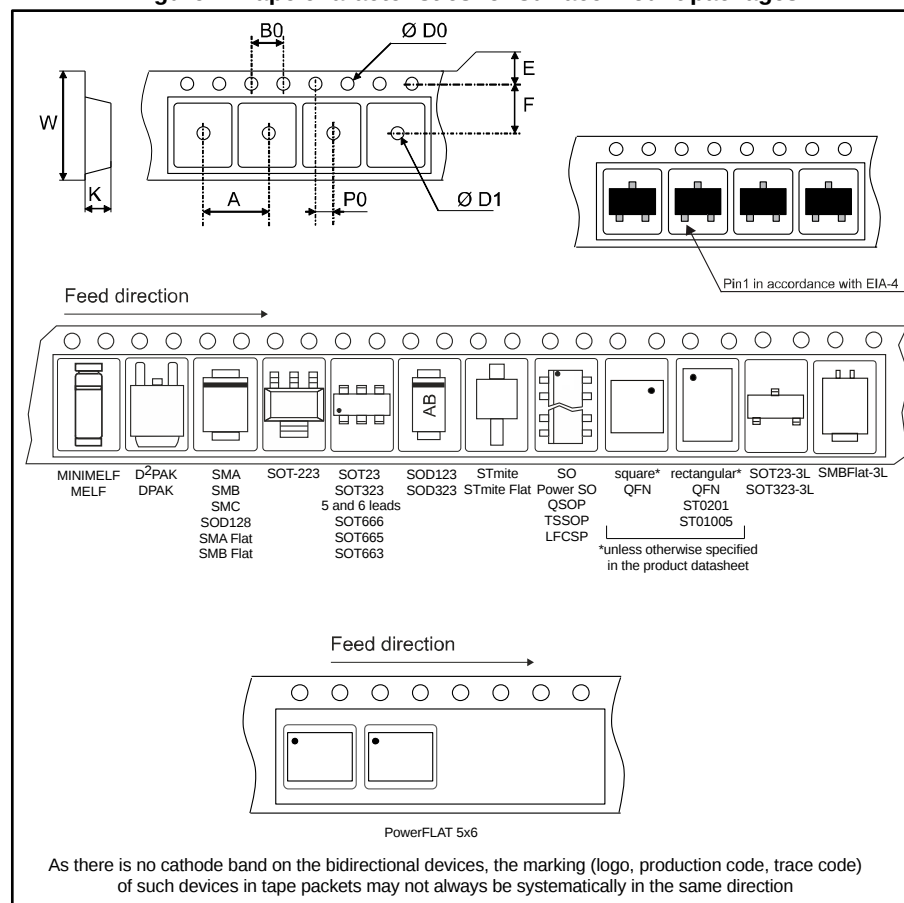
Package	Drive hole spacing B0	Component spacing A	Drive hole diameter D0	Pocket hole diameter D1	Distance between hole lines F	Pocket depth K	Tape width W	Hole interval P0
SOD128	4 ±0.1	4 ±0.1	1.5 ±0.1	1.55 ±0.05	5.5 ±0.05	1.25 ±0.05	12 ±0.2	2 ±0.05
SOD323	4 ±0.1	4 ±0.1	1.55 ±0.05	1 (+0.25/-0)	3.5 ±0.05	1.2 ±0.1	8 ±0.3	2 ±0.05
SOD523	4 ±0.1	2 ±0.5	1.5 ±0.1	0.5 ±0.05	3.5 ±0.05	0.73 ±0.05	8 ±0.2	2 ±0.05
SOD723	4 ±0.1	2 ±0.5	1.5 ±0.1	0.5 ±0.05	3.5 ±0.05	0.62 ±0.05	8 ±0.2	2 ±0.05
SOD882	4 ±0.1	2 ±0.5	1.55 ±0.05	4 ±0.05	3.5 ±0.1	0.66 ±0.05	8 +0.3/-0.1	2 ±0.05
SOD882T	4 ±0.1	4 ±0.1	1.5 +0.1/-0	0.5 ±0.05	3.5 ±0.05	0.53 ±0.05	8 +0.3/-0.1	2 ±0.05
SOT223	4 ±0.1	8 ±0.1	1.55 ±0.05	1.5 ±2.25	5.5 ±0.05	1.88 ±0.1	12 ±0.3	2 ±0.05
SOT23-3L	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.2 ±0.1	8 +0.3/-0.1	2 ±0.05
SOT23-5L	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.4 ±0.1	8 +0.3/-0.1	2 ±0.05
SOT23-6L	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.4 ±0.1	8 +0.3/-0.1	2 ±0.05
SOT323	4 ±0.2	4 ±0.2	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.2 ±0.1	8 ±0.3	2 ±0.05
SOT323-5L	4 ±0.2	4 ±0.2	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.2 ±0.1	8 ±0.3	2 ±0.05
SOT323-6L	4 ±0.2	4 ±0.2	1.5 +0.1/-0	1 min.	3.5 ±0.05	1.2 ±0.1	8 ±0.3	2 ±0.05
SOT663	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	0.69 ±0.05	8 +0.3/-0.1	2 ±0.05
SOT665	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	0.69 ±0.05	8 +0.3/-0.1	2 ±0.05
SOT666	4 ±0.1	4 ±0.1	1.5 +0.1/-0	1 min.	3.5 ±0.05	0.69 ±0.05	8 +0.3/-0.1	2 ±0.05
SOT883	4 ±0.1	2 ±0.05	1.5 +0.1/-0	0.4 ±0.05	3.5 ±0.03	0.69 ±0.05	8 +0.3/-0.1	2 ±0.05
SSOP20	4 ±0.1	12 ±0.1	1.55 ±0.05	1.5 min.	7.5 ±0.1	2.62 ±0.1	16 +0.3/-0.1	2 ±0.1
SSOP24	4 ±0.1	12 ±0.1	1.5 +0.1/-0	1.5 min.	7.5 ±0.1	2.5 ±0.1	16 ±0.3	2 ±0.05
ST01005	4 ±0.1	2 ±0.05	1.5 ±0.1		3.5 ±0.05	0.36 ±0.3	8 +0.03/-0.01	2 ±0.05
ST0201	4 ±0.2	4 ±0.2	1.5 ±0.1		3.5 ±0.03	0.6 ±0.02	8 +0.3/-0.1	2 ±0.5

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Package	Drive hole spacing B0	Component spacing A	Drive hole diameter D0	Pocket hole diameter D1	Distance between hole lines F	Pocket depth K	Tape width W	Hole interval P0
STmite	4 ±0.1	4 ±0.1	1.55 ±0.05	1.55 ±0.05	5.25 ±0.05	1.27 ±0.1	12 +0.3/-0.1	2 ±0.05
STmite Flat	4 ±0.1	4 ±0.1	1.55 ±0.05	1.5 min.	5.5 ±0.1	1.1 ±0.1	12 ±0.3	2 ±0.1
TSSOP14	4 ±0.1	12 ±0.1	1.5 ±0.1	1.5 min.	7.5 ±0.1	1.6 ±0.1	16 ±0.3	2 ±0.05
TSSOP20	4 ±0.1	12 ±0.1	1.5 ±0.1	1.5 min.	7.5 ±0.1	1.8 ±0.1	16 ±0.3	2 ±0.05

Figure 1: Tape characteristics for surface mount packages



1.2 Reel dimensions for surface mount packages

Unless otherwise specified in product specification.

Table 2: Surface mount devices - all dimensions in millimeters

Package	Base qty.	Carrier tape width	Reel dimensions					
		W	A	B (max)	C	D (min)	E (max.)	F (min.)
D ² PAK	1000	24 ±0.3	24.4 ±0.3	30.4	13 ±0.2	60 ±0.25	330	20.2
DDPAK	2500	16 ±0.3	16.4 +2/-0	22.4	13 ±0.2	100 ±0.25	330	20.2
Chip scale package	5000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	59 ±0.25	180	20.2
LFCSP 5x5	5000	12 ±0.3	12.4 ±0.3	13.4	13 ±0.2	60 ±0.25	330	20.2
LFCSP 4x4	5000	12 ±0.3	12.4 ±0.3	13.4	13 ±0.2	60 ±0.25	330	20.2
MELF	1500	12 ±0.3	5 ±0.5	8.9	12.5 ±0.5	53 ±0.25	180 ±1	20.2
MiniMELF	2500	8 ±0.3	8 ±0.5	11.9	12.5 ±0.5	53 ±0.25	180 ±1	20.2
PowerFLAT 5x6	5000	12 ±0.3	8.4 ±1.5	14.4	13 ±0.2	60 ±0.5	180	20.2
Power SO-10	600	24 ±0.3	24.4 ±0.3	30.4	13 ±0.2	60 ±0.25	330	20.2
Power SO-20	600	24 ±0.3	24.4 ±0.3	30.4	13 ±0.2	60 ±0.25	330	20.2
PPAK	2500	16 ±0.3	16.4 ±0.3	22.4	13 ±0.2	60 ±0.25	330	20.2
QFN 1.45x1-6L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	185	20.2
QFN 1.5x1.7-8L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	185	20.2
QFN 1.7x1.35-8L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.5	185	20.2
QFN 1.8x2-6L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	185	20.2
QFN 1x1-6L	3000	8 +3/-0.1	8.4 ±1.5	14.4	13 ±0.2	60 ±0.5	180	20.2
QFN 2.5x1-10L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.5	180	20.2
QFN 2.5x1.5-12L	3000	8 +3/-0.1	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	185	20.2
QFN 2x2-8L	3000	8 ±0.3	8.4 ±1.5	14.4	13 ±0.2	60 ±0.5	180	20.2
QFN 3.3x1.5-16L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	100 ±0.25	330	20.2

Package	Base qty.	Carrier tape width	Reel dimensions					
		W	A	B (max)	C	D (min)	E (max.)	F (min.)
QFN 3.5x1.2-16L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	60 ±0.25	180	20.2
QFN 3x3-12L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	60 ±0.25	330	20.2
QFN 3x3-16L	3000	12 ±0.3	12.4 ±1.5	18.4	13 ±0.2	60 ±0.25	330	20.2
QFN 3x3-6L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	60 ±0.25	180	20.2
QFN 4x4-24L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	100 ±0.25	330	20.2
QFN 4x5-16L	3000	12 ±0.3	8.4 ±1.5	14.4	13 ±0.2	60 ±0.25	180	20.2
QFN 5x5-14L	3000	12 ±0.3	8.4 ±1.5	14.4	13 ±0.2	60 ±0.25	180	20.2
QFN 5x5-5L	3000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	60 ±0.25	180	20.2
QFN 6x6-36L	3000	16 ±0.3	16.4 ±0.3	22.4	13 ±0.2	60 ±0.25	180	20.2
QSOP24	2500	16 ±0.3	16.4 ±0.3	19.1	13 ±0.2	100 ±0.25	330	20.2
QSOP28	2500	16 ±0.3	16.4 ±0.3	19.1	13 ±0.2	100 ±0.25	330	20.2
SMA Flat	2500	12 ±0.3	12.4 +2/-0	18.4	13 ±0.2	50 ±0.25	330	20.2
SMB	2500	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	50 ±0.25	330	20.2
SMB Flat	5000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	100 ±0.25	330	20.2
SMB Flat-3L	5000	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	100 ±0.25	330	20.2
SMC	2500	16 ±0.3	16.4 ±0.3	22.4	13 ±0.2	50 ±0.25	330	20.2
SO-20	1000	24 ±0.3	24.4 ±0.3	30.4	13 ±0.2	60 ±0.25	330	20.2
SO-8	2500	12 ±0.3	12.4 ±0.3	18.4	13 ±0.2	50 ±0.25	180	20.2
	2500	12 ±0.3	13 +0.5/-0.2	18.4	13 ±0.2	50 ±0.25	330	
SO-8W	1500	16 ±0.3	16.4 ±0.3	22.4	13 ±0.2	20.2 ±0.25	185	20.2
SOD123	3000	8 ±0.3	8.4 +0.2/-0.1	14.4	13 ±0.2	60 ±0.25	185	20.2
SOD128	3000	12 ±0.3	12.4 +0.3/-0.5	18.4	13 +0.5/-0.2	60 ±0.5	330 ±0.2	20.2
SOD323	10000	8 ±0.2	8.4 +0.2/-0	14.4	13 +0.5/-0.2	100 ±0.2	185	20.5 ±0.2

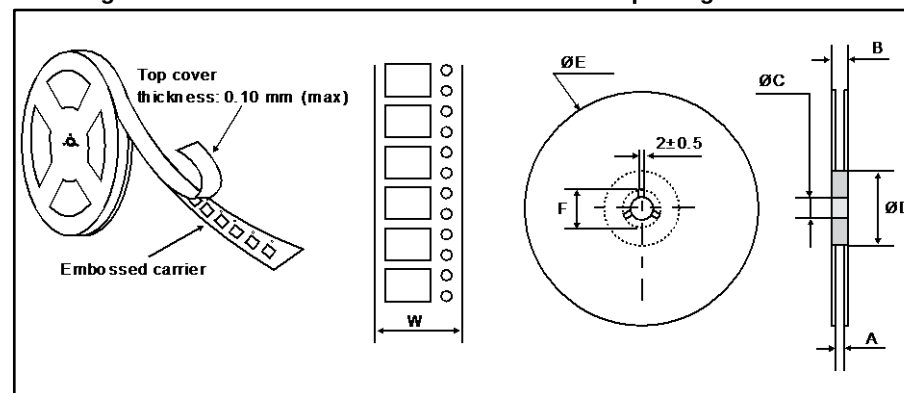
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Package	Base qty.	Carrier tape width	Reel dimensions					
		W	A	B (max)	C	D (min)	E (max.)	F (min.)
	3000		8.4 +0.2/-0.1	10.9	13 ±0.2	60 ±0.25		20.2
SOD523	3000	8 ±0.3	8.4 +0.2/-0.1	14.4	13 ±0.2	60 ±0.25	185	20.2
SOD882	12000	8 ±0.1	8.4 +1.6/-0	14.4	13 ±0.2	60 ±0.25	180	20.2
SOD882T	12000	8 ±0.1	8.4 ±1.5	14.4	13 ±0.2	60 ±0.25	180	20.2
SOT223	4000	12 ±0.3	13 max.	22.4	13 ±0.2	50 ±0.25	330	20.2
	1000				13 ±0.2	60 ±0.25	178	20.2
SOT23	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	50 ±0.25	180	20.2
SOT23-5L	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	50 ±0.25	180	20.2
SOT23-6L	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	50 ±0.25	180	20.2
SOT323	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	180	20.2
SOT323-5L	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	180	20.2
SOT323-6L	3000	8 ±0.3	8.4 ±0.3	14.4	13 ±0.2	60 ±0.25	180	20.2
SOT663	3000	8 ±0.3	8.4 ±0.3	10.9	13 ±0.2	60 ±0.25	180	20.2
SOT665	3000	8 ±0.3	8.4 ±0.3	10.9	13 ±0.2	60 ±0.25	180	20.2
SOT666	3000	8 ±0.3	8.4 ±0.3	10.9	13 ±0.2	60 ±0.25	185	20.2
SOT883	12000	8 +0.3/-0.1	8.4 +1.6/-0	11.4	13 ±0.2	60 ±0.25	180	20.2
SSOP20	2000	16 ±0.3	16 ±0.3	22.4	13 ±0.2	50 ±0.25	330	20.2
SSOP24	2000	16 ±0.3	20 ±0.3	22.4	13 ±0.2	20.2 ±0.25	330	20.2
ST01005	20000	8 ±0.3	8.4 ±0.3	14.4	13.2 ±0.2	59 ±0.25	180	20.2
ST0201	5000	8 ±0.1	8.4 ±1.5	14.4	13.2 ±0.2	60 ±0.5	180	20.2
	10000							
STmite	12000	12 ±0.3	12.4 +2/-01.5	18.4	13.2 ±0.2	100 ±0.25	330	20.2
STmite Flat	12000	12 ±0.3	12.4 ±0.3	18.4	13.2 ±0.2	100 ±0.25	330	20.2

Package	Base qty.	Carrier tape width	Reel dimensions					
		W	A	B (max)	C	D (min)	E (max.)	F (min.)
TSSOP14	2500	16 ±0.3	16.4 ±0.3	22.4	13.2 ±0.2	20.2 ±0.25	330	20.2
TSSOP20	2500	16 ±0.3	16.4 ±0.3	22.4	13.2 ±0.2	20.2 ±0.25	330	20.2
TSSOP24	2500	16 ±0.3	16.4 ±0.3	22.4	13.2 ±0.2	20.2 ±0.25	330	20.2
TSSOP24	2500	16 ±0.3	16.4 ±0.3	22.4	13.2 ±0.2	20.2 ±0.25	330	20.2

Figure 2: Reel characteristics for surface mount packages and TO92



1.3 Tape and reel dimensions for through hole packages

Table 3: Through hole devices - all dimensions in millimeters

Package	Base qty.	Carrier tape width	Reel dimensions				
		W	A	B (max)	C	D (min)	E (max.)
TO-92	2000	-	42	57	30	77	359

Figure 3: Tape and reel configuration

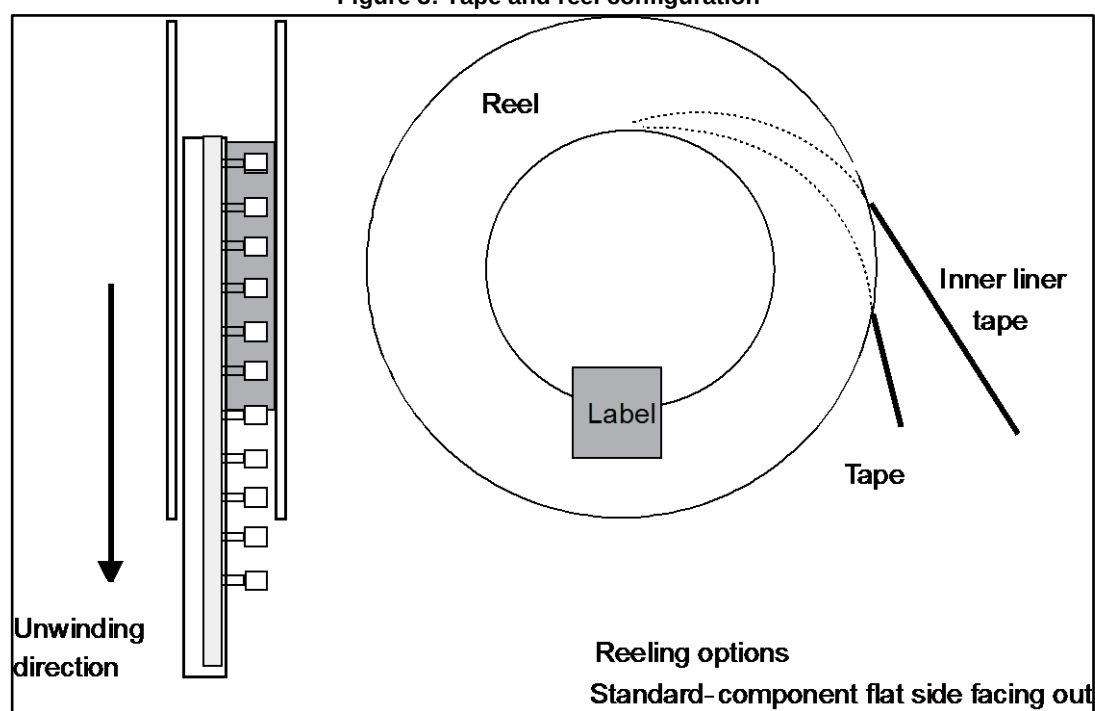


Figure 4: Standard tape and component flat side facing out

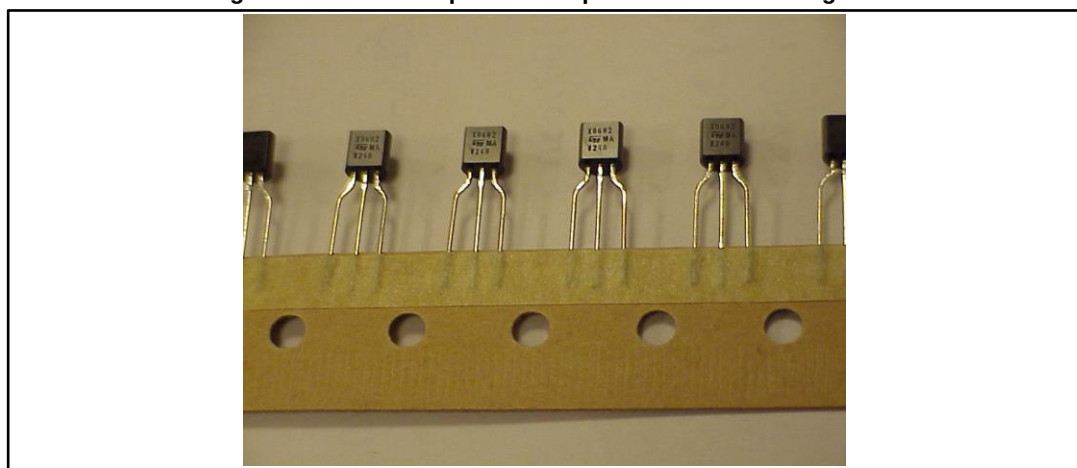
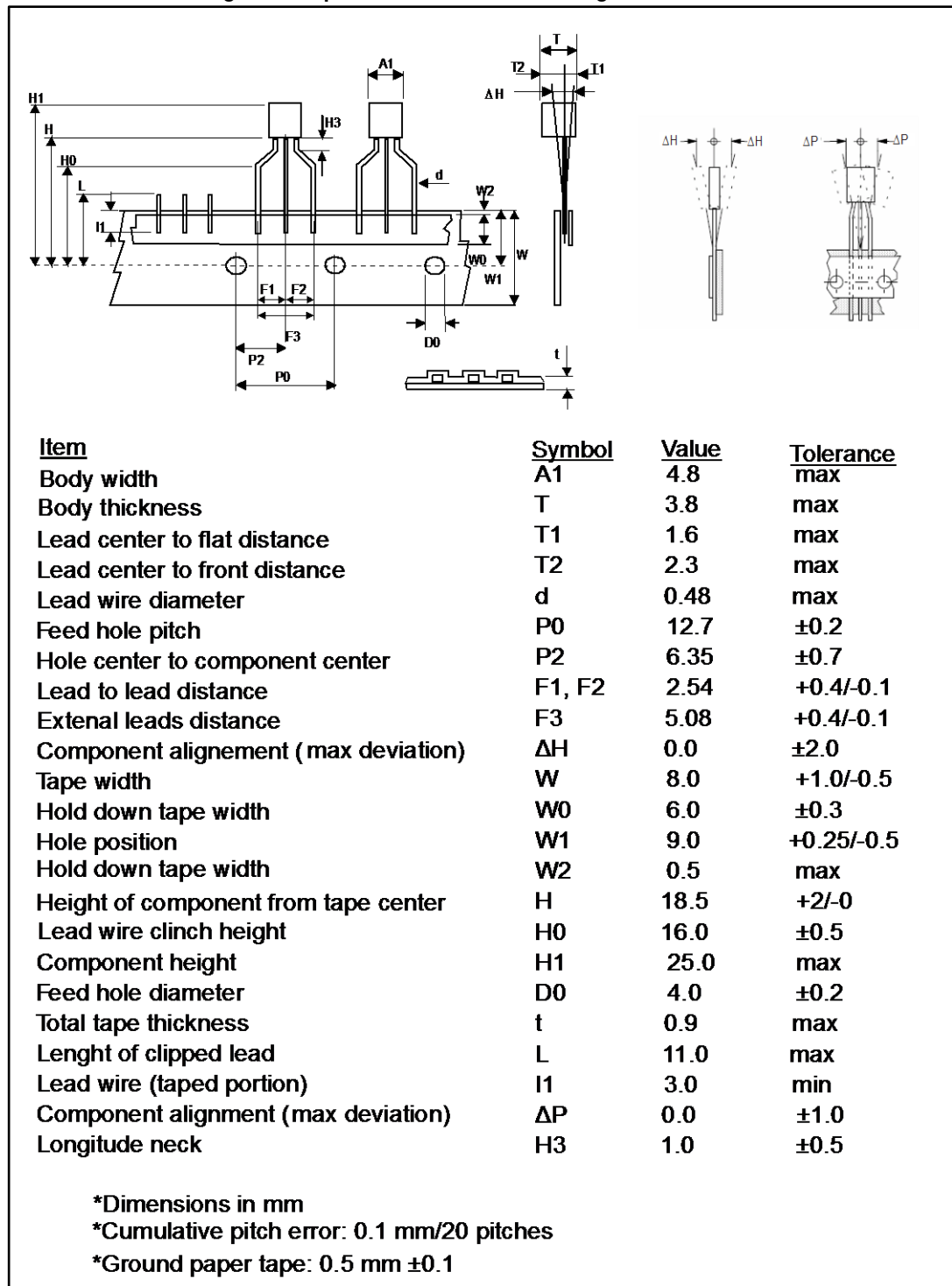


Figure 5: Tape characteristics for through hole devices

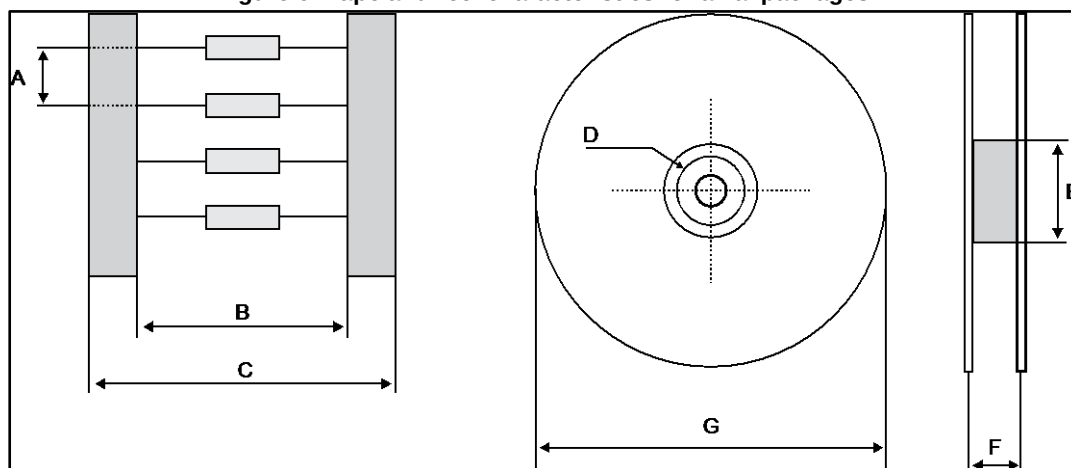


1.4 Tape and reel dimensions for axial packages

Table 4: Axial devices - all dimensions in millimeters

Package	Base qty.	Component spacing	Tape spacing		Reel dimensions			
		A	B	C	D	E	F	G
DO-15	6000	5 ±0.5	52 +2/-1	66 ±2	31.5 +0.5/-0	86 ±0.5	72 +3/-0.5	356 ±2
DO-201	1900	10 ±0.5	53 ±2	65 ±2	31.5	85	78 min.	356 ±2
DO-201AD	1900	10 ±0.5	52 +2/-1	65 ±2	16.5 ±0.5	82 ±0.5	73 ±0.5	356 ±2
DO-35	5000	5 ±0.5	52 +2/-1	65 ±2	20 +0.5/-0	48 ±0.5	72 +3/-1	356 ±2
DO-41	5000	5 ±0.5	52 +2/-1	65 ±2	16.5 ±0.5	82 ±0.5	73 ±0.5	356 ±2
R6	1000	10 ±0.5	53 ±2	65 ±2	31.5	86	78 min.	356 ±2

Figure 6: Tape and reel characteristics for axial packages



All unidirectional components are oriented with a red tape on cathode and white tape on anode. Bidirectional components have red tapes on both sides.

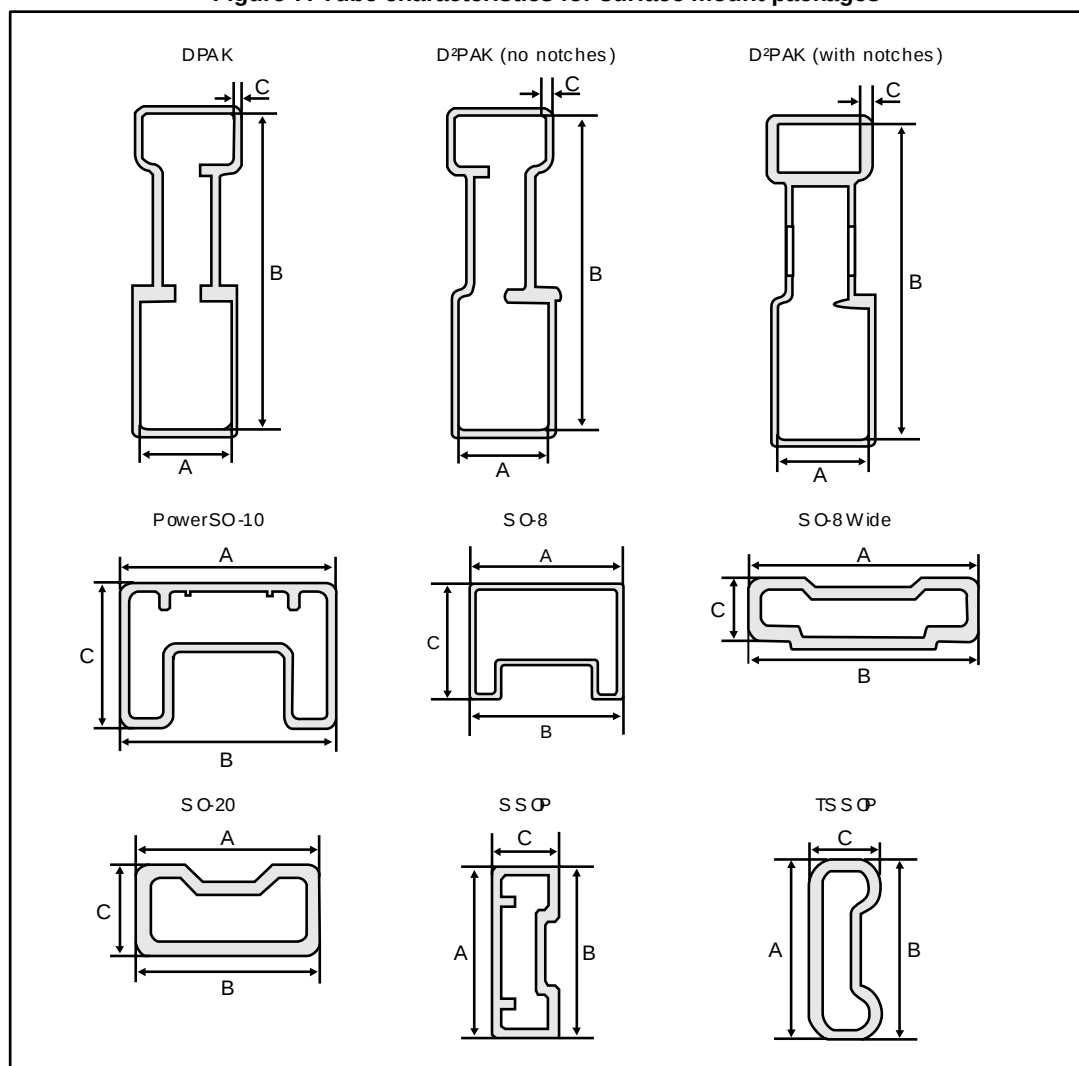
2 Tube delivery mode

2.1 Tube dimensions for surface mount packages

Table 5: Surface mount devices - all dimensions in millimeters

Package	Base qty.	Tubel dimensions			
		Length	A	B	C
D ² PAK	50	532 ±1	33.9 ±0.2	33.9 ±0.2	11 ±0.2
DPAK	75	532 ±0.5	6 ±0.1	21.3 ±0.2	0.6 +0.1/-0
PowerSO-10	50	532 ±1	18 ±0.2	18 ±0.2	12 ±0.2
SO16	50	532 ±0.1	7.8 ±0.1	7.8 ±0.1	3.8 ±0.1
SO-20	40	532 ±1	18.8 ±0.1	18.8 ±0.1	6.3 ±0.1
SO-8	100	532 ±1	7.8 ±0.1	7.8 ±0.1	3.8 ±0.1
SO-8 Wide	80	532 ±1	15 ±0.5	7.8 ±0.1	4.7 ±0.2
SSOP20	66	508 ±1.27	10.6 ±0.1	10.6 ±0.1	4 ±0.13
SSOP24	59	508 ±1.27	10.6 ±0.1	10.6 ±0.1	4 ±0.13
TSSOP20	74	508 ±1.27	7.83 ±0.1	7.83 ±0.1	3.04 ±0.127
TSSOP24	62	508 ±1.27	7.83 ±0.1	7.83 ±0.1	3.04 ±0.127
TSSOP28	20	508 ±1.27	7.83 ±0.1	7.83 ±0.1	3.04 ±0.127

Figure 7: Tube characteristics for surface mount packages



2.2 Tube dimensions for through hole packages

Table 6: Through hole devices - all dimensions in millimeters

Package	Base qty.	Tubel dimensions			
		Length	A	B	C
DIP-8	50	532 ±0.5	15.2 ±0.25	11.2 ±0.25	0.5 +0.15/-0.1
DIP-16	25	532 ±1	15.2 ±0.25	11.2 ±0.2	0.5 ±0.3
DIP-20	20	532 ±0.5	15.2 ±0.25	11.2 ±0.25	-
DO247	30	532 ±0.5	10 ±0.15	37.5 ±0.2	0.9 ±0.1
DOP3	30	532 ±0.5	6.4 +0.2/-0	40.5 ±0.2	0.5 +0.1/-0
IPAK	75	532 ±0.5	6 ±0.1	21.3 ±0.2	0.6 ±0.1

Package	Base qty.	Tubel dimensions			
		Length	A	B	C
I ² PAK	50	532 ±0.5	9.5 ±0.2	32.4 ±0.2	0.75 ±0.1
ISOTOP	10	532 ±0.5	26.5 ±0.15	23 ±0.2	1.25 max.
Max220	50	532 ±1	9.5 ±0.1	32.4 ±0.2	0.75 ±0.1
Max247	30	532 ±0.5	10 ±0.15	37.5 ±0.2	0.9 ±0.1
PENTAWATT	50	532 ±0.5	17 ±0.2	32.1 ±0.2	1 ±0.1
P ² PAK	50	532 ±0.5	9.5 ±0.2	21.4 ±0.2	0.75 ±0.1
SOD-93	30	532 ±0.5	6.4 +0.2/-0	40.5 ±0.2	0.5 +0.1/-0
SOT-82	50	532 ±0.5	3.7 ±0.1	33 ±0.2	0.65 ±0.1
SOT-93	30	532 ±0.5	6.4 +0.2/-0	40.5 ±0.2	0.5 +0.1/-0
TO202-3	50	532 ±0.5	6.5 ±0.5	38.5 ±1	0.75 ±0.1
TO-220AB / TO-220AB Ins	50	532 ±0.5	5.5 ±0.2	31.4 ±0.2	0.75 ±0.1
TO-220AC / TO-220AC Ins	50	532 ±0.5	5.5 ±0.2	31.4 ±0.2	0.75 ±0.1
TO-220FPAB / TO-220FPAC	50	532 ±0.5	5.5 ±0.2	31.4 ±0.2	0.75 ±0.1
TO-220AB Ins. F5 option	50	532 ±0.5	9.3 ±0.1	32.2 ±0.2	0.85 ±0.05
TO-220FPAB / TO-220FPAC FD5	50	532 ±0.5	9.35 ±0.2	31.3 ±0.2	0.75 ±0.2
TO-247	30	537.5 +0.5/-1.0	10 ±0.15	37.5 ±0.2	0.9 ±0.1
TOP3 / TOP3 Ins.	30	532 ±0.5	6.4 +0.2/-0	40.5 ±0.2	0.5 +0.1/-0

Figure 8: Tube characteristics for through hole packages (1/2)

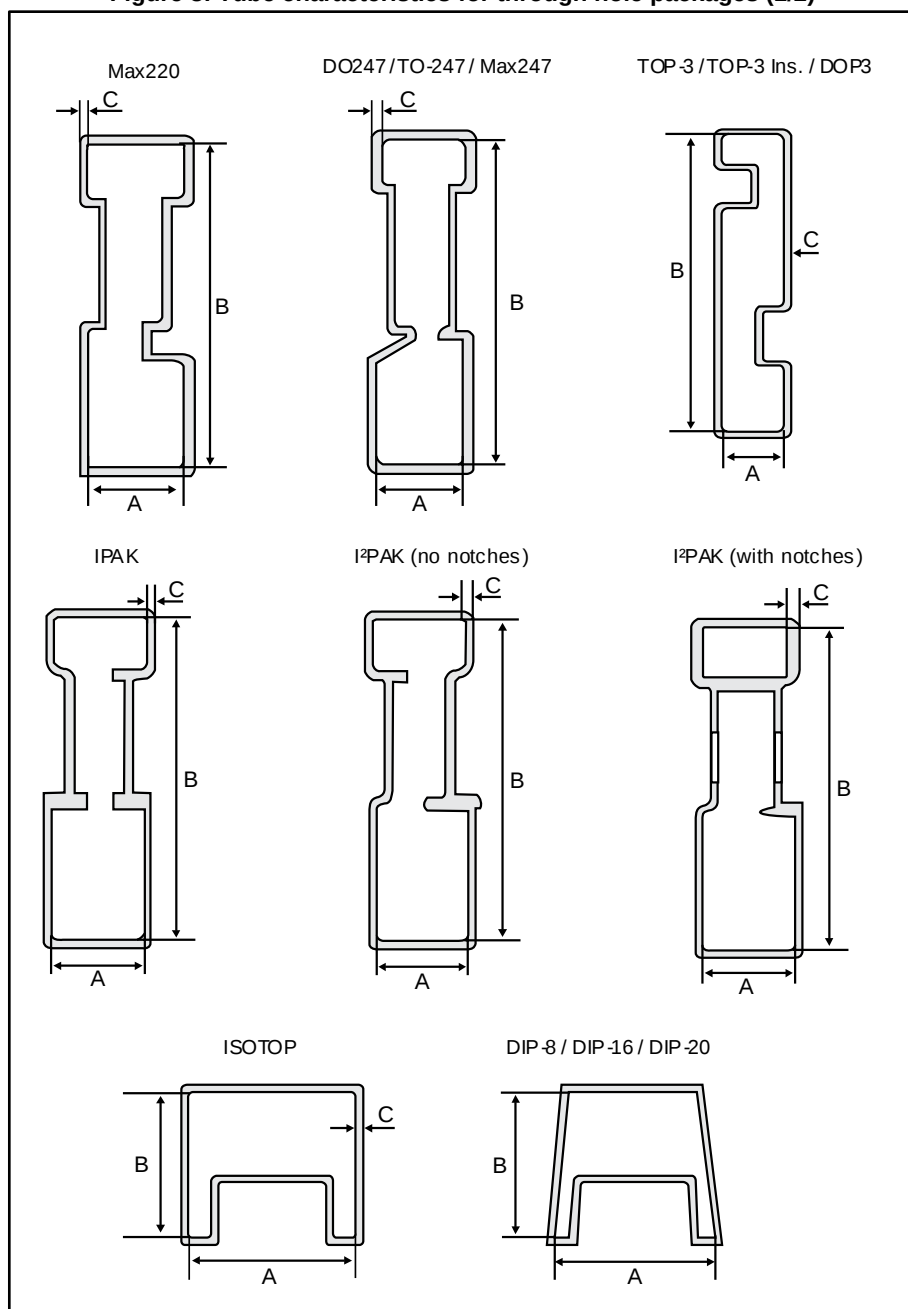
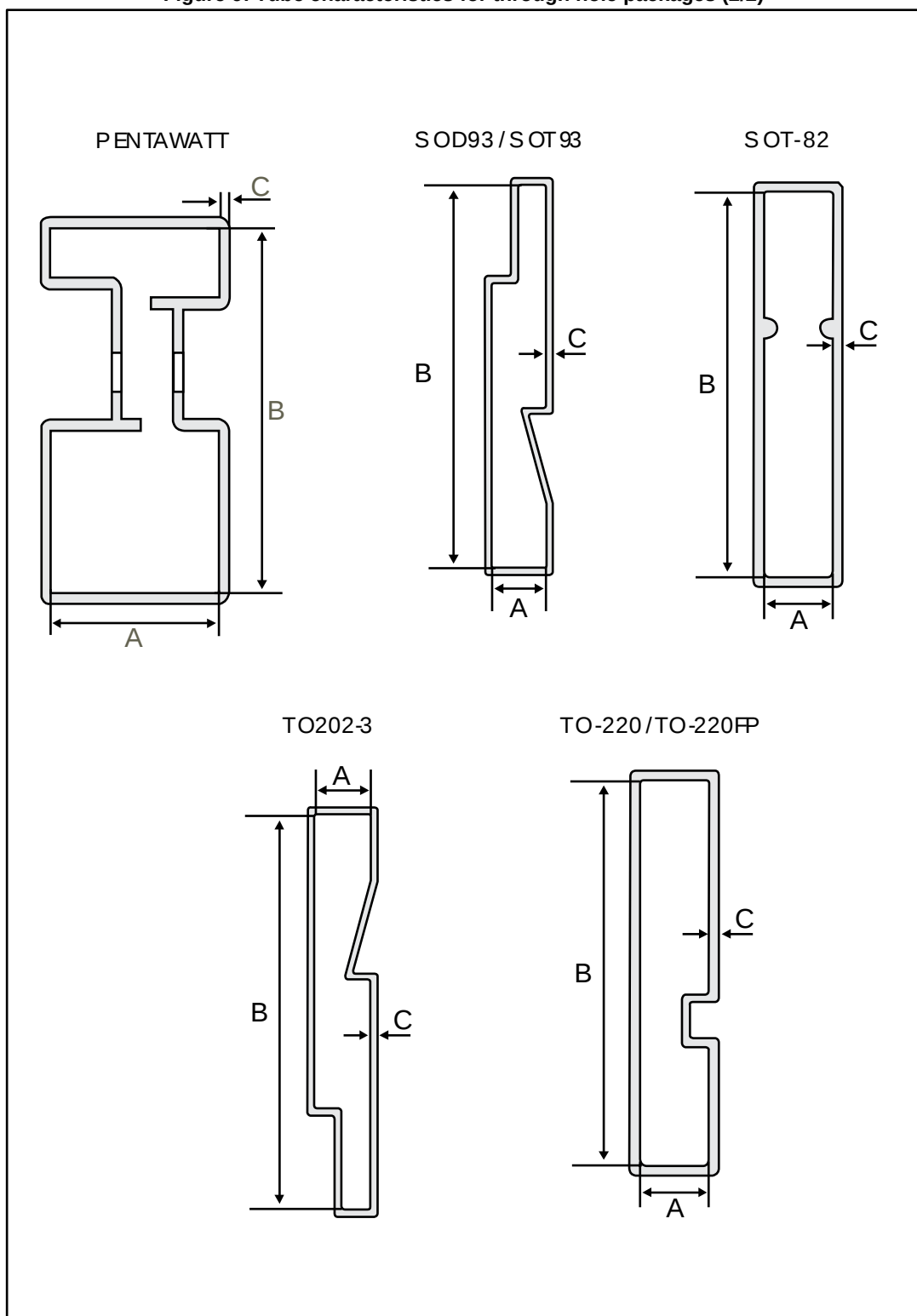


Figure 9: Tube characteristics for through hole packages (2/2)



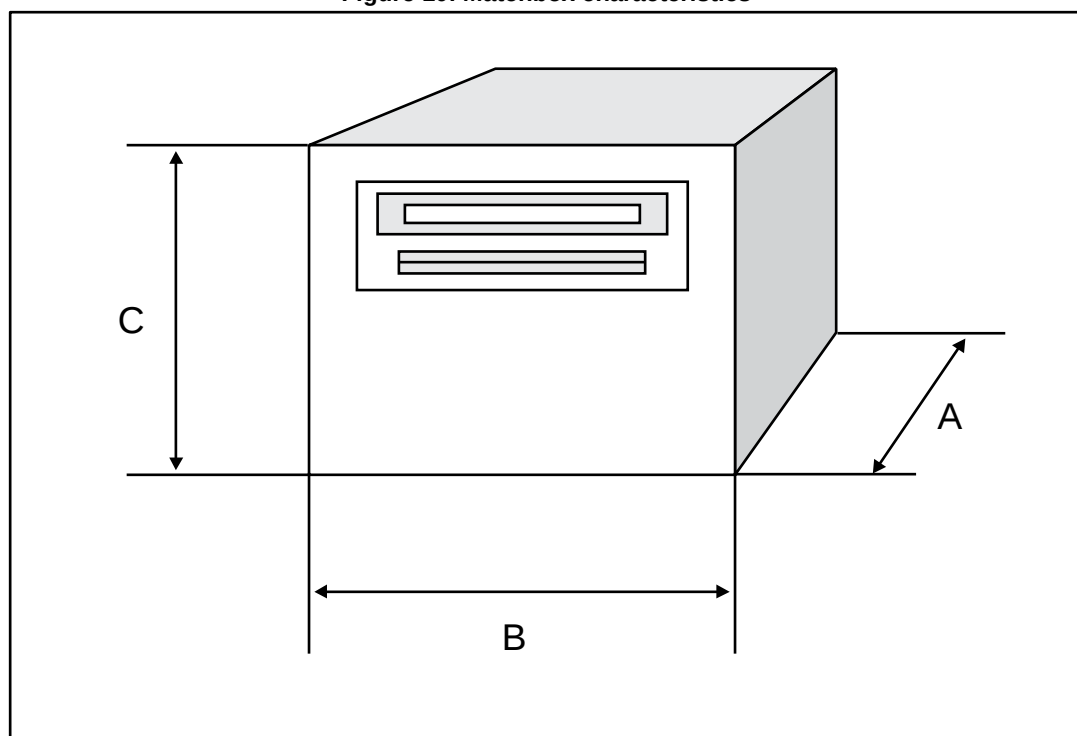
3 Box delivery mode

3.1 Matchbox (bulk) dimensions

Table 7: Axial and through hole devices - all dimensions in millimeters

Package	Base qty.	Box dimensions		
		A	B	C
DO-201AD	500	77	77	252
RD91	25	148	80	62
R6	100	80	62	148
TO202-3	250	148	80	62
TO-220AB / TO-220AB Ins.	250	148	80	62
TO-92	2500	252	77	77
TOP3 / TOP3 Ins.	120	62	80	140
DO35	500	148	80	62

Figure 10: Matchbox characteristics



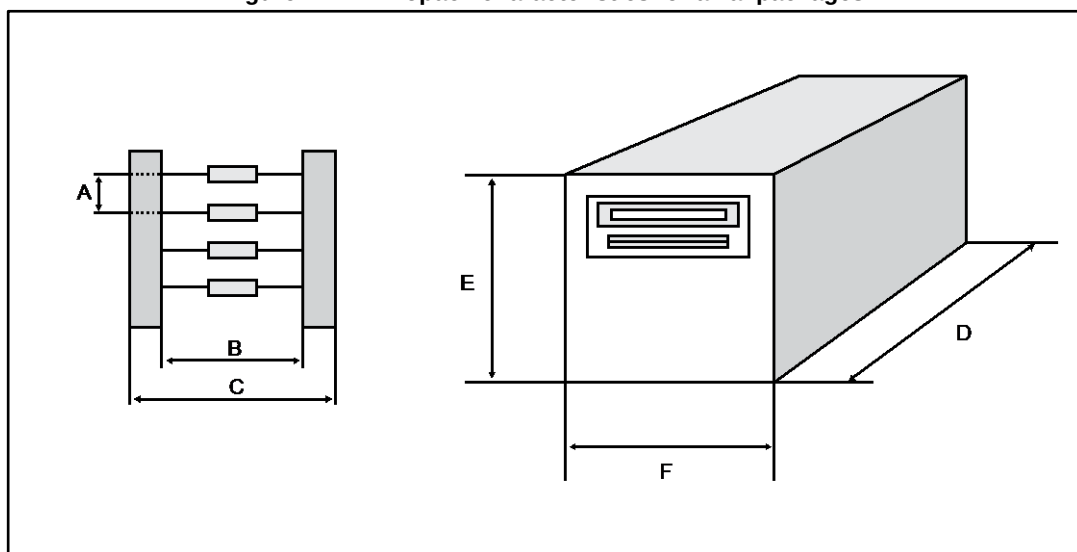
TO-92 leads are not bent in matchbox packing.

3.2 Ammopack (fan fold box) dimensions

Table 8: Axial devices - all dimensions in millimeters

Package	Base qty.	Component spacing	Tape spacing		Box dimensions		
		A	B	C	D	E	F
DO-15	1000	5 ±0.5	52 (+2/-1)	66 ±2	252	77	77
DO-201	600	10 ±0.5	53 ±2	66 ±2	252	77	77
DO-201AD	600	10 ±0.5	52 (+2/-1)	66 ±2	252	77	77
DO-41 plastic	2000	5 ±0.5	52 (+2/-1)	66 ±2	252	77	77
R6	100	5 ±0.5	53 ±2	66 ±2	252	77	77

Figure 11: Ammopack characteristics for axial packages



All unidirectional components are oriented with a red tape on cathode and white tape on anode. Bidirectional components have red tapes on both sides.

Table 9: Through hole devices - all dimensions in millimeters

Package	Base qty.	Box dimensions		
		E	F	D
TO-92	2000	180	37	326

Figure 12: TO-92 ammopack characteristics

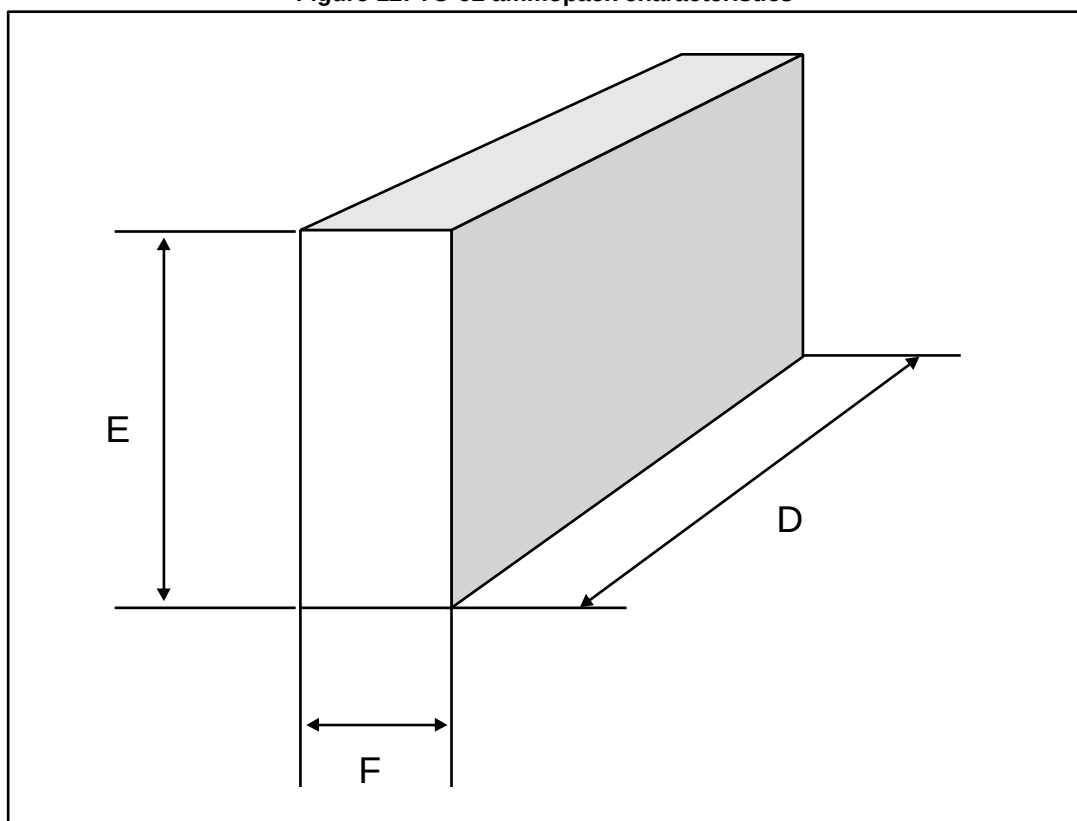
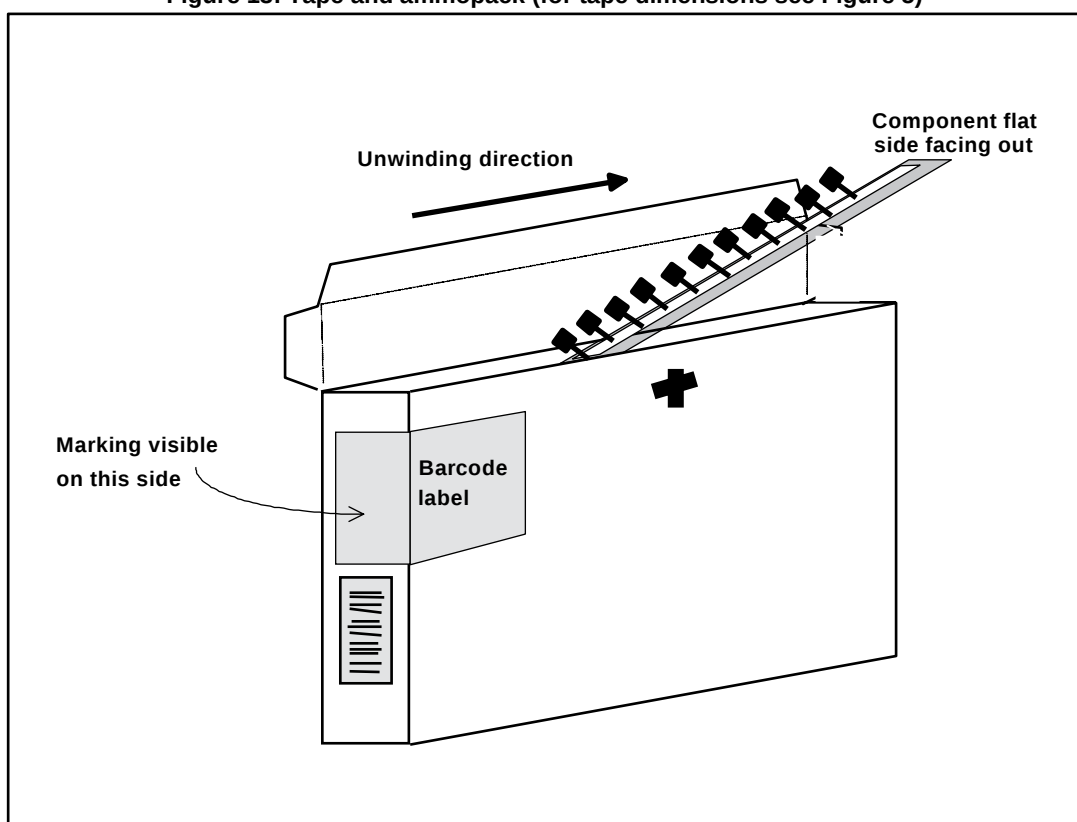


Figure 13: Tape and ammopack (for tape dimensions see Figure 5)



4 Revision history

Table 10: Document revision history

Date	Version	Changes
02-Apr-2015	1	Initial release.
11-Aug-2015	2	Updated Figure 5.
09-Oct-2015	3	Updated title in cover page. Updated Table 1, Figure 1, Table 2. Minor text changes.
14-Nov-2016	4	Updated Table 1 and Table 2 .
16-May-2017	5	Updated Table 1 .

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