DipTrace

Pattern Names Help

How to use?!

Pattern name carries information about pattern type and number of various parameters like pitch, width, number of pads e.t.c., divided by columns. Each column has a number which links to corresponding item in description. Look at the example below:

PDFN	-	10	R	/	4x4	x	0.8
Type		1	2		3		4

Description:
1) Number of pads, excluding the central pad
2) Special pad parameters:
   P - Package with peg leads*
   NP - no central pad*
   R - rectangular pad*
   L - oblong pad*
   V - similar package of the same name*
3) Size of the package, (x;y), (mm)
4) Pitch, (mm).
   *Letters in pattern's type description show all possible variants of packages of this type.

According to the table and description above, we can say that this is 4 by 4 mm Pullback Dual Flat No-Lead (PDFN)** package with 10 rectangular (R) pads (except center pad) and 0.8 mm pitch. It belongs to DFN library. This information is all you need in order to decide if this package fits.

   **Meaning of abbreviation is indicated in library description. For example,
   DFN library consists of DFN and PDFN pattern types.

1   General

Description:
Special library with most basic and popular components of different types and libraries.

1.1   HDR

HDR	-	1	x	10	H
Type		1		2	3

1) Number of lines of pads
2) Number of pads in each line
3) Direction of the package:
    H - horizontal.

1.2   IDC

IDC	10	F
Type	1	2

1) Total number of pads
2) Style of the package:
    F - female (socket)
    M - male (plug).

2   Batteries

Description:
Names of the packages completely or partially match the names of components.

3   BGA

Ball Grid Array

3.1   BGA

BGA	-	100	/	10x10	x	0.65	_	7x7
Type		1		2		3		4

1) Total number of pads
2) Number of columns (x) and number of rows (y); (x;y)
3) Pitch, (mm)
4) Size of the package, (x;y), (mm).

BGA	-	60	/	9x12	_	0.8x1	_	8x13
Type		1		2		3		4

1) Total number of pads
2) Number of columns (x) and number of rows (y); (x;y)
3) Pitch by X- and Y-Axis (x;y), (mm)
4) Size of the package, (x;y), (mm).

4 BQFP

Bumper Quad Flat Packages

4.1 BQFP

BQFP	-	100	V	/	22.4x22.4	x	0.635
Type		1	2		3		4

1) Number of pads
2) V - Variant of the package
3) Size of the package, with leads, (x;y), (mm)
4) Pitch, (mm).

5 CAP

Capacitors

CAPD - Diagonal
CAPO - Oval
CAPP - Polar
CAPPR - P - polar, R - round
CAPR - Round
CAPT - Tantalum

5.1 CAP

CAP	-	17.8	/	13x21
Type		1		2

1) Pad spacing, (mm)
2) Size of the package, (x;y), (mm). These packages are round, so "y" is, actually, a diameter.

5.2 CAPD

CAPD	-	10	x	1.3	/	7x4
Type		1		2		3

1) Diagonal distance between pads, (mm)
2) Distance between pads by Y-axis, (mm)
3) Size of the package, (x;y), (mm).

5.3 CAPO

CAPO	-	2.54	/	3.05x1.78
Type		1		2

1) Clearance between pads, X-axis, (mm)
2) Size of the package (x;y), (mm).

5.4 CAPP

CAPP	-	0.76	/	1.27x1.02
Type		1		2

1) Pad spacing, X-axis, (mm)
2) Size of the package, (x;y), (mm).

5.5 CAPP3

CAPP3	-	2.54	/	7.1x6.85
Type		1		2

1) Distance between pads by X-axis, (mm)
2) Size of the package, (x;y), (mm).

5.6 CAPPR

CAPPR	-	0.76	/	1.45	h	2.54
Type		1		2		3

1) Pad spacing, X-axis, (mm)
2) Diameter of the package, (mm)
3) Package height, (mm).

CAPPR	-	10	/	d2.3	/	22.5	h	42
Type		1		2		3		4

1) Pad spacing, X-axis, (mm)
2) Diameter of the pad hole, (mm)
2) Diameter of the package, (mm)
3) Package height, (mm).

5.7 CAPR

CAPR	-	2.5	/	6.3	h	11
Type		1		2		3

1) Pad spacing, X-axis, (mm)
2) Diameter of the package, (mm)
3) Package height, (mm).

5.8 CAPT

CAPT	-	10.6	/	14x3.5
Type		1		2

1) Pad clearance, X-axis, (mm)
2) Size of the package (x;y), (mm).

6 CAP_SMD

SMD Capacitors

CAPA - Array
CAPAE - A - aluminum, E - electrolytic
TC - Tantalum capacitor

6.1 CAP

CAP	_	04	02
Type		1	2

1) Size of the package, (X-axis = 40), (mil)
2) Size of the package, (Y-axis =20), (mil)

CAP	_	18	25
Type		1	2

1) Size of the package, (X-axis = 180), (mil)
2) Size of the package, (Y-axis =250), (mil).

6.2 CAPA

CAPA	-	10	/	3.1x6.4	x	1.27
Type		1		2		3

1) Number of pads
        V - variant of the package
2) Size of the package, (x;y), (mm)
3) Pitch, (mm).

6.3 CAPAE

CAPAE	-	5.3x5.3	h	6.1
Type		1		2

1) Size of the package (x;y), (mm)
2) Height, (mm).

6.4 TC

TC		08	05
Type		1	2

1) Size of the package, (X-axis = 80), (mil)
2) Size of the package, (Y-axis = 50), (mil)

TC	_	29	17
Type		1	2

1) Size of the package, (X-axis = 290), (mil)
2) Size of the package, (Y-axis = 170), (mil).

7 CFP

Ceramic Flat Packages

7.1 CFP

CFP	-	10	/	6	x	1.27
Type		1		2		3

1) Number of pads
2) Size of the package, X-axis, (mm)
3) Pitch, (mm).

8 Con Backplane

Backplane Connectors

8.1 PCI

PCI	-	2.54	/	2	H	56
Type		1		2	3	4

1) Pitch (X-axis), (mm)

2) Number of mounting holes
3) Direction of the package:
       H - horizontal
       V - vertical
4) Number of pads, except mounting holes.

9   Con Batteries

Battery connectors

Description:
Names of the packages completely or partially match the names of components.

10   Con D-Sub

DSUB Connectors

10.1   CHAMP

CHAMP	-	1.27	/	2	H	100
Type		1		2	3	4

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package:
       H - horizontal,
       V - vertical
4) Number of pads, except mounting holes.

10.2   DB

DB	15	F
Type	1	2

1) Total number of pads
2)   F - mirror
       M - base.

10.3   DSUB

DSUB	-	1.385	/	2	H	15
Type		1		2	3	4

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package:
       H - horizontal
       V- vertical
4) Number of pads, except mounting holes

DSUB	-	1.385	/	2	H	15	A
Type		1		2	3	4	5

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package:
        H - horizontal
        V- vertical
4) Number of pads, except mounting holes
5) A, B, C - style of the package.

11   Con Edge Cards

EDGE Connectors

11.1   ECON

ECON	20	/	100
Type	1		2

1) Total number of pads
2) Pitch, (mil).

11.2   SCARD

SCARD	-	1.27	/	2	V	120
Type		1		2	3	4

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package:
        V - vertical
        H - horizontal
4) Number of pads, except mounting holes.

12   Con Headers

Header Connectors

HDR - Male contact
HDRF - Female contact

12.1   HDR

HDR	-	3	x	30	T	H	/	2.54	x	2.54	/	Sh	95x19
Type		1		2	3	4		5		6		7	8

1) Number of lines of pads
2) Number of columns

3) Type of the pad:
        T - through hole pad
        S - surface mount pad
4) Direction of the package:
        H - horizontal
        Vertical - if empty
5) Pitch by X-axis, (mm)
6) Pitch by Y-axis, (mm)
7) Package design type:
        Sh - shrouded
        Regular - if empty
8) Size of the package, (x;y), (mm).

HDR	-	1	x	3	S	Z	/	2	/	6x6
Type		1		2	3	4		5		6

1) Number of lines of pads
2) Number of columns
3) Type of the pad:
        T - through hole pad
        S - surface mount pad
4) Direction of pads:
        Z - zig-zag
        Regular - if empty
5) Pitch, (mm)
6) Size of the package, (x;y), (mm).

12.2   HDRF

HDRF	-	2	x	2	T	/	1.27	x	1.27	/	3x3
Type		1		2	3		4		5		6

1) Number of lines of pads
2) Number of columns
3) Type of the pad:
        T - through hole pad
        S - surface mount pad
4) Pitch by X-axis, (mm)
5) Pitch by Y-axis, (mm)
6) Size of the package, (x;y), (mm).

13   Con Jacks

Jack Connectors

Description:
Names of the packages completely or partially match the names of components.

14   Con Memory Cards

Memory Card Connectors

14.1   DIMM

DIMM	-	1.27	/	2	V	168	A
Type		1		2	3	4	5

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package :
       H - horizontal
       V - vertical
4) Number of pads, except mounting holes
5) Style of the package: (A, B, C).

14.2   SIMM

SIMM	-	1.27	/	2	H	80
Type		1		2	3	4

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package:
       V - vertical
       H - horizontal
4) Total number of pads, except mounting holes.

15   Con Power

Power Connectors, DC Jacks

Description:
Names of the packages completely or partially match the names of components.

16   Con RCA Jacks

RCA Connectors

Description:
Names of the packages completely or partially match the names of components.

17   Con RF & Coaxial

RF and Coaxial connectors

Description:

Names of the packages completely or partially match the names of components.

17.1 MCX

MCX	-	5.08	/	H	5
Type		1		2	3

1) Distance between pads, (mm)
2) Direction of the Package:
        H - horizontal
        V - vertical
3) Total number of pads

18   Con TB Headers

Terminal Block Connectors, Headers

18.1 TBH

TBH	-	2	x	24	H	/	3.81	x	15.24	/	4	Sh	93x22
Type		1		2	3		4		5		6	7	8

1) Number of lines of pads
2) Number of columns
3) Direction of the package:
        H - horizontal
        A - 45 degree angle
        Vertical - if empty
4) Pitch by X-axis, (mm)
5) Pitch by Y-axis, (mm)
6) Number of shrouded sides
7) Package design type:
        Sh - shrouded
        Regular - if empty
8) Size of the package, (x;y), (mm).

TBH	-	2	x	19	H	Z	/	5.08	x	15.24	/	2	Sh	99x22
Type		1		2	3	4		5		6		7	8	9

1) Number of lines of pads
2) Number of columns
3) Direction of the package:
        H - horizontal
        A - 45 degree angle
        Vertical - if empty
4) Direction of pads:

Z - zig-zag
Regular - if empty
5) Pitch by X-axis, (mm)
6) Pitch by Y-axis, (mm)
7) Number of shrouded sides
8) Package design type:
Sh - shrouded
Regular - if empty
9) Size of the package, (x;y), (mm).

18.2   TBHF

TBHF	-	1	x	2	H	/	3.5	/	7x15
Type		1		2	3		4		5

1) Number of lines of pads
2) Number of columns
3) Direction of the package:
H - horizontal
A - 45 degree angle
Vertical - if empty
4) Pitch of contact pits (on the component package), (mm)
5) Size of the package, (x;y), (mm).

19   Con Term Blocks

Terminal Block connectors

19.1   TB

TB	-	2	x	4	/	15	x	12.5	/	30x31	/	Sc	_	H
Type		1		2		3		4		5		6		7

1) Number of lines of pads
2) Number of columns
3) Pitch by X-axis, (mm)
4) Pitch by Y-axis, (mm)
5) Size of the package, (x;y), (mm)
6) Clamp Type:
Sc - screw clamp
Scl - screwless clamp
7) Direction of contact pit (on the component package):
H - horizontal
A - 45 degree angle
V - vertical

TB	-	1	x	9	Z	/	9.52	x	7.62	/	86x16
Type		1		2	3		4		5		6

1) Number of lines of pads
2) Number of columns
3) Direction of pads:
     Z - zig-zag
     Regular - if empty
4) Pitch by X-axis, (mm)
5) Pitch by Y-axis, (mm)
6) Size of the package, (x;y), (mm).

TB	-	1	x	8	/	3.5	/	29x8	/	Sc	_	V
Type		1		2		3		4		5		6

1) Number of lines of pads
2) Number of columns
3) Pitch by X-axis, (mm)
4) Size of the package, (x;y), (mm)
5) Clamp Type:
     Sc - screw clamp
     Scl - screwless clamp
6) Direction of contact pit (on the component package):
     H - horizontal
     A - 45 degree angle
     V - vertical

20   Con USB

Universal Serial Bus (USB) Connectors

Description:
Names of the packages completely or partially match the names of components.

20.1   USB

USB	-	2.0	/	4	H	4
Type		1		1	2	3

1) Pitch, (mm)
2) Number of mounting holes
3) Direction of the package
4) Number of pads.
     A, B, C, D, E, F-model

21 CQFP

Ceramic quad flat pack

21.1 CQFP

CQFP	-	100	/	17.5x17.5	x	0.635
Type		1		2		3

1) Total number of pads
2) Size of the package (x;y), (mm)
3) Pitch, (mm).

22 Crystals

Crystal Oscillators

Description:
Names of the packages completely or partially match the names of components.

23 DBS

DIL- bent packages

23.1 DBS

DBS	-	27	HR	/	29	x	2.54	x	1
Type		1	2		3		4		5

1) Total number of pads
2) Direction of the package
      H - horizontal package
      R - mirror
      V - variant of the package
3) Size of the package, (mm)
4) Pitch between pads with sequence numbers, (mm)
5) Pitch by X-axis, (mm).

24 DFN

Dual flat no-lead packages

PDFN - Pullback packages

24.1 DFN

DFN	-	14	RL	/	5x6	x	0.8
Type		1	2		3		4

1) Number of pads, except the central pad
2) Special pad / package parameters:
      NP - no central pad
      R - rectangular pad
      L - oblong pad
3) Size of the package, (x;y), (mm)
4) Pitch, (mm).

24.2 PDFN

PDFN	-	10	R	/	4x4	x	0.8
Type		1	2		3		4

1) Number of pads, excluding the central pad
2) Special pad / package parameters:
      P - Package with peg leads
      NP - no central pad
      R - rectangular pad
      L - oblong pad
      V - similar package of the same name
3) Size of the package, (x;y), (mm)
4) Pitch, (mm).

25 Diodes

25.1 DIO

DIO	04	02
Type	1	2

1) Size of the package, (X-axis = 40), (mil)
2) Size of the package, (Y-axis =20), (mil)

DIO	_	18	12
Type		1	2

1) Size of the package, (X-axis = 180), (mil)
2) Size of the package, (Y-axis =120), (mil).

25.2 DO

DO	-	13
Type		1

1) Model.

25.3 SOD

SOD	-	100
Type		1

1) Model

SOD	-	3.6	/	2.2
Type		1		2

1) Pitch, (mm)
2) Size of the package, X-axis, (mm).

25.4 SM

SM	A
Type	Model*

* A, B, C - model identifiers.

26 Diodes Bridge

Diode Bridges

Description:
Names of the packages completely or partially match the names of components.

27 DIP

Dual in-line packages

27.1 DIP

DIP	-	18
Type		1

1) Number of pads.
   Standard package with 2.54 mm pitch and 300 mil distance between rows of pads.

DIP	-	14	(16)	/	TP
Type		1	2		3

1) Total number of pads
2) Imaginary number of pads
3) Special pad / package parameters:
   L - oblong pad
   TP - thermal pad

S - package with downward leads
V - variant of the package

DIP	-	11	(26)	/	900mil
Type		1	2		3

1) Total number of pads
2) Imaginary number of pads
3) Distance between rows of pads

DIP	-	14	/	L22.6
Type		1		2

1) Total number of pads
2) Length of the package, (Y-axis), (mm)

DIP	-	28	/	600mil	/x	1.778
Type		1		2		3

1) Total number of pads
2) Distance between rows of pads
3) Non-standard pitch, (mm)

28   DIP Peg Leads

Dual in-line packages with peg leads

28.1   DIP

DIP	-	10	(16)	S
Type		1	2	3

1) Total number of pads
2) Imaginary number of pads
3) Special pad / package parameters:
    S - DIP package with internal pad's layout
    V - variant of the package

DIP	-	40	S	/	600mil
Type		1	2		3

1) Total number of pads
2) Special pad / package parameters:
    S - DIP package with internal pad's layout
    V - variant of the package
3) Pad rows clearance, (X-axis)

DIP	-	6	S	/	1600mil	/	56x56
Type		1	2		3		4

1) Total number of pads
2) Special pad / package parameters:
    S - DIP package with internal pad's layout
    V - variant of the package
3) Pad rows clearance, (X-axis)
4) Overall sizes of the package, (x;y), (mm)

29 DIP_SMD

Dual in-line packages with SMD Pads

SDIP - Footprint for DIP packages with bent and cut leads
SDIP- ___V - Footprint for packages with cut leads

29.1 SDIP

SDIP	-	48	/	600mil
Type		1		2

1) Number of pads
2) Distance between axes of pad lines
    V - variant of the package

30 Displays

Display packages

30.1 DIP

DIP	-	13	(18)	D	/	600mil		20
Type		1	2	3		4		5

1) Total number of pads
2) Imaginary number of pads
3) D - Display package
4) Distance between rows of pads
5) Package width (by X-axis), (mm).

31 Inductors

31.1 IND

IND	04	02
Type	1	2

1) Size of the package, X-axis (X = 40), (mil)
2) Size of the package, Y-axis (Y = 20), (mil)

IND	_	12	10
Type		1	2

1) Size of the package, X-axis (X = 120), (mil)
2) Size of the package, Y-axis (Y = 100), (mil)

IND	_	400
Type		1

1) Pad spacing, (mil).

32 LCC

Leaded and leadless chip carriers

CLCC - Ceramic
RLCC - Rectangular package (number of vertical pads always isn't equal to horizontal pads)

32.1 LCC

LCC	-	24	/	10.2x10.2	x	1.27
Type		1		2		3

1) Total number of pads
2) Size of the package (x;y), (mm)
3) Pitch, (mm).

32.2 CLCC

CLCC	-	16	/	17.3	x	1.27
Type		1		2		3

1) Total number of pads
2) Distance between edges of leads, (mm)
3) Pitch, (mm).

32.3 RLCC

RLCC	-	10	REP	3.2x5	x	1.27
Type		1	2	3		3

1) Total number of pads
2) Pad properties:
      R - rectangular pads
      EP - exposed pad (central pad)
      V - Similar package of the same name
3) Size of the package (x;y), (mm)
4) Pitch, (mm).

33 LGA

Land grid array

33.1 LGA

LGA	-	118	/	12x12	x	1.27		15x15
Type		1		2		3		4

1) Total number of pads
2) Number of rows (x-axis) and columns (y-axis)
3) Pitch, (mm)
4) Size of the package (x;y), (mm).

34 Misc

MISC - Miscellaneous

Description:
Names of the some packages completely or partially match the names of components.
Lots of packages of different types are stored in this library.

34.1 QIP

QIP	-	80	S	/	1100mil		1500mil
Type		1	2		3		4

1) Total number of pads
2) S - QIP package with internal pad's layout
3) Distance between inner rows of pads
4) Distance between outer rows of pads.

34.2 RSFM

RSFM	-	10	(12)
Type		1	2

1) Number of pads
2) Imaginary number of pads

RSFM	-	3	/	L38
Type		1		2

1) Number of pads
2) L - length of the package, (mm).

34.3 SMS

SMS	-	9	R	/	19	x	23.8	x	2.54
Type		1	2		3		4		5

1) Total number of pads
2) Style of the package
      R - mirror
3) Size by X-axis (From lead edges to the edge of the package)
4) Size of the package (Y-axis), (mm).

35 Pads & Mt Holes

Pads and Mounting Holes for Standard Hardware

MH - Loose fit mounting holes
PAD - Loose fit pads

35.1 MH

MH	:	#2-48	_	2.45	x	7.4
Type		1		2		3

1) Screw size, ANSI standard
2) Hole diameter, (mm)
3) Outer diameter, (mm).

MH	:	M2x0.4	_	2.3	x	6
Type		1		2		3

1) Screw size, ISO (metric) standard

2) Hole diameter, (mm)
3) Outer diameter, (mm).

35.2   PAD

Pad	:	#2-48	(PH)	_	2.45	x	5
Type		1	2		3		4

1) Screw size, ANSI standard
2) Screw type:
      PH - pan head, hardware on PCB
      FW - flat washer, hardware on PCB
3) Hole diameter, (mm)
4) Outer diameter, (mm).

Pad	:	M2x0.4	(PH)	_	2.3	x	4.8
Type		1	2		3		4

1) Screw size, ISO (metric) standard
2) Screw type:
      PH - pan head, hardware on PCB
      FW - flat washer, hardware on PCB
3) Hole diameter, (mm)
4) Outer diameter, (mm).

36   PGA

Pin grid array

36.1   PGA

PGA	-	100	/	10	x	10	x	2.54		27x27
Type		1		2		3		4		5

1) Total number of pads
2) Number of rows (X-axis)
3) Number of columns (Y-axis)
4) Pitch, (mm)
5) Size of the package (x;y), (mm).

37   PLCC

Plastic leaded chip carriers

RPLLC - Rectangular package (number of vertical pads always isn't equal to horizontal pads)

37.1 PLCC

PLCC	-	20	/	8.97x8.97	x	1.27
Type		1		2		3

1) Total number of pads
2) Size of the package (x;y), (mm)
3) Pitch, (mm).

37.2 RPLCC

RPLCC	-	32	/	11.45x14	x	1.27
Type		1		2		3

1) Number of pads
2) Size of the package, (x;y), (mm)
3) Pitch, (mm).

38 Potentiometers

Potentiometers

Description:
Names of the packages completely or partially match the names of components.

39 QFN

Quad flat no-lead

PQFN - Pullback packages
RQFN - Rectangular packages (number of vertical pads always isn't equal to horizontal pads)
PRQFN - Pullback Rectangular packages

39.1 QFN

QFN	-	100	L	/	12x12	x	0.4
Type		1	2		3		4

1) Number of pads, excepting the central one
2) Shape of the pad:
      R - rectangular pads
      L - oblong pads
      NP - no central pad
3) Size of the package (x;y), (mm)
4) Pitch, (mm)

39.2   PQFN

PQFN	-	68	R	/	10x10	x	0.5
Type		1	2		3		4

1) Number of pads, excepting the central one
2) Shape of the pad:
       R - rectangular. Default shape is oval.
       L - oblong pads
3) Overall sizes of the package
4) Pitch, (mm).

39.3   RQFN

RQFN	-	10	NP	/	1.8x1.4	x	0.4
Type		1	2		3		4

1) Number of pads, excepting the central one
2) Shape of the pad:
       R - rectangular pads
       L - oblong pads
       NP - no central pad
3) Size of the package, (x;y), (mm)
4) Pitch, (mm)

39.4   PRQFN

PRQFN	-	32	R	/	5x6	x	0.5
Type		1	2		3		4

1) Number of pads, except the central one
2) Shape of the pad:
       R - rectangular pads
       NP - no central pad
3) Size of the package (x;y), (mm)
4) Pitch, (mm).

40   QFP

Quad flat pack

RQFP - Rectangular (number of vertical pads always isn't equal to horizontal pads)

40.1   QFP

QFP	-	144	EP	/	22x22	x	0.5
Type		1	2		3		4

1) Total number of pads

2) Special pad / package parameters:
   EP - exposed pad (central pad)
   V - similar package of the same name
3) Size of the package by the edges of leads, (mm)
4) Pitch, (mm).

40.2   RQFP

RQFP	-	160	EP	/	31.2x31.2	x	0.65
Type		1	2		3		4

1) Total number of pads
2) Central pad and configuration:
   EP - central pad
   V - central pad variant.
3) Size of the package by the edges of leads, (x;y), (mm)
4) Pitch, (mm).

41   Relays

Relay packages

Description:
Names of the packages completely or partially match the names of components.

42   Resistors

Axial resistors

RESA - Resistor Array
RESCA - Chip resistor array
RESCAV - Chip resistor array, Pads with concave termination
RESCAX - Chip resistor array, Pads with convex termination

42.1   RES

RES	-	10.55	/	7x2.8
Type		1		2

1) Distance between pads, (mm)
2) Size of the package, (x;y), (mm).

42.2   RES (SMD)

RES	04	02
Type	1	2

1) Size of the package, (X-axis = 40), (mil)
2) Size of the package, (Y-axis =20), (mil)

RES	_	20	10
Type		1	2

1) Size of the package, (X-axis = 200), (mil)
2) Size of the package, (Y-axis =100), (mil).

42.3 RESA

RESA	-	12	/	16.9x2	x	1.27
Type		1		2		3

1) Number of pads
2) Overall sizes of the package. (x;y), (mm)
3) Pitch, (mm).

43 Sensors & LED

Sensors and LEDs

Description:
Names of the packages completely or partially match the names of components.

44 SIP

Single in-line packages

44.1 SIP

SIP	-	13	(19)	/	62.4x7.87	x	2.54
Type		1	2		3		4

1) Number of pads
2) Imaginary number of pads
3) Size of the package, (x;y), (mm)
4) Pitch, (mm).

45 SOJ

Small outline J-leads packages

45.1 SOJ

SOJ	-	20	(26)	/	8.65	x	1.27
Type		1	2		3		4

1) Total number of Pads
2) Imaginary number of pads
3) Distance between edges of leads of the package
4) Pitch, (mm).

Dependency of Package width from the distance between edges of leads	(mm)		(mil)	
	Distance between edges of leads	Package width	Distance between edges of leads	Package width
	8.65	7.62	340	300
	11.2	10.29	440	405

46 SOP

Small outline packages

MSOP - Mini Small Outline Packages
SSOP - Shrink Small Outline Packages
TSOP - Thin Small Outline Packages
QSOP - Quad Small Outline Packages
TSSOP - Thin Shrink Small Outline Packages

46.1 SOP

SOP	-	12	(14)	/	6.6	x	1.27
Type		1	2		3		4

1) Total number of pads, except the central pad
2) Imaginary number of pads
3) Distance between edges of leads, (mm)
4) Pitch, (mm)

SOP	-	16	EP	/	9	x	0.8
Type		1	2		3		4

1) Total number of pads, except the central pad
2) Special pad / package parameters:
    EP - exposed pad
    V - similar component of the same name
3) Distance between edges of leads, (mm)
4) Pitch, (mm).

46.2   MSOP

Default dimensions for MSOP-packages	mm	mil
Pitch, (Y-axis)	0.5/0.65	19.7/25.6
Distance between lead edges of the package	4.9	193

MSOP	-	10	EP
Type		1	2

1) Total number of pads
2) EP - exposed pad.

46.3   SSOP

Default dimensions for SSOP-packages	mm	mil
Pitch for SSOP	0.65	25.6
Width of the package (X-axis)	5.3	209
Width of the package	7.8	307

SSOP	-	14
Type		1

1) Number of pads.

46.4   QSOP

Default dimensions for QSOP-packages	mm	mil
Pitch (Y-axis)	0.635	25
Distance between lead edges of the package	6	237

QSOP	-	16	EP
Type		1	2

1) Total number of pads, except the central one
2) EP - exposed pad (central pad).

46.5 TSOP

TSOP	-	16	/	6	x	14	x	0.65
Type		1		2		3		4

1) Total number of pads
2) Size of the package, (Y-axis), (mm)
3) Distance between edges of leads, (X-axis), (mm)
4) Pitch, (mm).

46.6 TSSOP

Default dimensions for TSSOP-packages	mm	mil
Pitch for TSSOP	0.65	25.6
Package width, (X-axis)	4.4	173
Distance between edges of leads	6.4	252

TSSOP	-	14	EP
Type		1	2

1) Number of pads, except the central one
2) EP - exposed pad (central pad).

46.7 SOIC

SOIC	-	12	(28)	/	300mil
Type		1	2		3

1) Total number of pads
2) Imaginary number of pads
3) Package width, (X-axis), (mil).

Measure units:	mm	mil
Standard Pitch for SOIC-packages	1.27	50

47 SOT

Small outline transistors

47.1 SOT

SOT	89
Type	1

1) Model
    V - variant of the package

SOT	23	-	5
Type	1		2

1) Model
2) Number of pads

SOT	343	R
Type	1	2

1) Model
2) Style of the package:
    R - mirror.

48 Sound

Speakers, Buzzers, Microphones

Description:
Names of the packages completely or partially match the names of components.

49 Switches

Description:
Names of the packages completely or partially match the names of components.

50 TO

Transistor outline packages

50.1 TO

TO	-	18
Type		1

1) Model

TO	-	202	-	4
Type		1		2

1) Model
2) Number of pads

TO	-	202	H
Type		1	2

1) Model
2) Direction and style of the package:

      H - horizontal
      R - mirror
      FP - fully isolated plastic package
      V - similar package of the same name
      D - diameter of the package
      S - straight leads
      AA, AB - Style of the package

TO	-	99	/	D13.3
Type		1		2

1) Model
2) D - diameter of the package = 13.3 (mm)

TO	-	72	/	x5.08
Type		1		2

1) Model
2) Distance between pads (X-axis, Y-axis, Diameter), (mm)

TO	252	-	3	(4)	/	10	x	6.6	x	2.28
Type	1		2	3		4		5		6

1) Model
2) Total number of pads
3) Imaginary number of pads
4) Size by X-axis (From edge of the lead to the edge of the package)
5) Package width (Y-axis)
6) Pitch, (mm).

50.2 DPAK

DPAK	-	3	/	16	x	14.2	x	10.14
Type		1		2		3		4

1) Number of pads
2) Size (X-axis), (from the edge of the pad to the edge of the package), (mm)
3) Size of the package (Y-axis), (mm)
4) Pitch, (mm).

50.3 LFPAK

LFPAK	-	5	/	6	x	4.9	x	1.27
Type		1		2		3		4

1) Total number of pads
2) Package width, (including leads), (X-axis), (mm)
3) Size of the package, Y-axis, (mm)
4) Pitch, (mm).

50.4 MT

MT	-	200	-	H
Type		1		2

1) Model
2) H - horizontal.

50.5 SMD

SMD	-	3	/	10.2x7.5	x	3.81
Type		1		2		3

1) Total number of pads
2) Size of the package, (x;y), (mm)
3) Pitch, (mm).

51 Transformers

Description:
Names of the packages completely or partially match the names of components.

52 Varistors

52.1   VAR

VAR	_	02	01
Type		1	2

1) Size of the package, (X-axis = 20), (mil)
2) Size of the package, (Y-axis = 10), (mil)

VAR	-	5	x	1.5	/	7x3.6
Type		1		2		3

1) Pitch by X-axis, (mm)
2) Pitch by Y-axis, (mm)
3) Maximum size of the package, (x;y), (mm)

VAR	-	1x1.4
Type		1

3) Size of the package, (x;y), (mm)

53   ZIP

Zig-zag in-line packages

53.1   ZIP

ZIP	-	11	(38)	/	52.8x6.5	x	1.27
Type		1	2		3		4

1) Total number of pads
2) Imaginary number of pads
3) Size of the package, (x;y), (mm)
4) Pitch, (mm)

54   Reference Designators

RefDes	Component Type
A	Antenna
B	Battery
C	Capacitor, Capacitor Network
D	Diode,Thyristor, Varacter, LED,

	Zener Diode, Diode Bridge
DS	Indicating Device (Lamp, Display)
F	Fuse
G	Generator
J	Connector
K	Relay
L	Coil, Inductor
LS	Sound Output Device (Loudspeaker, Buzzer)
M	Motor
MK	Microphone
MR	Meter
VO	Optocoupler
P	Plug Connector
PH	Photo Element
PS	Power Supply
Q	Transistor
R	Resistor, Resistor Network, Potentiometer, Varistor, Thermistor
S	Switch
T	Transformer
TP	Test Point
U	Microcircuit
V	Vacuum Tube
X	Transducer (not matching any other category)
Y	Crystal, Oscillator