IPC-7251
IPC-7351B Naming Convention for Surface Mount Device 3D Models and Footprints

The 3D CAD solid electronic modes/footprint (land pattern) naming convention uses component dimensions to describe the 3D electronics part name.

The first 3 – 7 characters in the 3D solid model name describe the component kind. Metric Units are used for all dimensions.

Body Sizes and Lead Span go two places before the decimal point and "remove" leading Zeros. Body Sizes of Chip Components are one place to each side of the decimal point. Pitch Values are two places to the left & right of decimal point and include trailing zeros but with no leading Zeros.

These characters in model name are used as:

P = Pitch for components

X = is used to separate two Body Dimensions (*for example Body Height X Body Width X Height*)

_ = is the separator between pin quantity in Deleted & Hidden pin

– = is used to separate the pin quantity.

C = Collapsing Balls (only for BGA)

N = Non-collapsing Balls (only for BGA)

BGA – Ball Grid Array's

BGA + Pin Qty + C or N + Pitch P + Ball Columns X Ball Rows _Body Length X Body Width X Height

BGA – Ball Grid Array's w/Dual Pitch

BGA + Pin Qty + C or N + Col Pitch X Row Pitch P + Ball Columns X Ball Rows _Body Length X Body Width X Height

BGAS – Ball Grid Array's w/Staggered Pins

BGAS + Pin Qty + C or N + Pitch P + Ball Columns X Ball Rows _Body Length X Body Width X Height

CAPCAV – Capacitors, Chip, Array, Concave

CAPCAV + Pitch P + Body Length X Body Width X Height -Pin Qty

CAPCAF – Capacitors, Chip, Array, Flat

CAPCAF + Pitch P+ Body Length X Body Width X Height -Pin Qty

CAPC – Capacitors, Chip, Non-polarized

CAPC + Body Length + Body Width X Height

CAPCP – Capacitors, Chip, Polarized

CAPCP + Body Length + Body Width X Height

CAPCWR – Capacitors, Chip, Wire Rectangle

CAPCWR + Body Length + Body Width X Height

CAPM – Capacitors, Molded, Non-polarized

CAPM + Body Length + Body Width X Height

CAPMP – Capacitors, Molded, Polarized

CAPMP + Body Length + Body Width X Height

CAPAE – Capacitors, Aluminum Electrolytic

CAPAE + Base Body Size X Height

CFP127P – Ceramic Flat Packages, 1.27mm Pitch

CFP127P + Lead Span Nominal X Height – Pin Qty

CGA – Column Grid Array's

CGA + Pitch P + Number of Pin Columns X Number of Pin Rows X Height – Pin Qty

XTAL – Crystals (2 leads)

XTAL + Body Length X Body Width X Height

DIP – Dual-in-Line Packages (Butt Mount)

DIP + Pitch P + Lead Span Nominal X Height – Pin Qty

DFN – Dual Flat No-lead

DFN+ Body Length X Body Width X Height – Pin Qty

DIOC – Diodes, Chip

DIOC + Body Length + Body Width X Height

DIOM – Diodes, Molded

DIOM + Body Length + Body Width X Height

DIOMELF – Diodes, metal electrode leadless face (MELF)

DIOMELF + Body Length + Body Diameter

DIOSC – Diodes, Side Concave

DIOSC + Body Length X Body Width X Height -Pin Qty

FUSM – Fuses, Molded

FUSM + Body Length + Body Width X Height

INDC – Inductors, Chip

INDC + Body Length + Body Width X Height

INDM – Inductors, Molded

INDM + Body Length + Body Width X Height

INDP – Inductors, Precision Wire Wound

INDP + Body Length + Body Width X Height

INDCAV – Inductors, Chip, Array, Concave

INDCAV + Pitch P+ Body Length X Body Width X Height – Pin Qty

INDCAF – Inductors, Chip, Array, Flat

INDCAF + Pitch P + Body Length X Body Width X Height -Pin Qty

LGA – Land Grid Array, Circular Lead

LGA + Pin Qty + C + Pitch P + Pin Columns X Pin Rows _Body Length X Body Width X Height

LGA – Land Grid Array, Square Lead

LGA + Pin Qty + S + Pitch P + Pin Columns X Pin Rows _Body Length X Body Width X Height

LGA – Land Grid Array, Rectangle Lead

LGA + Pin Qty + R + Pitch P + Pin Columns X Pin Rows _Body Length X Body Width X Height

LEDM – LED, Molded

LEDM + Body Length + Body Width X Height

LEDSC – LED's, Side Concave

LEDSC + Body Length X Body Width X Height -Pin Qty

OSCSC – Oscillators, Side Concave

OSCSC + Pitch P + Body Length X Body Width X Height -Pin Qty

OSCJ – Oscillators, J-Lead

OSCJ + Pitch P + Body Length X Body Width X Height -Pin Qty

OSCL – Oscillators, L-Bend Lead

OSCL + Pitch P + Body Length X Body Width X Height -Pin Qty

OSCCC – Oscillators, Corner Concave

OSCCC + Body Length X Body Width X Height

PLCC – Plastic Leaded Chip Carriers

PLCC + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

PLCCS – Plastic Leaded Chip Carrier Sockets Square

PLCCS + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

QFP – Quad Flat Packages (Pitch = 0.65mm, 0.80mm or 1.00mm; Height > 1.6mm)

QFP + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

SQFP – Shrink Quad Flat Packages (Pitch = 0.30mm, 0.40mm or 0.50mm; Height > 1.6mm)

SQFP + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

TQFP – Thin Quad Flat Packages (Pitch = 0.65mm or 0.80mm; Height ≤ 1.6mm)

TQFP + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

TSQFP – Thin Shrink Quad Flat Packages (Pitch = 0.30mm, 0.40mm or 0.50mm; Height ≤ 1.6mm)

TSQFP + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

CQFP – Ceramic Quad Flat Packages

CQFP + Pitch P + Lead Span L1 X Lead Span L2 Nominal X Height -Pin Qty

QFN – Quad Flat No-lead

QFN + Pitch P + Body Width X Body Length X Height -Pin Qty + Thermal Pad

PQFN – Pull-back Quad Flat No-lead

PQFN + Pitch P + Body Width X Body Length X Height – Pin Qty + Thermal Pad

LCC – Quad Leadless Ceramic Chip Carriers

LCC + Pitch P + Body Width X Body Length X Height – Pin Qty

LCCS – Quad Leadless Ceramic Chip Carriers (Pin 1 on Side)

LCCS + Pitch P + Body Width X Body Length X Height – Pin Qty

RESC – Resistors, Chip

RESC + Body Length + Body Width X Height

RESM – Resistors, Molded

RESM + Body Length + Body Width X Height

RESMELF – Resistors, MELF

RESMELF + Body Length + Body Diameter

Resistors, Chip, Array, Concave

RESCAV + Pitch P + Body Length X Body Width X Height -Pin Qty

RESCAXE – Resistors, Chip, Array, Convex, E-Version (Even Pin Size)

RESCAXE + Pitch P + Body Length X Body Width X Height -Pin Qty

RESCAXS – Resistors, Chip, Array, Convex, S-Version (Side Pins Diff)

RESCAXS + Pitch P + Body Length X Body Width X Height -Pin Qty

RESCAF – Resistors, Chip, Array, Flat

RESCAF + Pitch P + Body Length X Body Width X Height -Pin Qty

SODFL – Small Outline Diodes, Flat Lead

SODFL + Lead Span Nominal + Body Width X Height

SOJ – Small Outline IC, J-Leaded

SOJ + Pitch P + Lead Span Nominal X Height – Pin Qty

SOIC127P – Small Outline Integrated Circuit, (50 mil (1.27mm) Pitch SOIC)

SOIC127P + Lead Span Nominal X Height – Pin Qty

SOP – Small Outline Packages (Pitch = 0.635mm, 0.65mm, 0.80mm, 1.00mm or 1.27mm; Height > 1.6mm)

SOP + Pitch P + Lead Span Nominal X Height – Pin Qty

SSOP – Shrink Small Outline Packages (Pitch = 0.30mm, 0.40mm or 0.50mm; Height > 1.6mm)

SSOP + Pitch P + Lead Span Nominal X Height – Pin Qty

TSOP – Thin Small Outline Packages (Pitch = 0.65mm, 0.80mm, 1.00mm or 1.27mm; Height ≤ 1.6mm)

TSOP + Pitch P + Lead Span Nominal X Height – Pin Qty

TSSOP – Thin Shrink Small Outline Packages (Pitch = 0.30mm, 0.40mm, 0.50mm or 0.55mm; Height ≤ 1.6mm)

TSSOP + Pitch P + Lead Span Nominal X Height – Pin Qty

SON – Small Outline No-lead

SON + Pitch P + Body Width X Body Length X Height – Pin Qty + Thermal Pad

PSON – Pull-back Small Outline No-lead

PSON + Pitch P + Body Width X Body Length X Height – Pin Qty + Thermal Pad

SOTFL – Small Outline Transistors, Flat Lead

SOTFL + Pitch P + Lead Span Nominal X Height – Pin Qty

SOD (JEDEC)

SOD + Lead Span Nominal + Body Width X Height

SOT143 & SOT343 (JEDEC Standard Package)

SOT + Pitch P + Lead Span Nominal X Height – Pin Qty

SOT143 & SOT343 Reverse (JEDEC Standard Package)

SOT + Pitch P + Lead Span Nominal X Height – Pin Qty

SOT23 Packages

SOT + Pitch P + Lead Span Nominal X Height – Pin Qty

SOT223 Packages

SOT + Pitch P + Lead Span Nominal X Height – Pin Qty

SOT89 (JEDEC Standard Package)

SOTFL + Pitch P + Lead Span Nominal X Height – Pin Qty

SOT89

SOTFL + Pitch P + Lead Span Nominal X Height – Pin Qty

TO (Generic DPAK, D2PAK)