**PCB FOOTPRINT NAMING CONVENTION**

***Preliminary Document***

**Version 0.1**

**2013/03/21**

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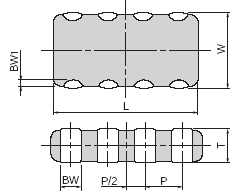
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**PCB Footprint Naming Convention:**

1. [Capacitors](file:///\\hcmna01\shared\engineering\Acronics_Partnumbers_Naming_Convention_Document_Rev0p2\Acronics_library_document\Acronics_library_convention_rev00.doc#Capacitors_I#Capacitors_I)

* 1. **Array capacitor:**

1. Standard size:



**CNn\_sizename\_A\_LengthXWidthXHeight**

**n**: number of capacitors

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

**Length, Width, Height**: in millimeter with 2 digit decimal

Example: CN4\_0805\_I\_2M00X1M25X0M95

1. Other size
2. *SMT*:

**CNn\_LengthXWidthXHeight**

**n**: number of capacitors

**Length, Width, Height**: in millimeter with 2 digit decimal

Example: CN8\_7M40X1M50X0M80

1. *Through hole*:

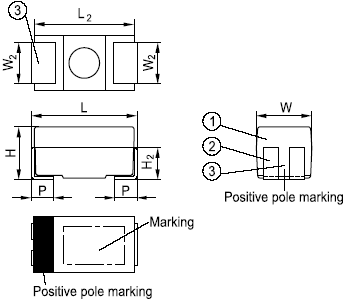
**CNn\_LengthXWidthXHeight** **\_TH**

**n**: number of capacitors

**Length, Width, Height**: in millimeter with 2 digit decimal

Example: CN8\_7M40X1M50X0M80\_TH

* 1. **Polarized capacitor:**



1. Standard size:

**CPsizename\_A\_Height**

**Height**: in millimeter with 2 digit decimal

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: CP7343\_M\_1M50

CP1206\_I\_0M70

1. Other size:
2. *SMT:*

**CP\_LengthXWidthXHeight**

**Pitch,Length, Width, Height**: in millimeter with 2 digit decimal

Example: CP\_7M40X1M50X1M80

1. *Through hole:*

**CP\_Pitch\_LengthXWidthXHeight\_TH**

**CP**\_**Pitch\_LengthXWidthXHeight\_AXIAL**

**CP**\_**Pitch\_DiameterXLength\_RADIAL**

Pitch, Length, Width, Diameter, Height: in milimeter with 2 decimal digits

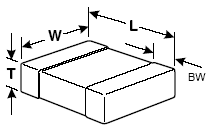
Example: CP\_5M3\_7M40X1M50X1M80\_TH

CP\_5M3\_7M40X1M50X1M80\_ AXIAL

CP\_5M3\_13M00X20M00\_ RADIAL

* 1. **Unpolarized capacitor:**

1. Standard size:



**Csizename\_A\_Height**

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

**Height**: in milimeter with 2 decimal digits

Example: C7343\_M\_1M50

C1206\_I\_0M70

1. Other size
2. *SMT:*

**C\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter with 2 decimal digits

Example: C\_5M3\_7M40X1M50X1M80

1. *Through hole:*

**C\_Pitch\_LengthXWidthXHeight\_TH**

**C\_Pitch\_LengthXWidthXHeight\_AXIAL**

**C\_Pitch\_DiameterXLength\_RADIAL**

**Pitch**, **Length**, **Width**, **Diameter**, **Height**: in milimeter with 2 decimal digits

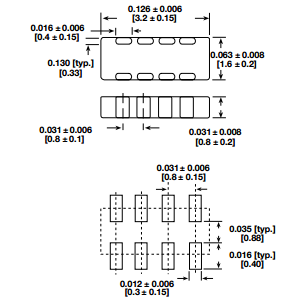
Example: C\_5M3\_7M40X1M50X1M80\_TH

C\_5M3\_7M40X1M50X1M80\_ AXIAL

C\_5M3\_13M0X20M0\_ RADIAL

2. Inductor[s](file:///\\hcmna01\shared\engineering\Acronics_Partnumbers_Naming_Convention_Document_Rev0p2\Acronics_library_document\Acronics_library_convention_rev00.doc#Capacitors_I#Capacitors_I)

* 1. **Array inductor:**



1. Standard size:

**LNn\_sizename\_A\_LengthXWidthXHeight**

**n**: number of inductors

**Length, Width, Height**: in milimeter with 2 dec digits

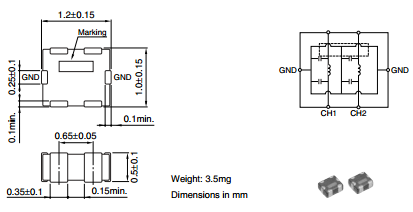
**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: LN4\_1206\_I\_3M20X1M60X1M00

1. Other size
2. *SMT:*

**LNn\_LengthXWidthXHeight**



**n**: number of inductors

Length, Width, Height: in milimeter

Example: LN4\_3M20X1M60X0M80

1. *Through hole:*

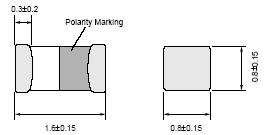
**LNn\_LengthXWidthXHeight\_TH**

**n**: number of inductors

Length, Width, Height: in milimeter

Example: LN4\_3M20X1M60X0M80\_TH

* 1. **Single inductor:**



1. Standard size:

**Lsizename\_A\_Height**

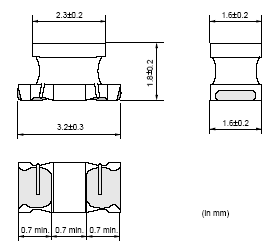
Height: in milimeter with 2 decimal digits

**A**: I if sizename follow EIA Inch rule

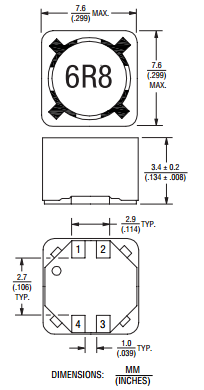
M**:** if sizename follow EIA Metric rule

Example: L0603\_I\_0M95

L1206\_I\_2M00



1. Other size



1. *SMT:*

**L\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter

Example: L\_5M15\_7M60X7M60X3M60

1. *Through hole:*

**L\_Pitch\_LengthXWidthXHeight\_TH**

**L\_Pitch\_LengthXWidthXHeight\_AXIAL**

**L\_Pitch\_DiameterXLength\_RADIAL**

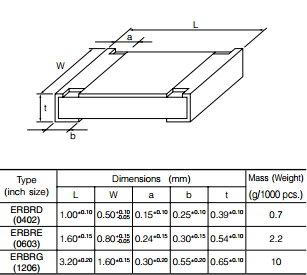
Pitch, Length, Width, Diameter, Height: in milimeter

Example: L\_5M3\_7M40X1M50X1M80\_TH

L\_5M3\_7M40X1M50X1M80\_ AXIAL

L\_5M3\_13M0X20M0\_ RADIAL

1. FUSE:



1. Standard size:

**Fsizename\_A\_Height**

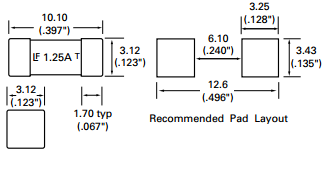
Height: in milimeter with 2 decimal digits

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: F0603\_I\_0M64

1. Other size



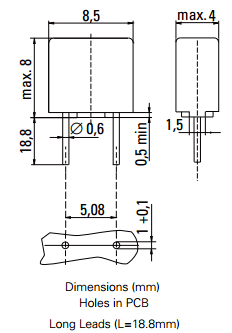
1. *SMT:*

**F\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter with

Example: F\_8M40\_10M10X3M12X3M12

1. *Through hole:*



**F\_Pitch\_LengthXWidthXHeight\_TH**

**F\_Pitch\_LengthXWidthXHeight\_AXIAL**

**F\_Pitch\_DiameterXLength\_RADIAL**

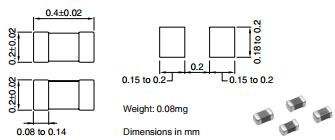
Pitch, Length, Width, Diameter, Height: in milimeter with 2 decimal digits

Example: F\_5M08\_8M50X4M00X8M00\_TH

F\_5M08\_8M50X4M00X8M00\_ AXIAL

F\_5M08\_8M50X4M00\_ RADIAL

1. FERRITE BEAD:



1. Standard size:

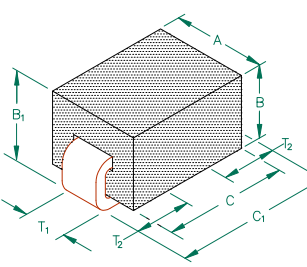
**FBsizename\_A\_Height**

Height: in milimeter with 2 decimal digits

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: FB0402\_I\_0M55



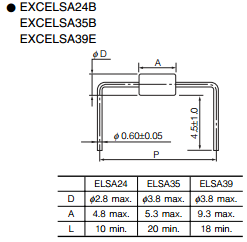
1. Other size:
2. *SMT:*

**FB\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter

Example: FB\_5M08\_4M06X3M05X3M05

1. *Through hole:*



**FB\_Pitch\_LengthXWidthXHeight\_TH**

**FB\_Pitch\_LengthXWidthXHeight\_AXIAL**

**FB\_Pitch\_DiameterXLength\_RADIAL**

Pitch, Length, Width, Diameter, Height: in milimeter

Example: FB\_10M3\_3M80X9M30X1M80\_TH

FB\_10M3\_3M80X9M30X3M80\_ AXIAL

FB\_10M3\_3M80X9M30\_ RADIAL

1. Resistor
   1. **Array resistor:**
2. Standard size:

**RNn\_sizename\_A\_LengthXWidthXHeight**

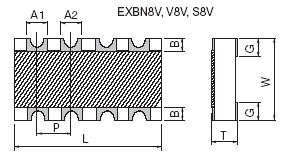
n: number of resistors

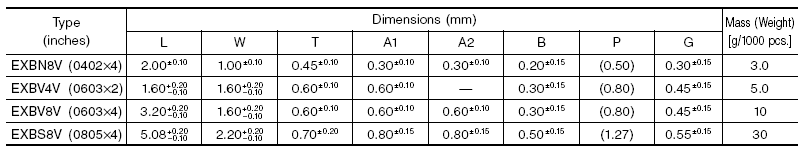
Length, Width, Height: in milimeter

**A**: I :if sizename follow EIA Inch rule

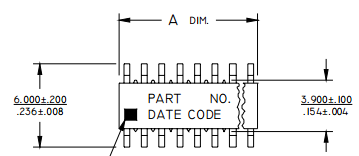
M**:** if sizename follow EIA Metric rule

Example: RN08\_0402\_I\_2M00X1M00X0M55





1. Other size



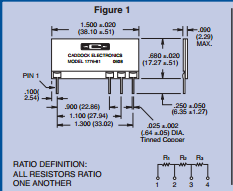
1. *SMT:*

**RNn\_LengthXWidthXHeight**

n: number of resistors

Length, Width, Height: in milimeter

Example: RN14\_3M60X3M90X1M75



1. *Through hole:*

**RNn\_LengthXWidthXHeight \_TH**

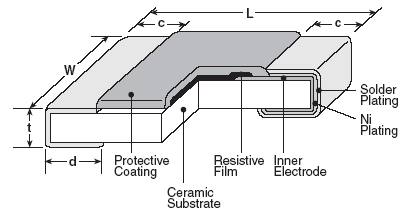
n: number of inductors

Length, Width, Height: in milimeter

Example: RN3\_38M10X2M29X17M27\_TH

* 1. **Single resistor:**

1. Standard size:



**Rsizename\_A\_Height**

Height: in milimeter

**A**: I if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: R0805\_I\_1M25

1. Other size
2. *SMT:*

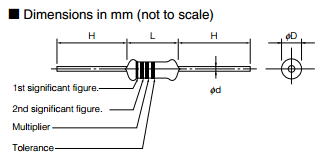
**R\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter

Example: R\_5M3\_7M40X1M50X1M80

1. *Through hole:*

**R\_Pitch\_LengthXWidthXHeight\_TH**



**R\_Pitch\_DiameterXLength\_AXIAL**

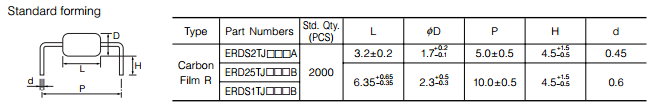
**R\_Pitch\_DiameterXLength\_RADIAL**

Pitch, Length, Width, Diameter, Height: in milimeter

Example: R\_5M00\_1M70X3M20X1M80\_TH

R\_5M00\_1M70X3M20\_ AXIAL

R\_5M00\_1M70X3M20\_ RADIAL



1. DIODE:
   1. Standard size:

**D\_sizename\_Height**

Height: in milimeter

Example: D\_DO-214AC\_2M62

* 1. Other size:

1. 2 pins type:
2. *SMT:*

**D\_Pitch\_LengthXWidthXHeight**

Pitch,Length, Width, Height: in milimeter

Example: D\_5M3\_7M40X1M50X1M80

1. *Through hole:*

**D\_Pitch\_LengthXWidthXHeight\_TH**

**D\_Pitch\_ DiameterXLength\_AXIAL**

**D\_Pitch\_ DiameterXLength\_RADIAL**

Pitch, Length, Width, Diameter, Height: in milimeter

Example: D\_5M3\_7M40X1M50X1M80\_TH

D\_5M3\_7M40X1M50\_ AXIAL

D\_5M3\_7M40X1M50\_ RADIAL

1. >2 pins type:
2. *SMT:*

**Dn\_LengthXWidthXHeight**

**n**: number of pins

Length, Width, Height: in milimeter

Example: D4\_7M40X1M50X0M80

1. *Through hole:*

**Dn\_LengthXWidthXHeight\_TH**

**n**: number of pins

Length, Width, Height: in milimeter

Example: D4\_7M40X1M50X0M80\_TH

1. [Transistors:](#Transistors_I)

* 1. Standard size:

1. *SMT:*

**Q\_sizename\_Height\_BCE**

Height: in milimeter

Example: Q\_SOT-23\_1M26\_BCE

1. *Through hole:*

**Q\_ sizename\_Height\_BCE\_TH**

* 1. Other size

1. *SMT:*

**Qn\_LengthXWidthXHeight\_BCE**

**n**: number of pins

Length, Width, Height: in milimeter

Example: Q3\_5M3\_7M40X1M50X1M80\_BCE

1. *Through hole:*

**Qn\_LengthXWidthXHeight\_BCE\_TH**

n: number of pins

Length, Width, Height: in milimeter

Example: Q3\_5M3\_7M40X1M50X1M80\_BCE\_TH

1. [FET:](#Transistors_I)

* 1. Standard size:

1. *SMT:*

**Q\_sizename\_Height\_GDS**

Height: in milimeter

Example: Q\_SOT-23\_1M26\_GDS

1. *Through hole:*

**Q\_ sizename\_Height\_GDS\_TH**

* 1. Other size

1. *SMT:*

**Qn\_LengthXWidthXHeight\_GDS**

**n**: number of pins

Length, Width, Height: in milimeter

Example: Q3\_5M3\_7M40X1M50X1M80\_GDS

1. *Through hole:*

**Qn\_LengthXWidthXHeight\_GDS\_TH**

n: number of pins

Length, Width, Height: in milimeter

Example: Q3\_5M3\_7M40X1M50X1M80\_GDS\_TH

1. Crystals and Oscillators:
   1. Standard size:
2. *SMT:*

**OSCn\_sizename\_Height**

**XTALn\_sizename\_ Height**

Height: in milimeter

n: number of pins

Example: XTAL4\_CSM-12\_2M5

OSC4\_ECS-8FM\_4M7

1. *Through hole:*

**OSCn\_sizename\_ Height \_TH**

**XTALn\_sizename\_ Height \_TH**

Height: in milimeter

n: number of pins

Example: OSC4\_2-A401A \_TH

* 1. Other size

1. *SMT:*

**OSCn\_LengthXWidthXHeight**

**XTALn\_LengthXWidthXHeight**

n: number of pins

Length, Width, Height: in milimeter

Example: OSC4\_7M40X1M50X1M80

1. *Through hole:*

**OSCn\_LengthXWidthXHeight\_TH**

**XTALn\_LengthXWidthXHeight\_TH**

n: number of pins

Length, Width, Height: in milimeter

Example: OSC4\_7M40X1M50X1M80\_TH

1. ICs:

**Package Typen\_Pitch\_LengthXWidthXHeight**

n: number of pins

Pitch, Length, Width, Height: in milimeter

**Package Type**: See the table below

Example: SOIC8\_1M27\_5MX4MX1M75

BGA256\_1M27\_27MX27MX1M7

|  |  |
| --- | --- |
| **Package type** |  |
|  |  |
| **SOP** | Small Outline Package |
| **QSOP** | Quarter-size Small Outline Package |
| **TSOP** | Thin Small Outline Package |
| **SSOP** | Shrink Small Outline Package |
| **TSSOP** | Thin Shrink Small Outline Package |
| **HTSSOP/EPTSSOP** | Thin Shrink Small Outline Package with heat sink |
| **MSOP** | Mini Small Outline Plastic Packages |
| **HMSOP** | Mini Small Outline Plastic Packages with heat sink |
| **eMSOP** |  |
| **PSOP** | Power Small Outline Plastic Packages |
| **PSSOP** |  |
| **VSSOP** |  |
| **LSOP** |  |
|  |  |
| **QFP** | Quad Flat Package |
| **TQFP** | Thin Quad Flat Package |
| **LQFP** | Low Profile Quad Flat Package |
| **PQFP** | Plastic Quad Flat Package |
| **VQFP** | Very Thin Quad Flat Package |
| **MQFP** | Metric Plastic Quad Flatpack Packages |
| **CQFP** | Ceramic Quad Flatpack Package |
| **BQFP** | Bumpered Quad Flat Package |
| **FQFP** | Fine Pitch Quad Flat Package |
| **HQFP** | Heat sinked QFP |
| **SQFP** | Small Quad Flat Package |
| **RQFP** | Rectangular Plastic Gull Wing Quad Flat Pack |
|  |  |
| **PDIP** | Dual-In-Line Plastic Packages |
| **SPDIP** | Shrink Dual-In-Line Plastic Packages |
| **CerDIP** | Ceramic Dual-In-Line Frit Seal Packages |
| **SBDIP** | Ceramic Dual-In-Line Metal Seal Packages |
|  |  |
| **UTQFN** | Ultra Thin Quad Flat No-Lead COL Plastic Package |
| **TQFN** | Thin Quad Flat No-Lead Plastic Package |
|  |  |
| **MLF** | Micro Lead Frame Package |
|  |  |
| **PLCC** | Plastic Leaded Chip Carrier |
| **LCCC** | Leadless Ceramic Chip Carrier |
| **CLCC** | Ceramic Leadless Chip Carrier Packages |
| **JLCC** | Windowed, Ceramic J-leaded Chip Carrier |
|  |  |
| **SOIC** | Small Outline Integrated Circuit |
|  |  |
| **SOJ** | Small Outline J-Leaded Package |
| **WDFN** |  |
| **DFN** | Dual Flat No-Lead Plastic Package |
| **UTDFN** | Ultra Thin Dual Flat No-Lead Plastic Package |
| **ODFN** | Optical Dual Flat No-Lead Plastic Package |
| **ZIP** | Zigzag In-line Package |
| **SIP** | Single In-line Package |
| **BGA** | Ball Grid Array |
| **HBGA** | Hyper Ball Grid Array (Hyper-BGA) |
| **CBGA** | Ceramic Ball Grid Array |
| **FBGA** | Fine-Pitch Ball Grid Array |
| **FCBGA** | Flip Chip Ball Grid Array |
| **PGA** | Pin Grid Array |

1. Connector:

**CONN-Typen\_Partnumber\_(option: xxxx)**

**Type**: SM ( Surface Mount)

TH (Though hole)

PF (Press fit)

**n**: number of pins

Option: connector function: USB, DB9, …

Example: CONN-TH3\_ MJ-3502

1. Header:

SMT: **HDRNxXNy\_Pitch\_LengthXWidthXHeight\_Angle**

Though\_hole: **HDRNxXNy\_Pitch\_LengthXWidthXHeight\_TH\_Angle**

**Nx, Ny**: number of pin in x-axis and y-axis

Pitch,Length, Width, Height: in millimeter

**Angle**: VT, RA

Example: HDR2x4\_2M54\_10MX4MX4M\_TH\_RA

1. Switch:

**SW-Typen\_Partnumber**

**Type**: SM ( Surface Mount)

TH (Though hole)

**n**: number of pins

Example: SW-SM4\_SDA02H0SK

1. LEDs:

* 1. Standard size:

1. *SMT:*

**LED\_sizename\_A\_Height**

Height: in milimeter

**A**: I :if sizename follow EIA Inch rule

M**:** if sizename follow EIA Metric rule

Example: LED\_0603\_I\_1M26

* 1. Other size:

1. *SMT:*

**LED-SMn\_LengthXWidthXHeight**

**n**: number of pins

Length, Width, Height: in milimeter

Example: LED-SM4\_7M40X1M50X1M80

1. *Through hole:*

**LED-THn\_LengthXWidthXHeight**

**n**: number of pins

Length, Width, Height: in milimeter

Example: LED-TH4\_7M40X1M50X1M80

1. Testpoint:

**TP\_Type\_padsize\_Partnumber**

**Type**: SM ( Surface Mount)

TH (Though hole)

Padsize: padstack size (drill 10mil, circle pad 18 mil for testpoint under BGA)

Example: TP\_SM\_ 5015

TP \_TH\_D010C020