

Common Package Dimensions for CH Series ICs

Version: 3I

<https://wch-ic.com>

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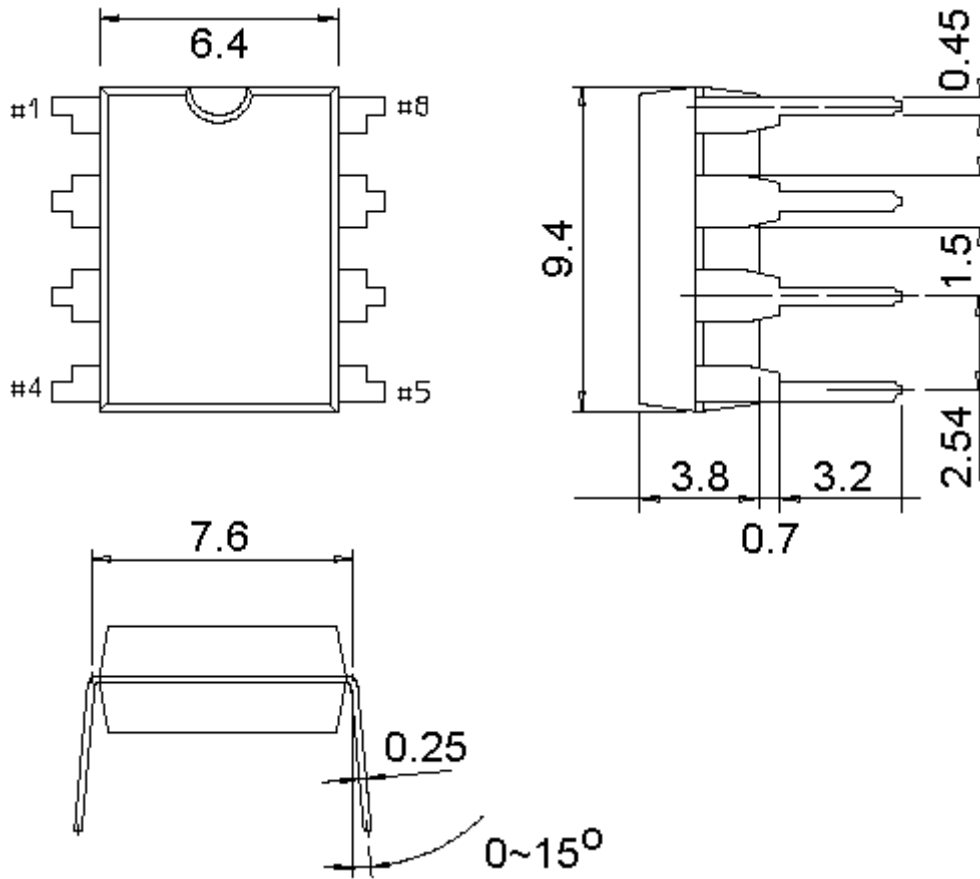
Note: All dimensions are in mm (millimeters),

and the lead center spacing is always a nominal value, with no error value;

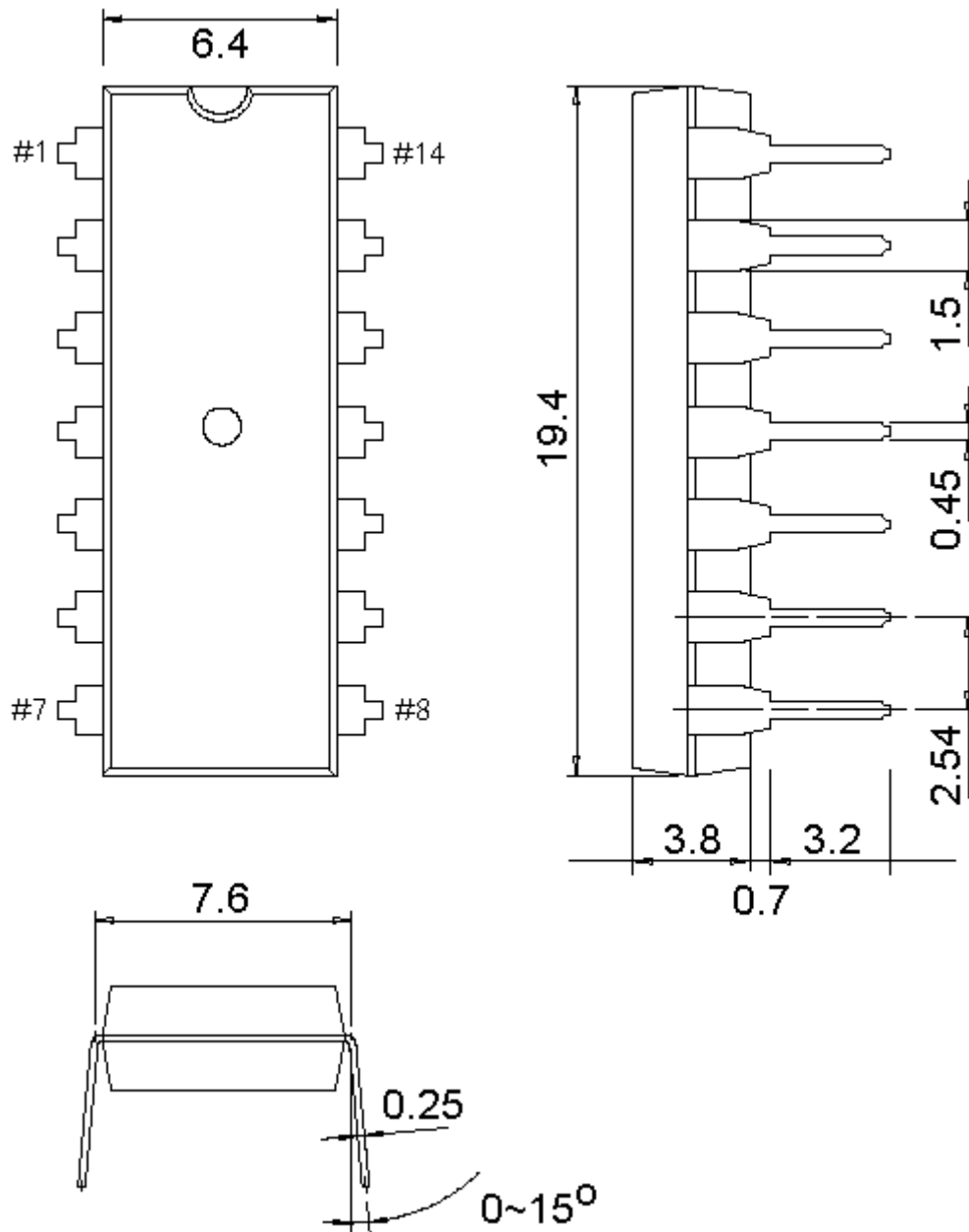
other than that, the dimensional error is not greater than $\pm 0.2\text{mm}$ or $\pm 10\%$, whichever is greater.

DIP Type (PDIP)

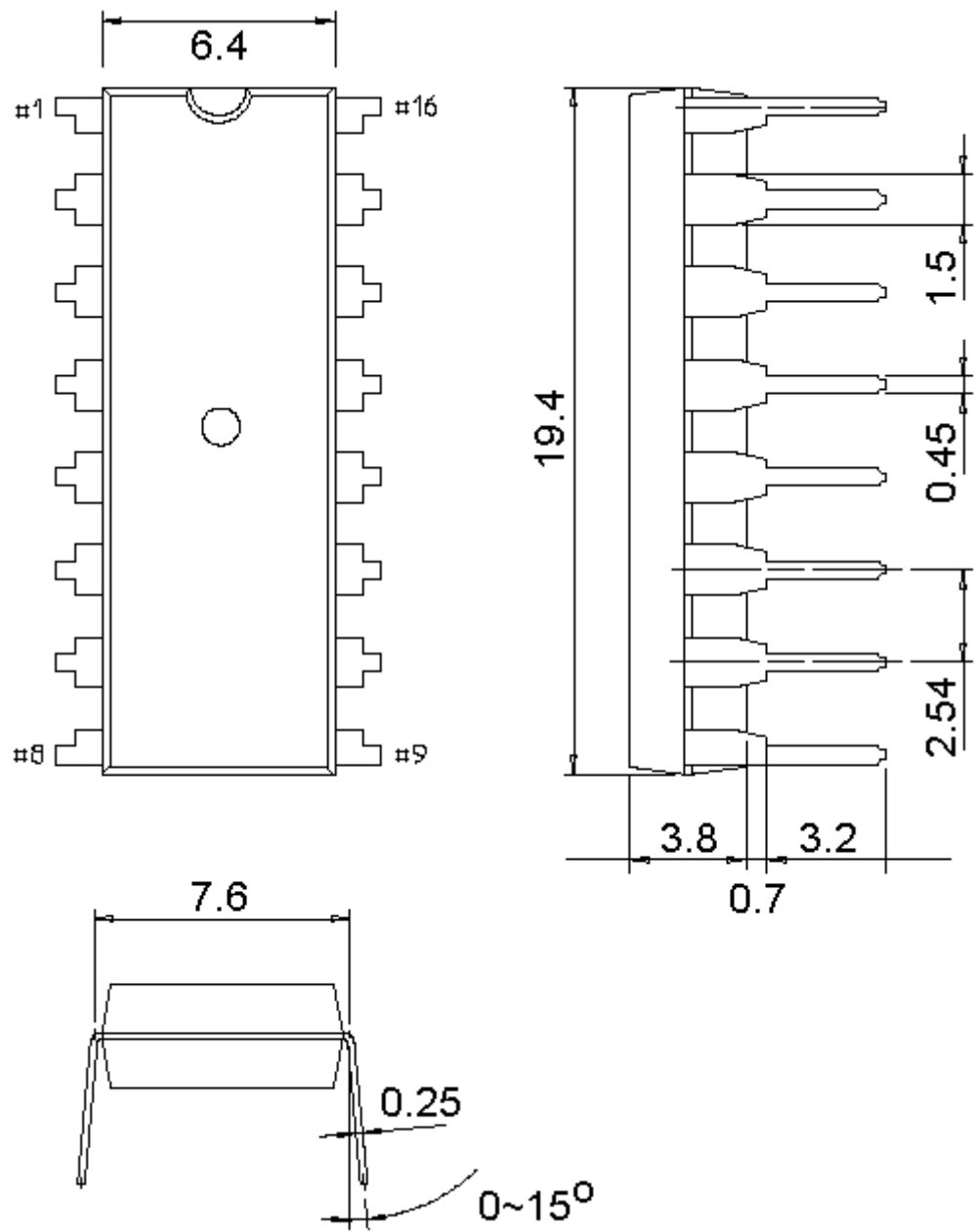
. DIP8



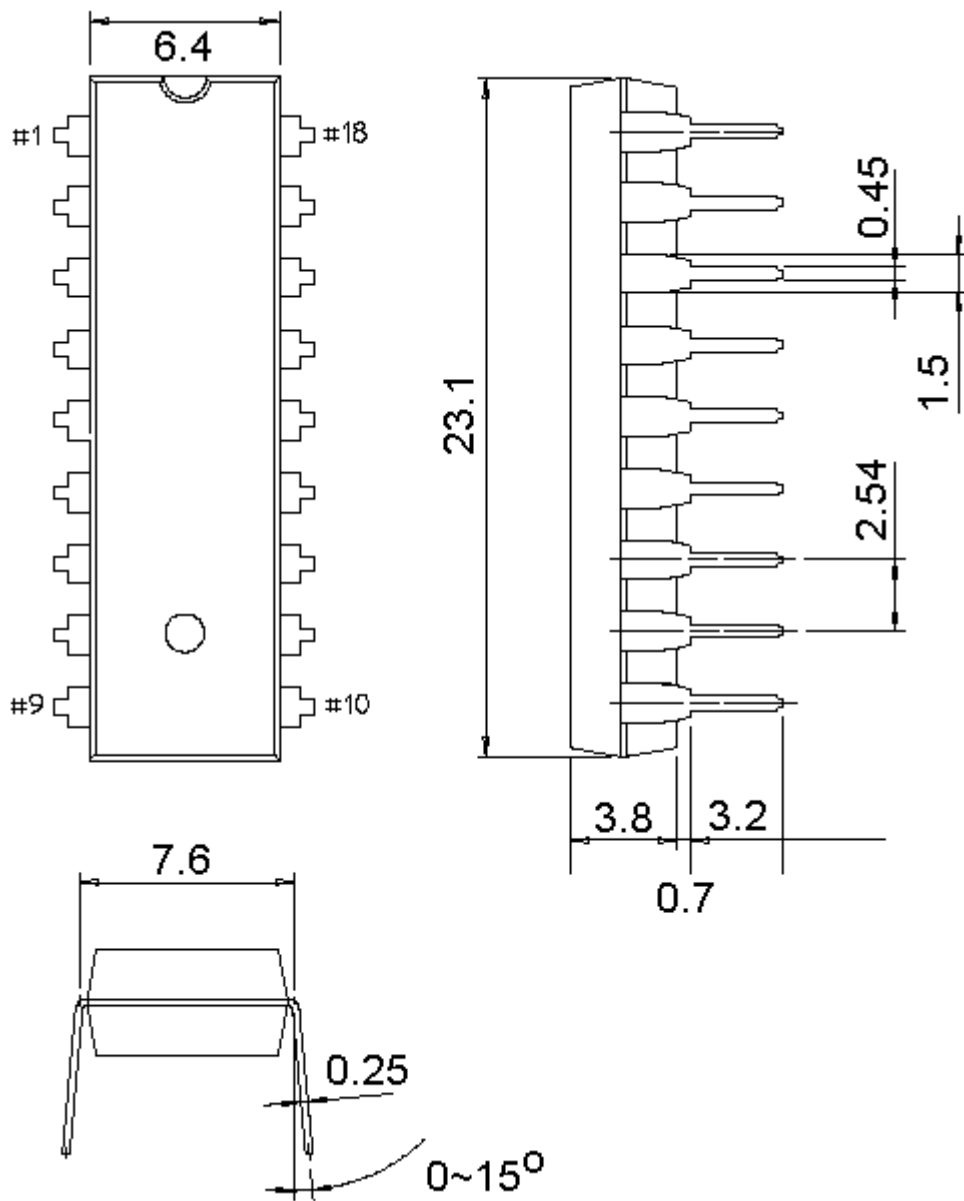
. DIP14



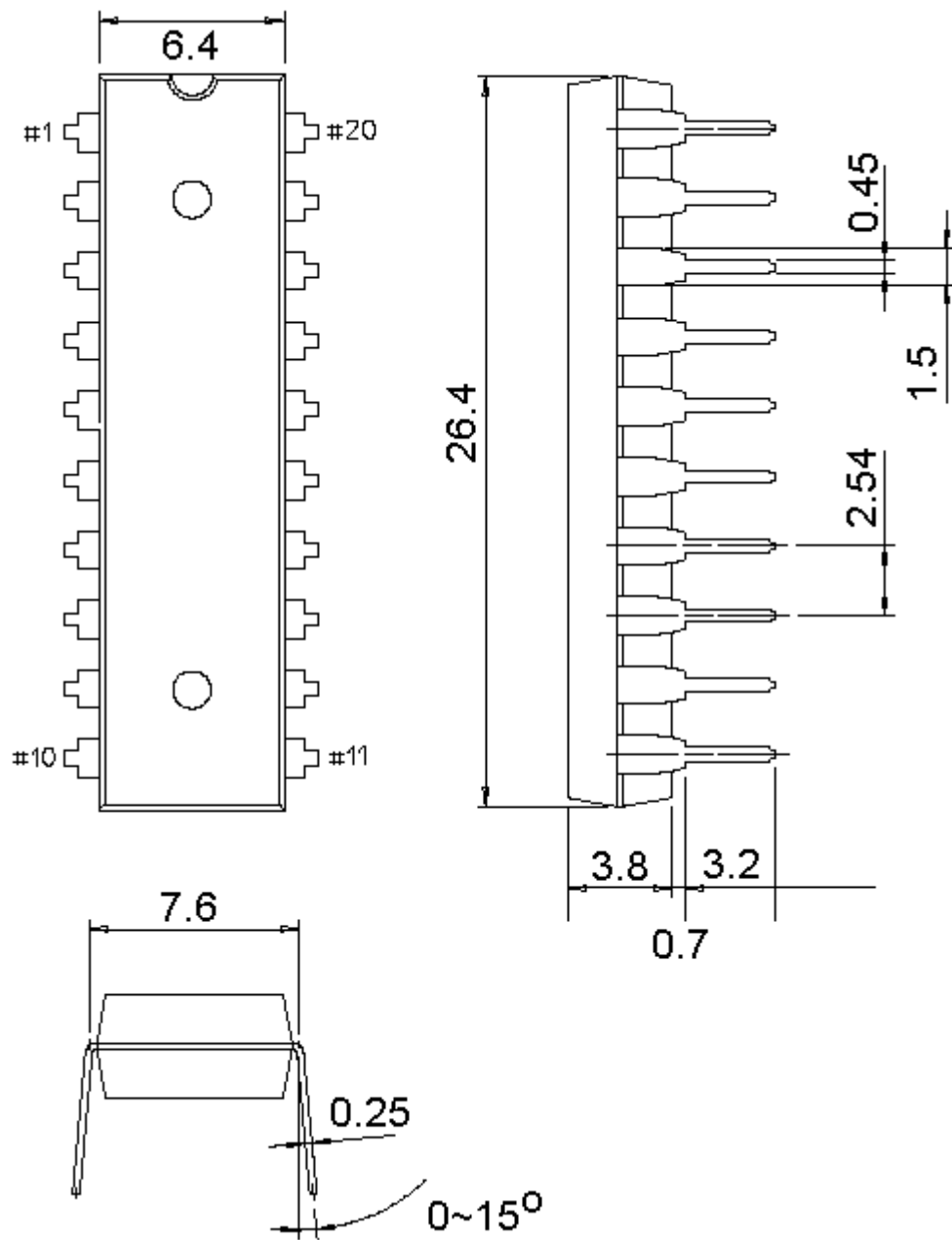
. DIP16



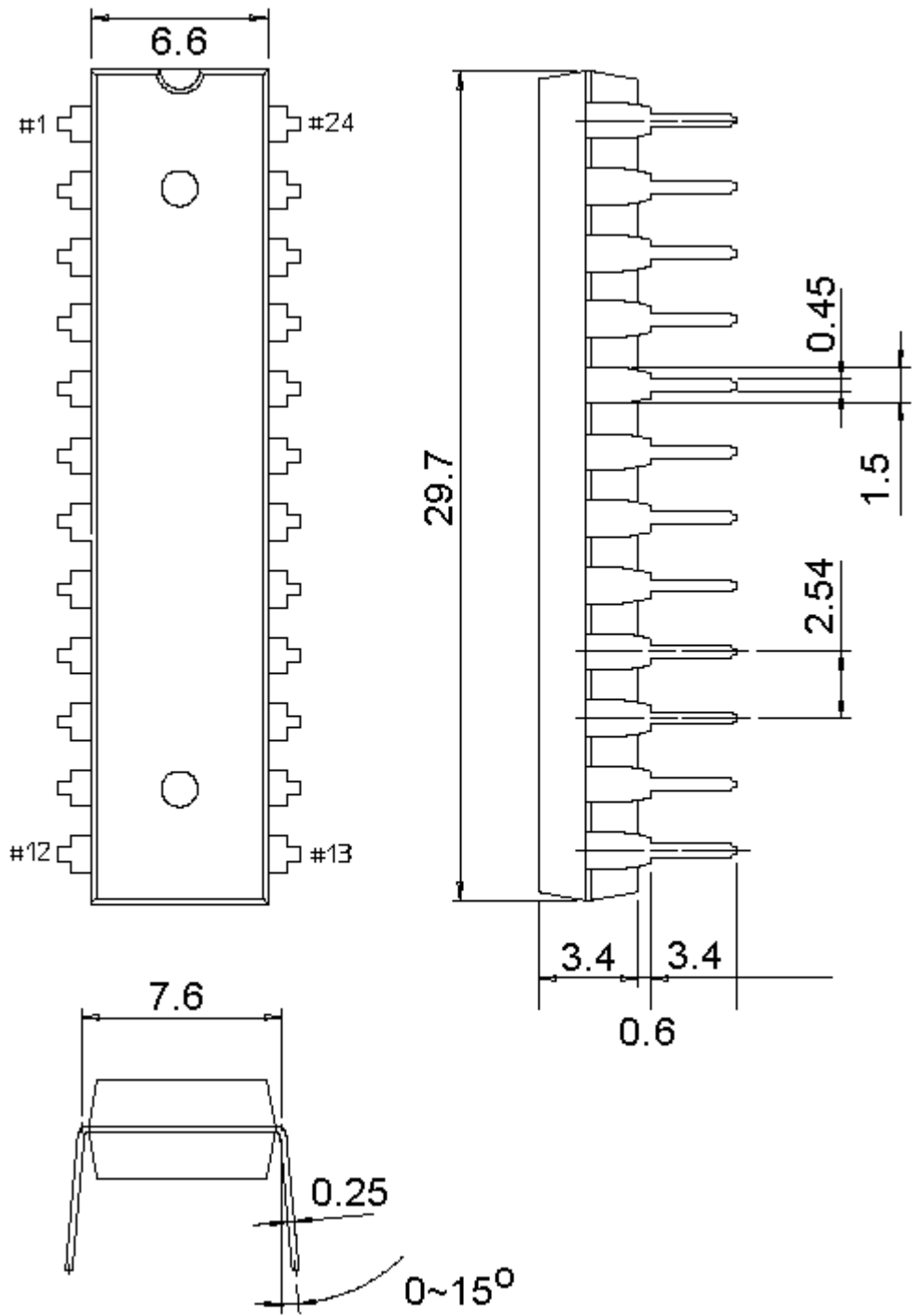
. DIP18



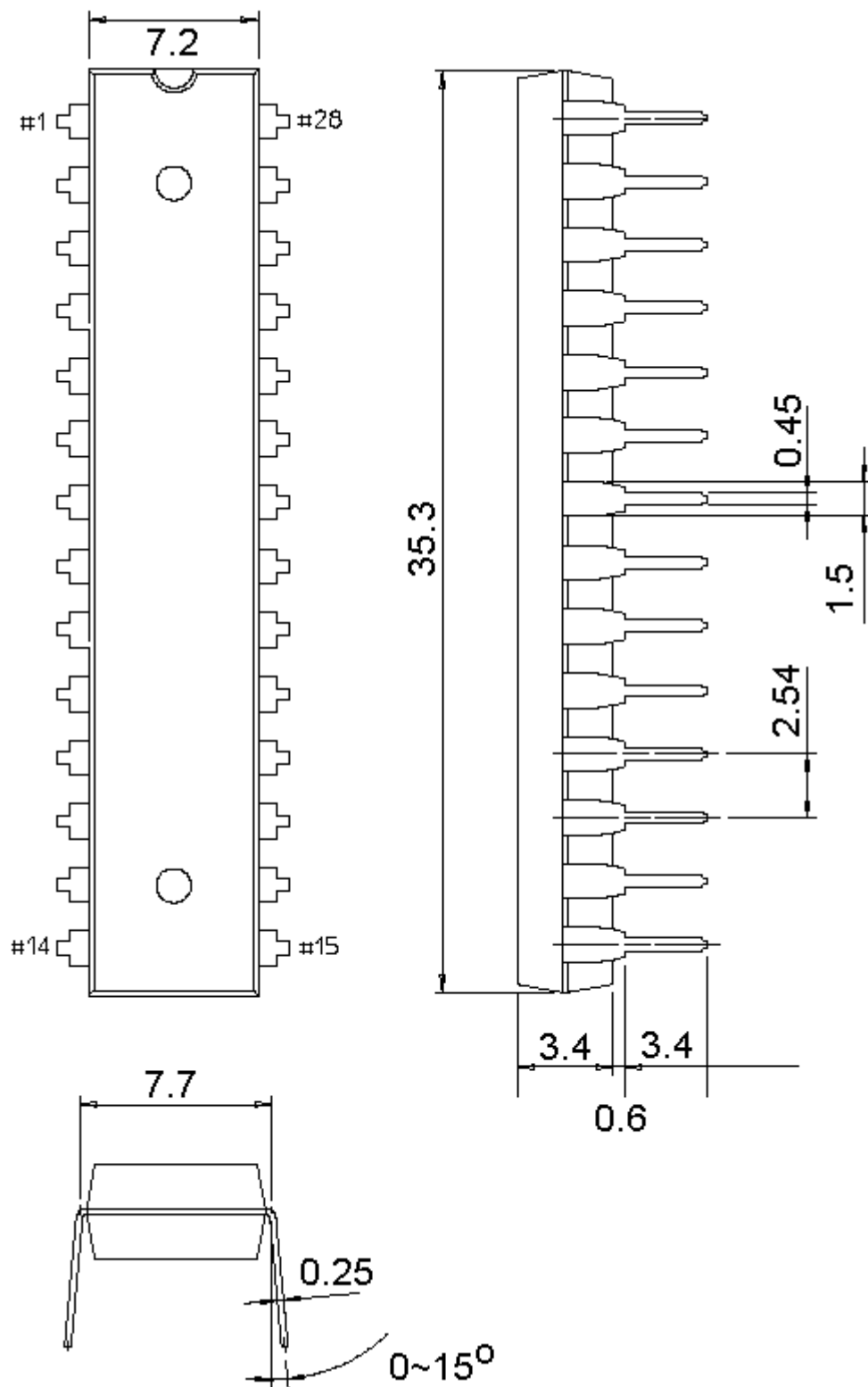
. DIP20



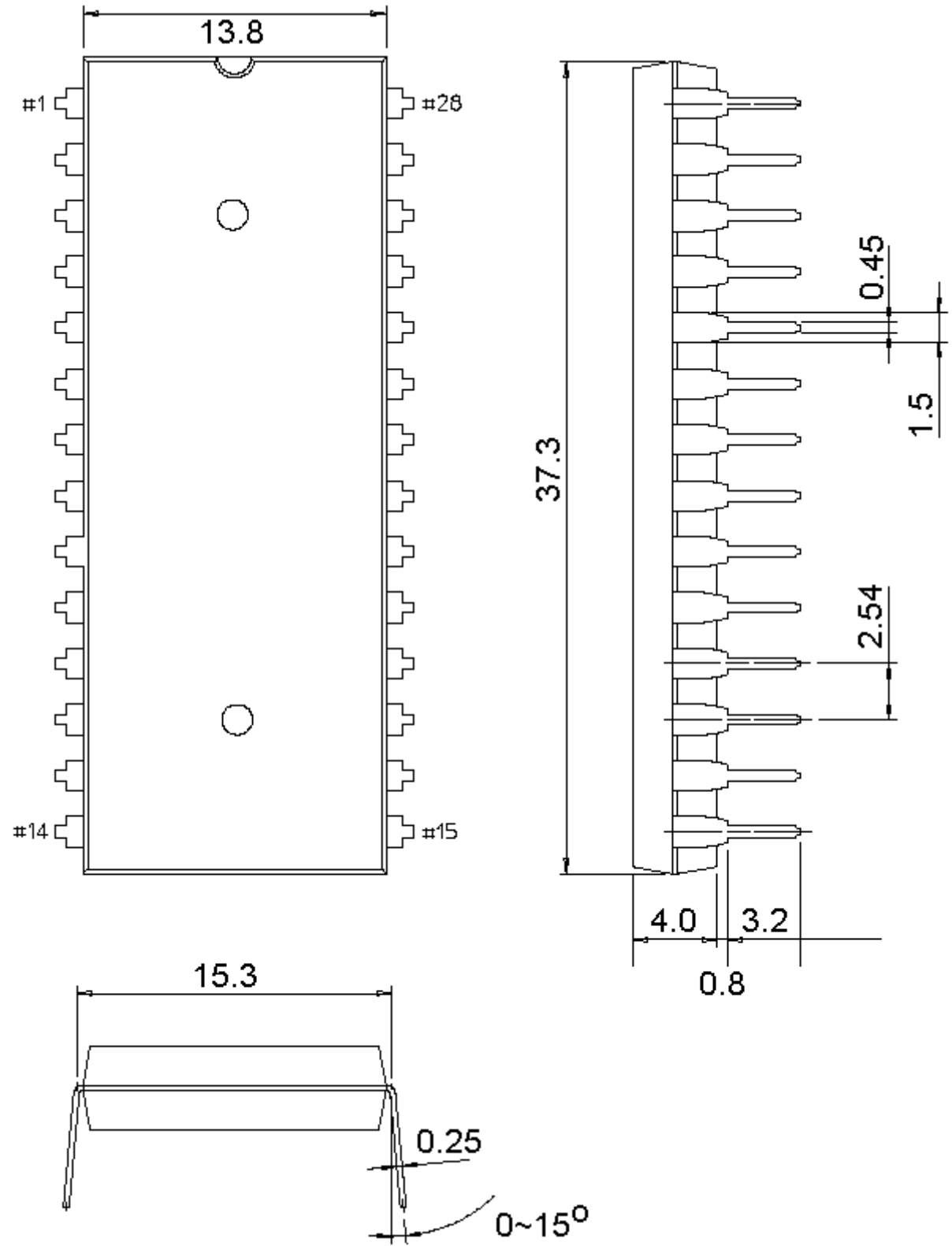
• DIP24S (SKDIP24, DIP24-300mil)



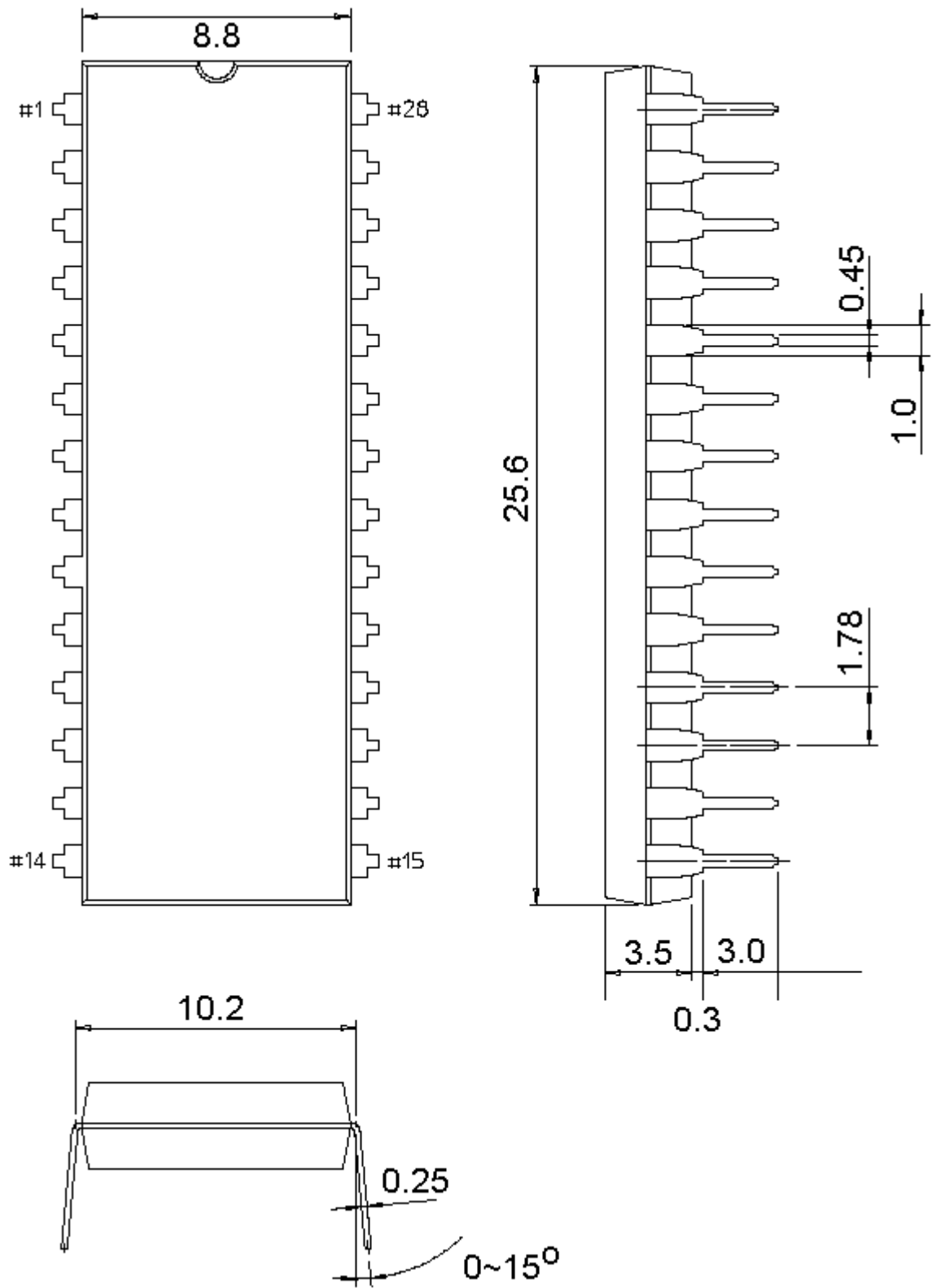
. DIP28S (SKDIP28、DIP28-300mil)



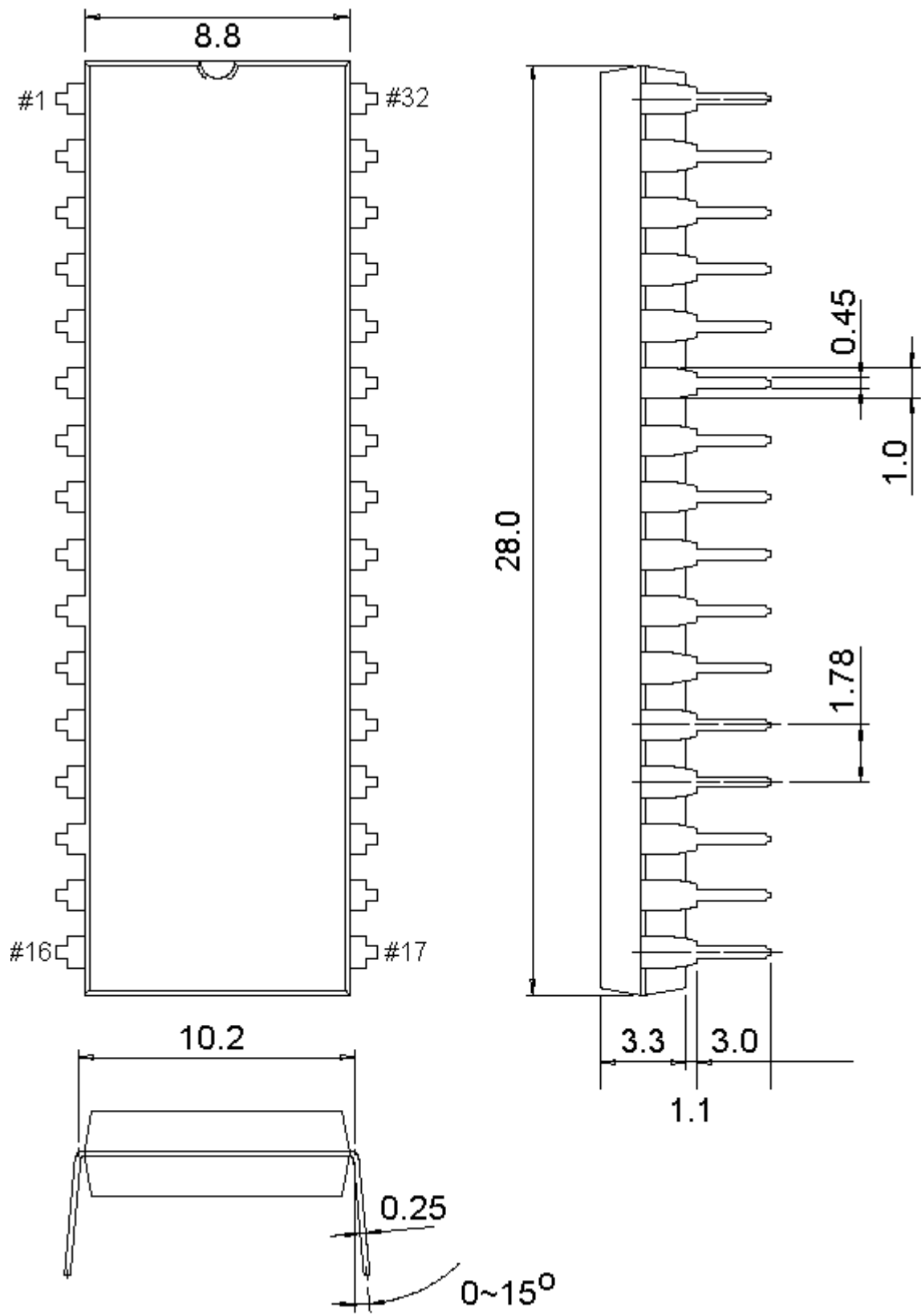
• DIP28 (DIP28W, DIP28-600mil)



• SDIP28 (SDIP28-400mil)



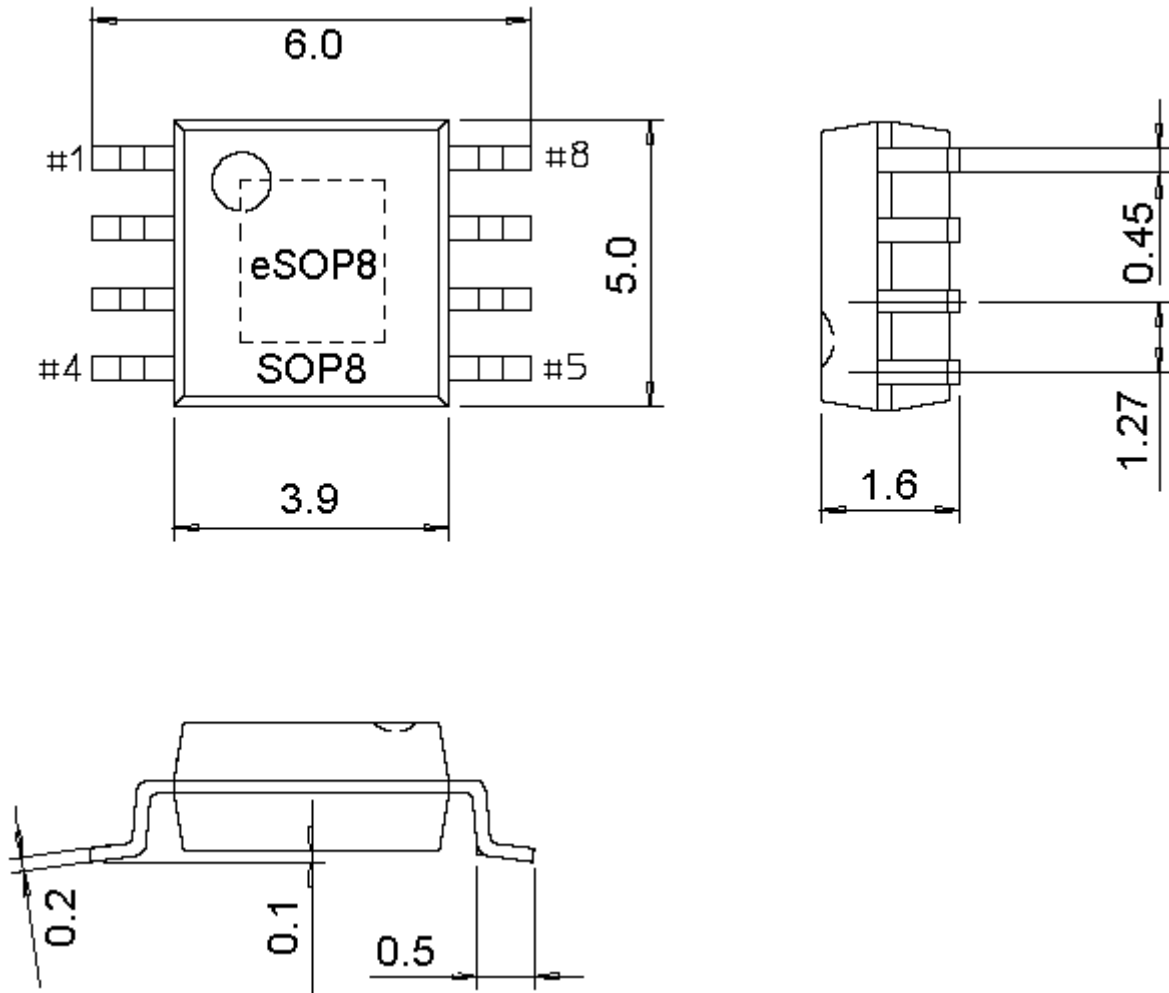
• SDIP32 (SDIP32-400mil)



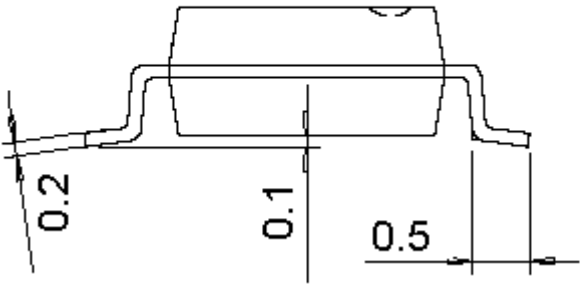
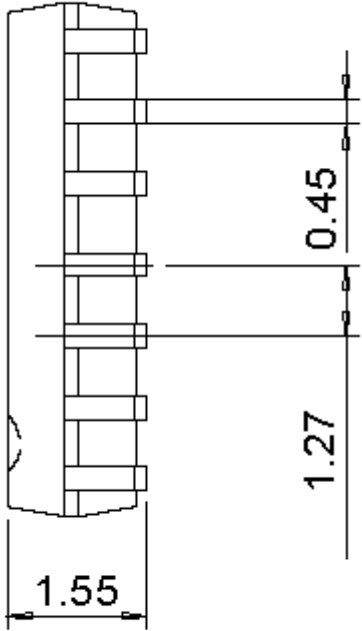
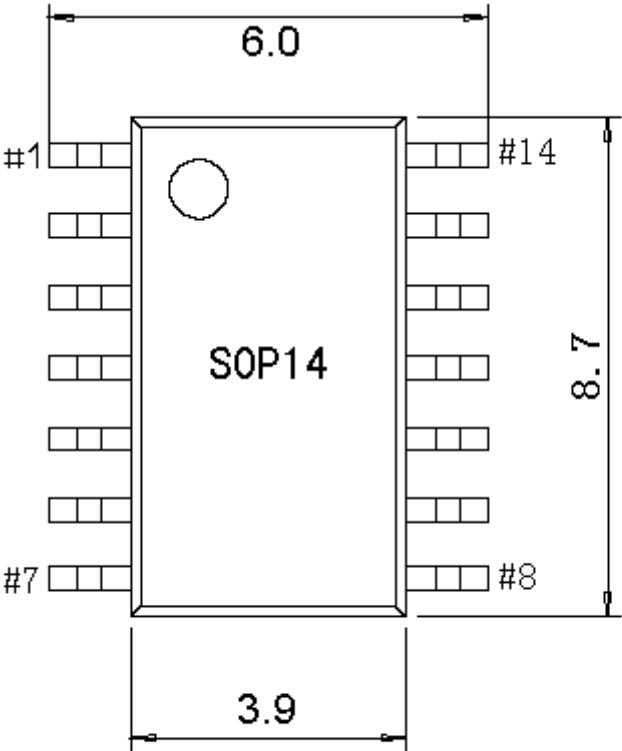
SOP Type (SOIC)

• SOP8, eSOP8

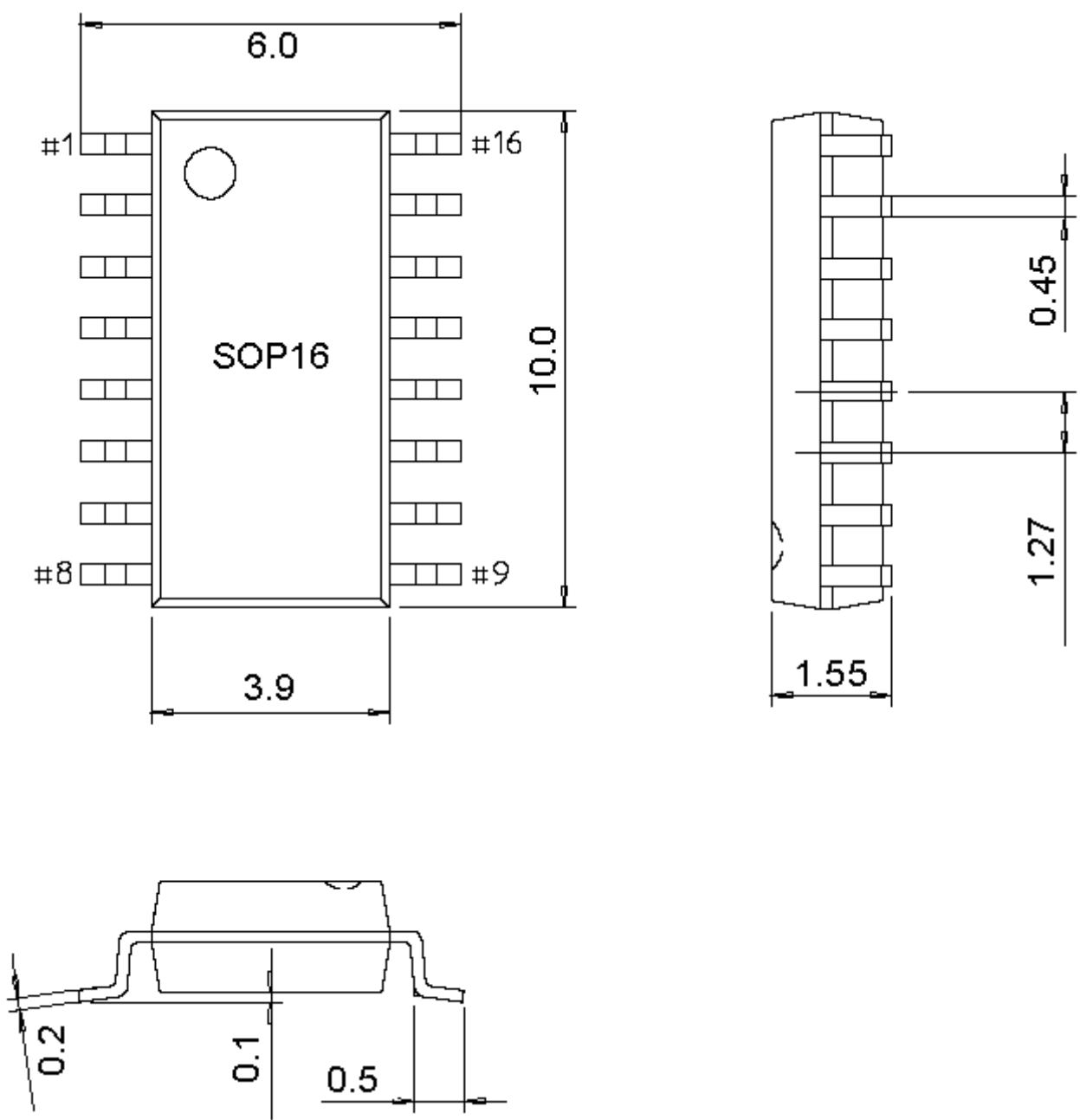
eSOP8 Exposed Pad: 2.1*3.3, 2.1*2.1



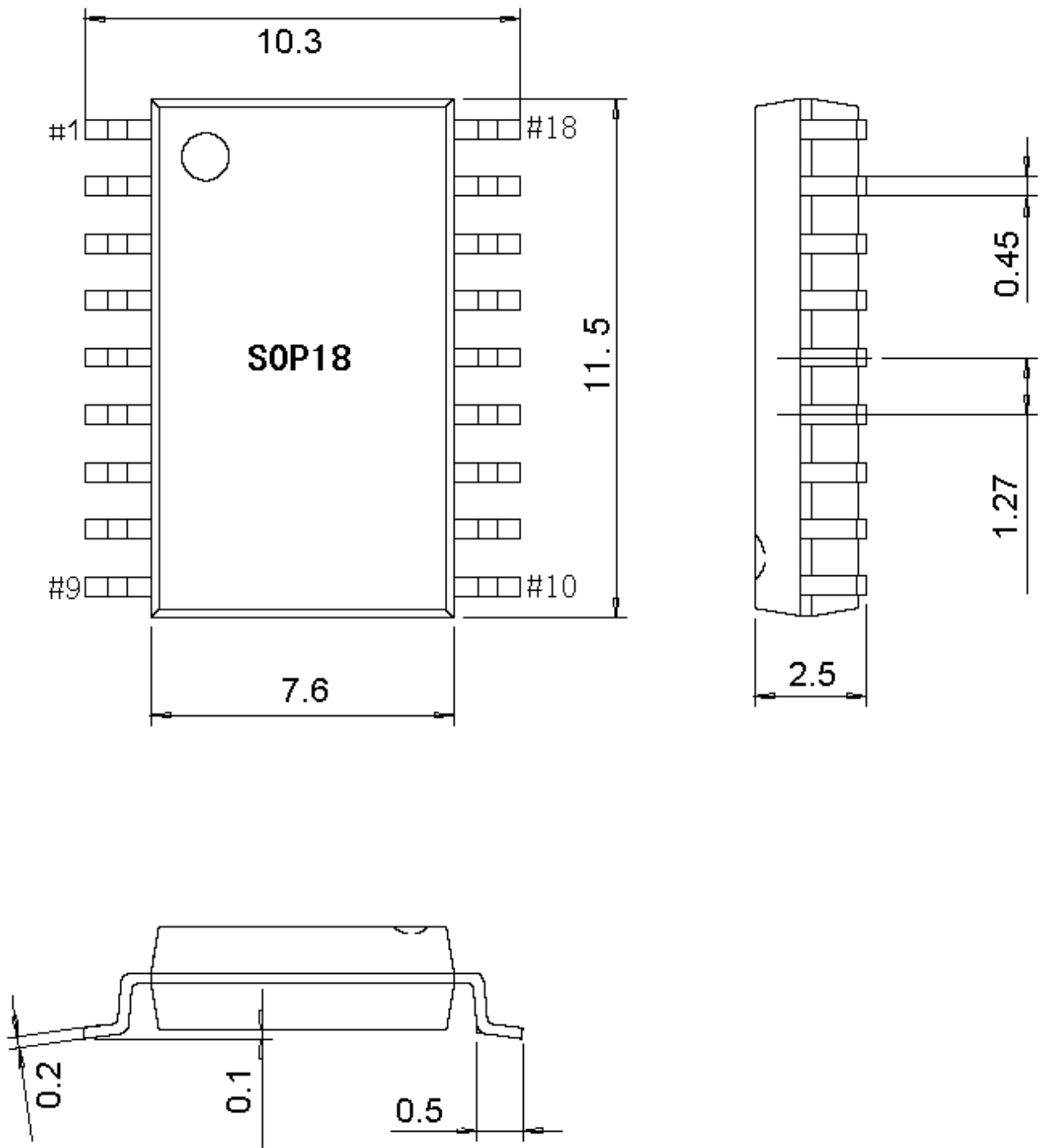
• SOP14



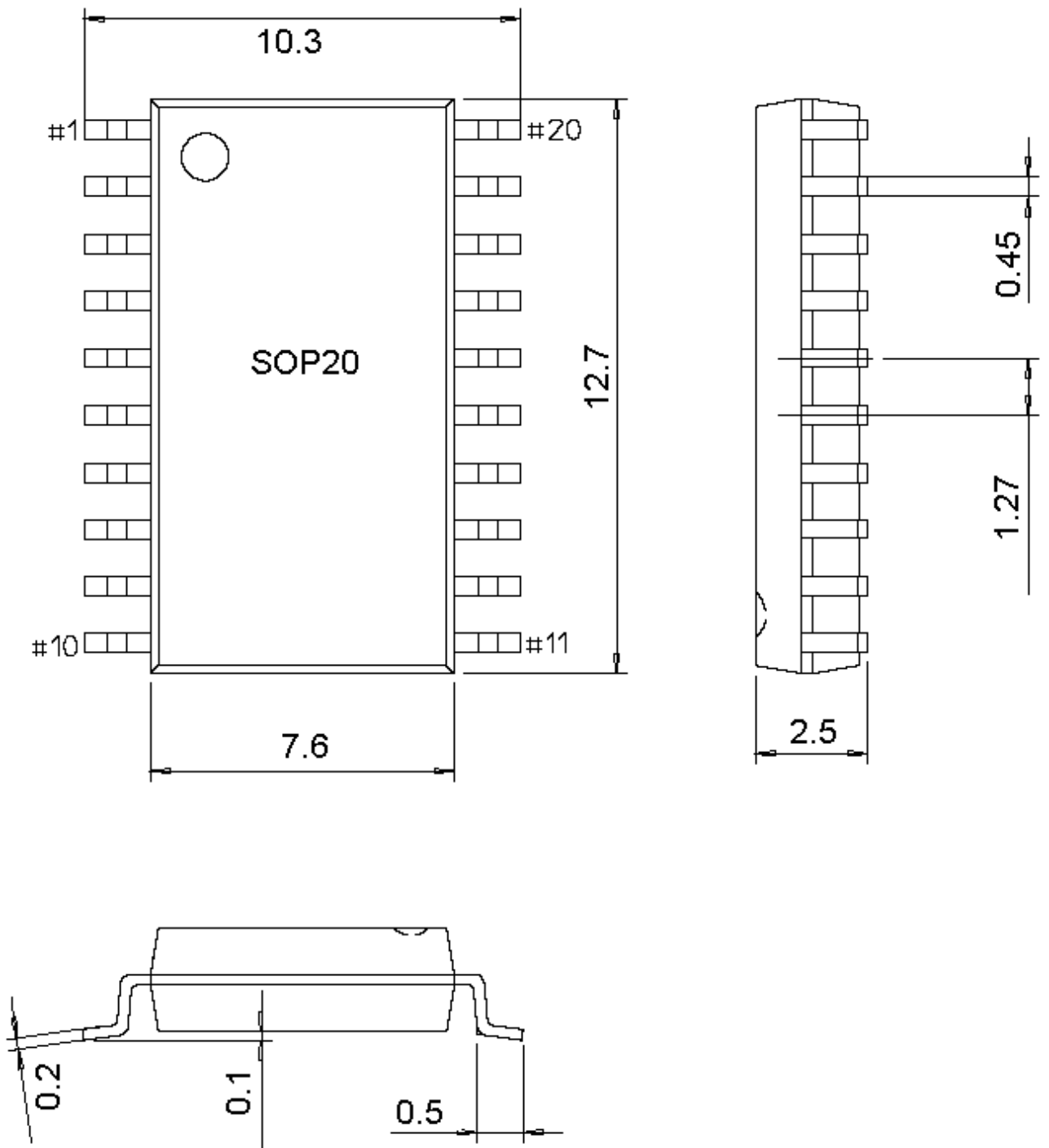
• SOP16 (SOP16-150mil)



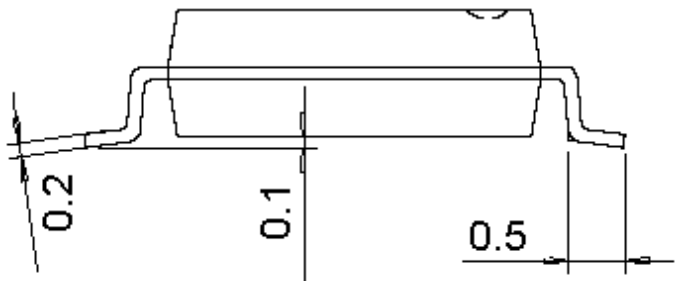
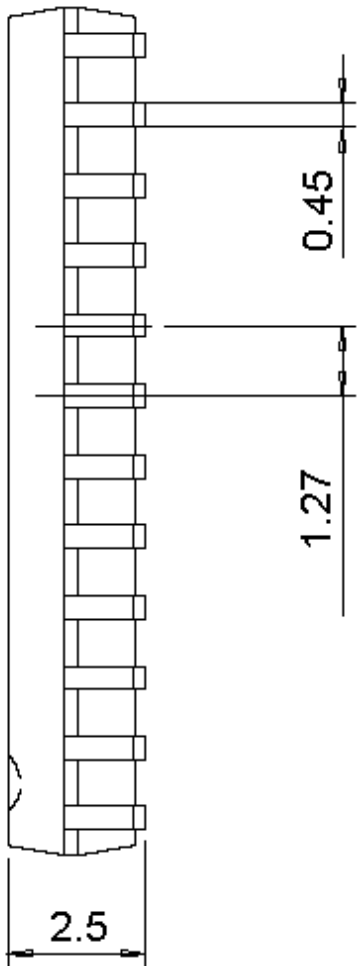
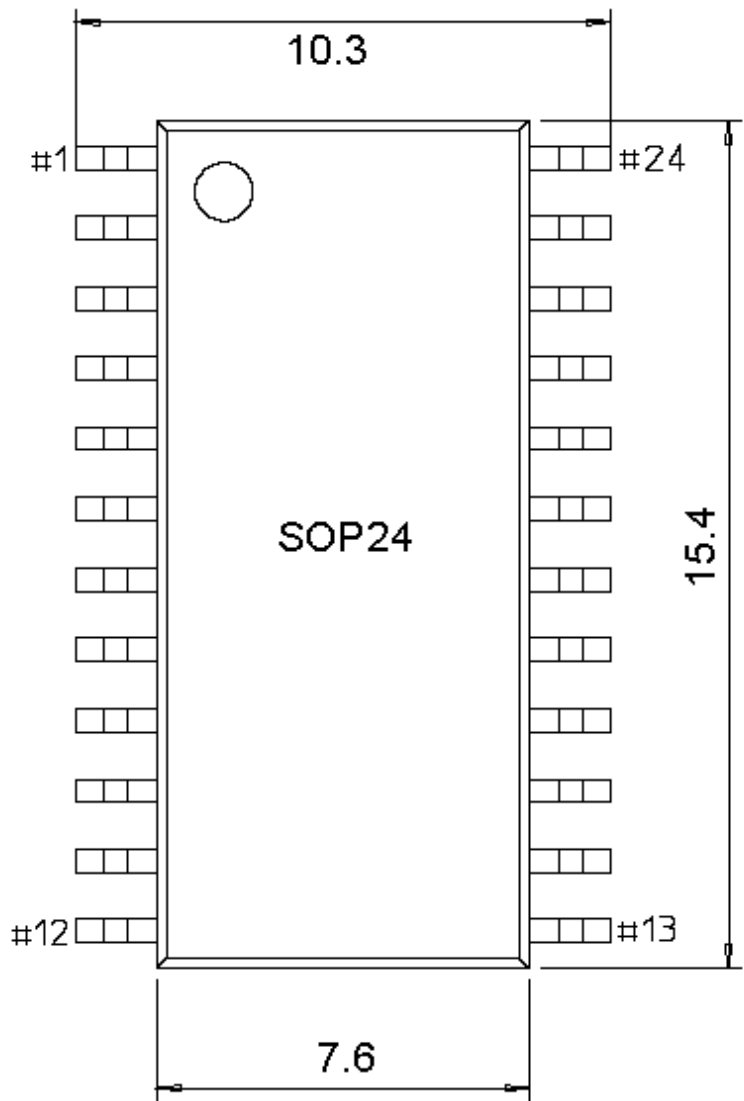
• SOP18



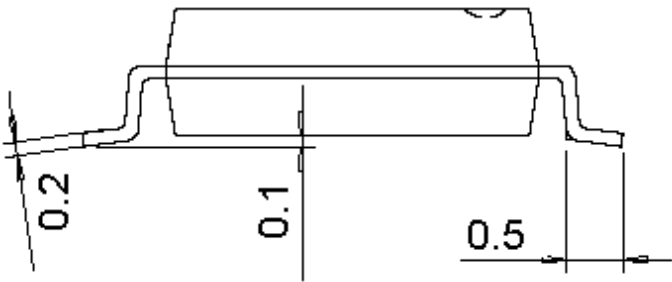
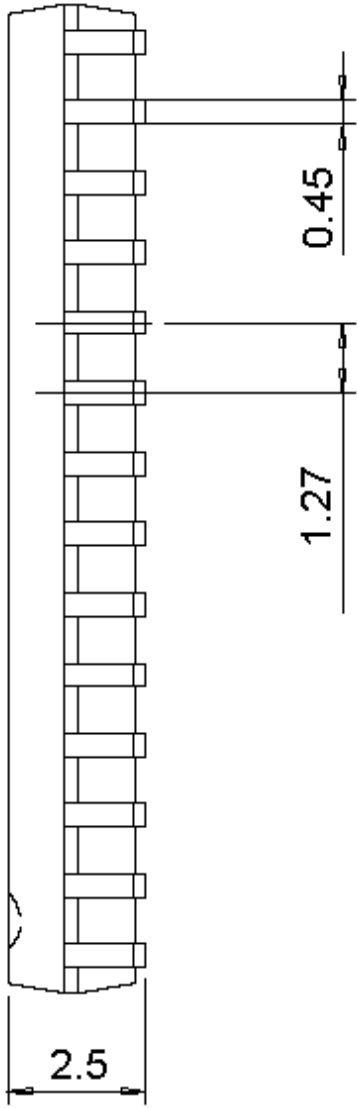
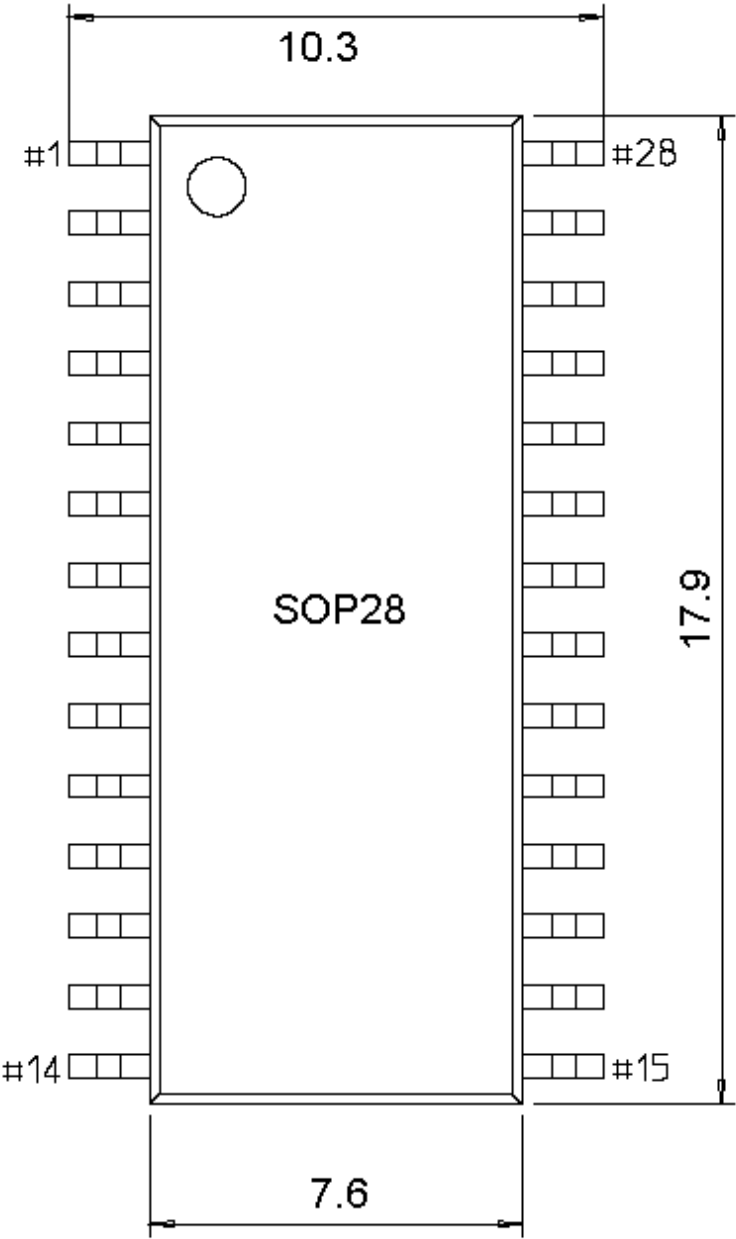
• SOP20



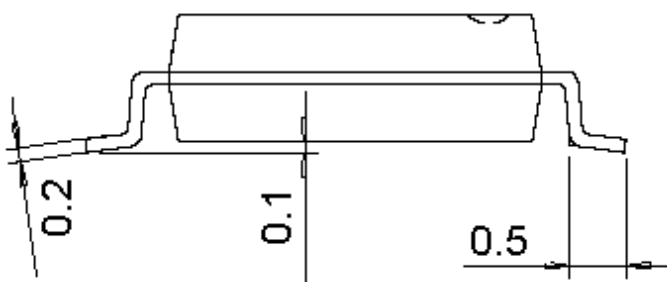
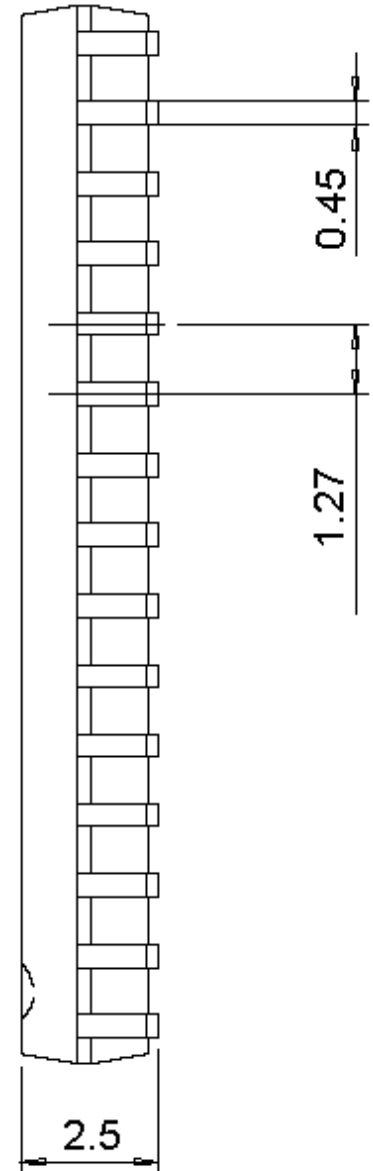
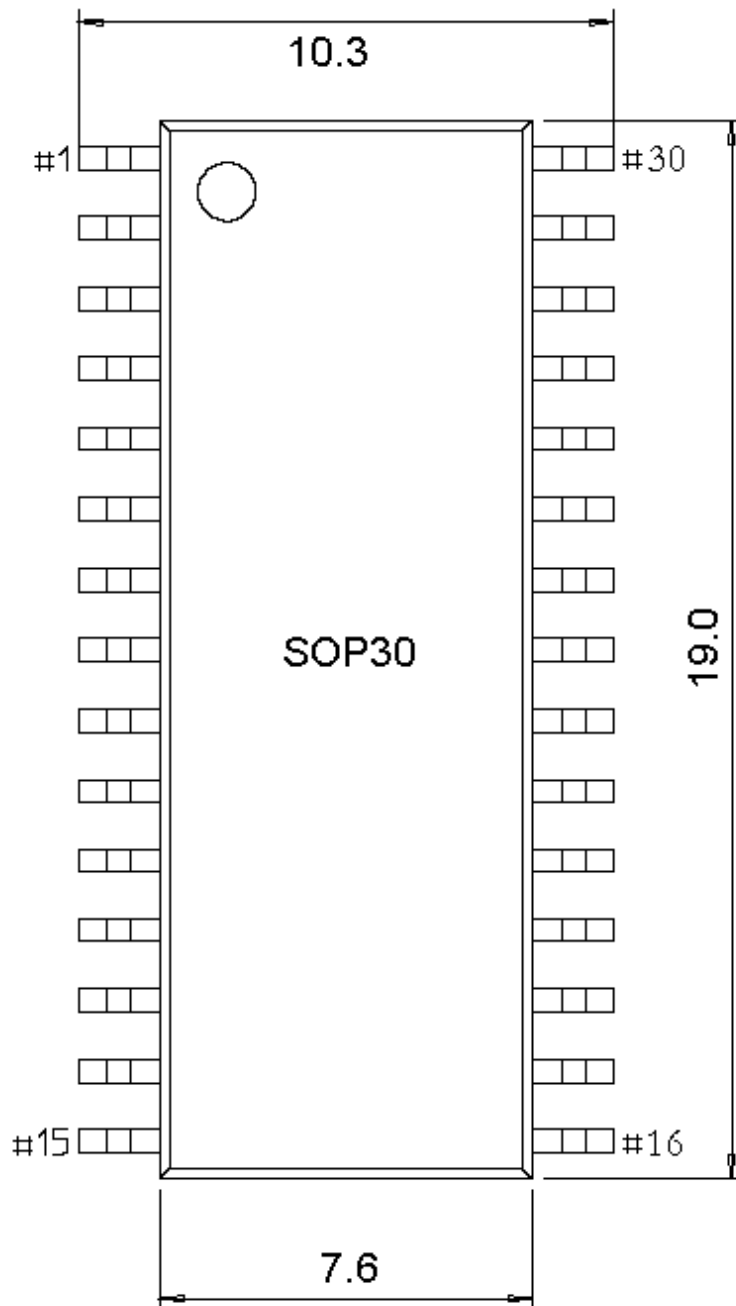
• SOP24



• SOP28



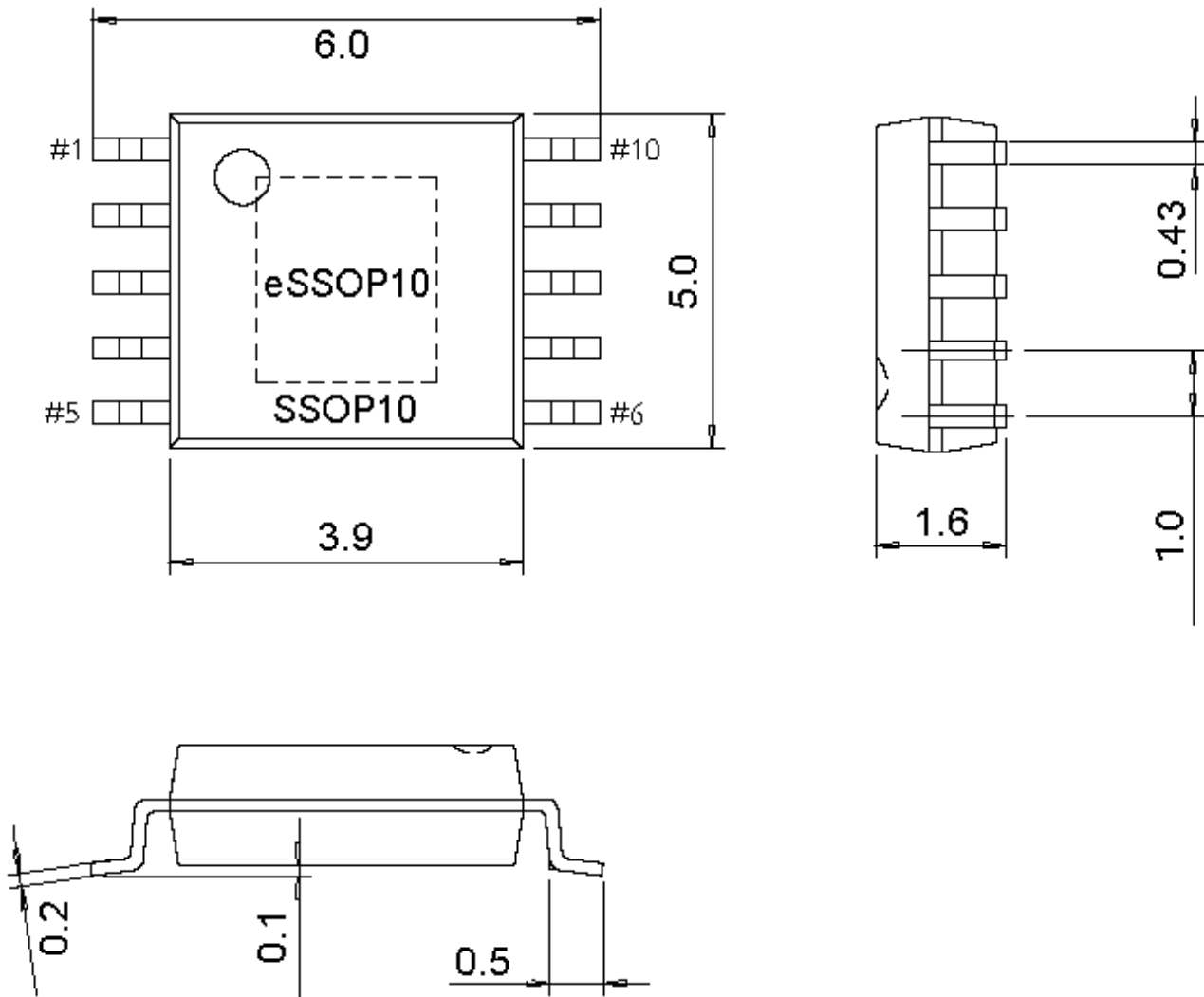
. SOP30



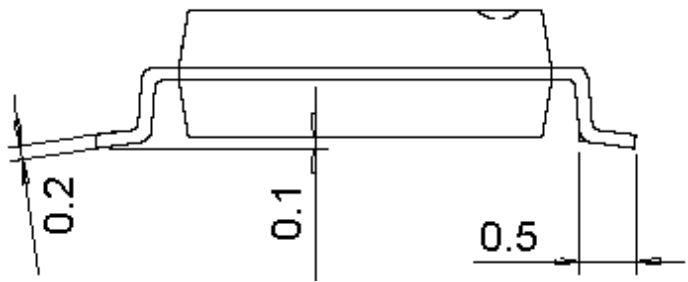
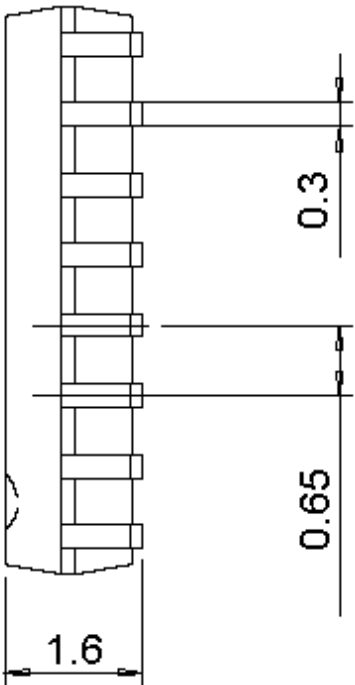
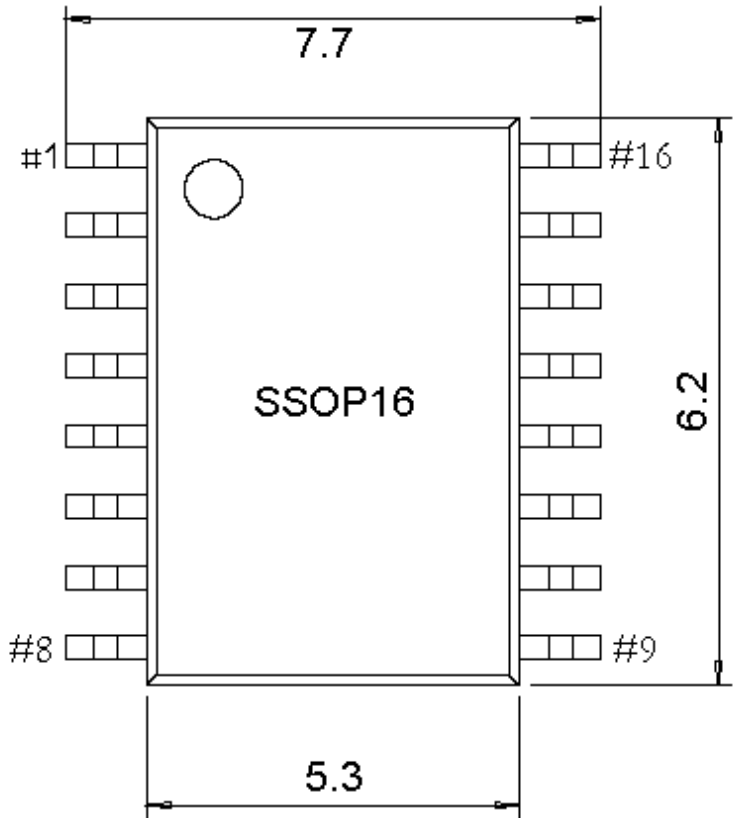
SSOP Type

• SSOP10 (SSOP10-150mil-1.00), eSSOP10

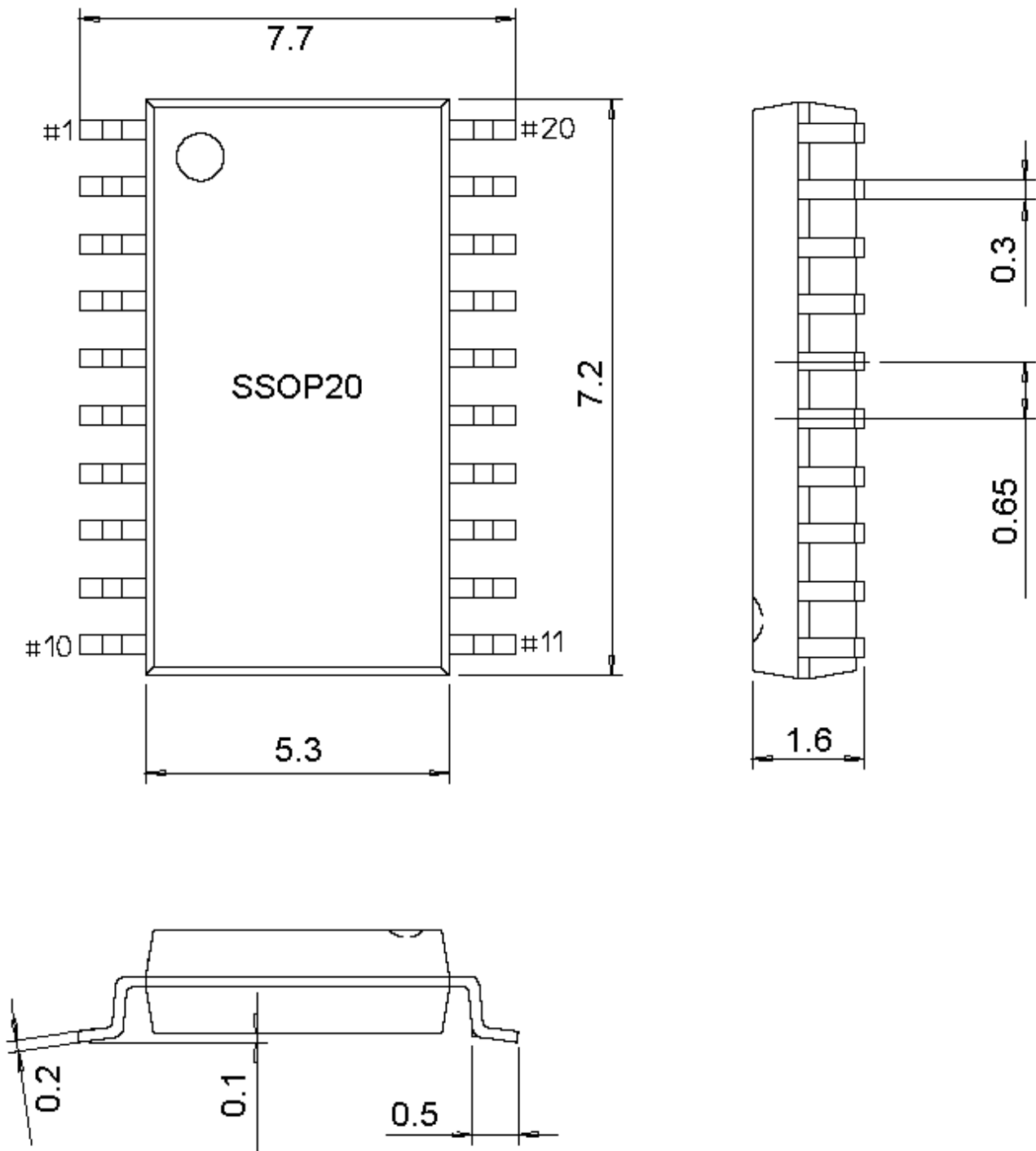
eSSOP10 Exposed Pad: 2.1*3.3



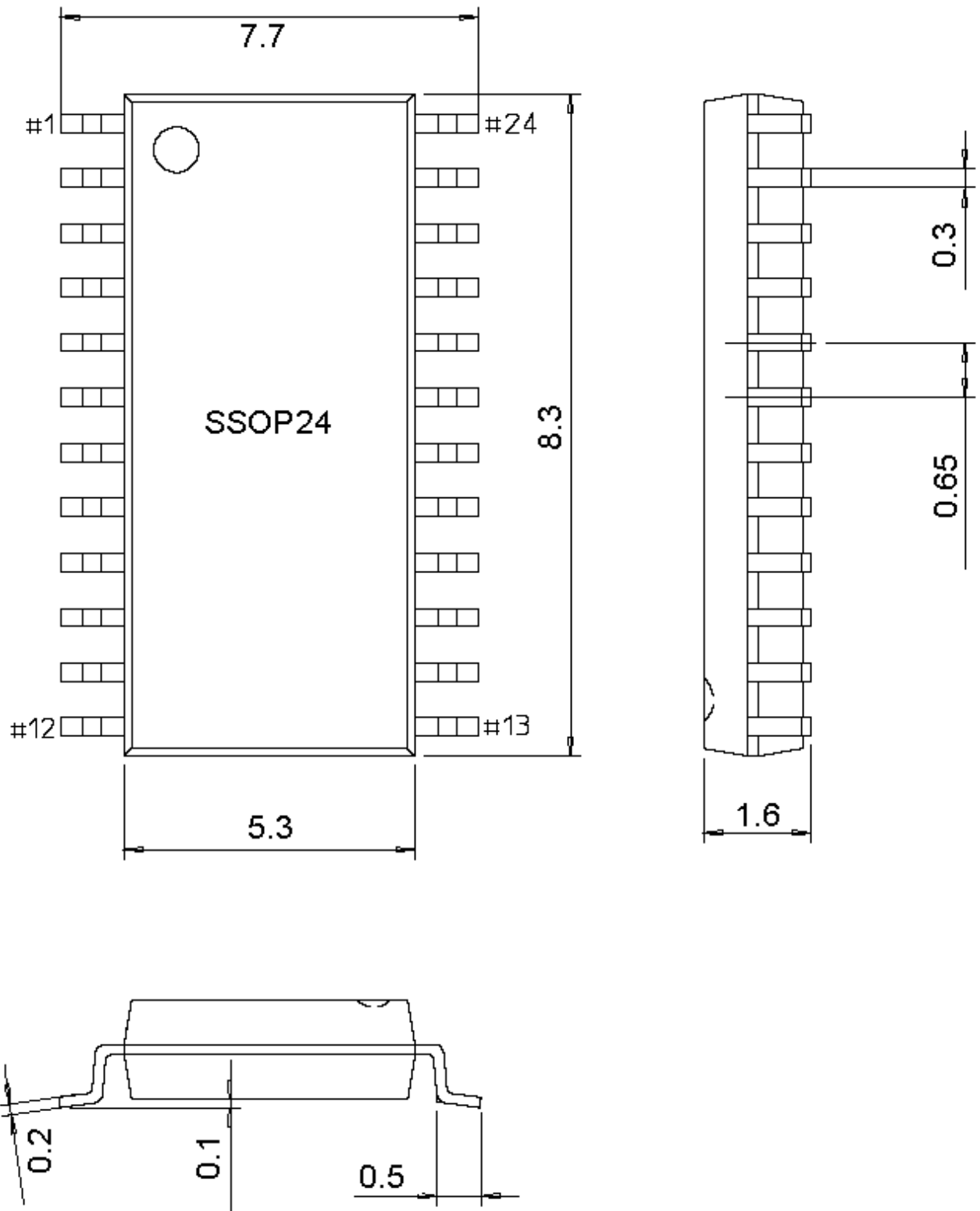
• SSOP16 (SSOP16-209mil-0.65)



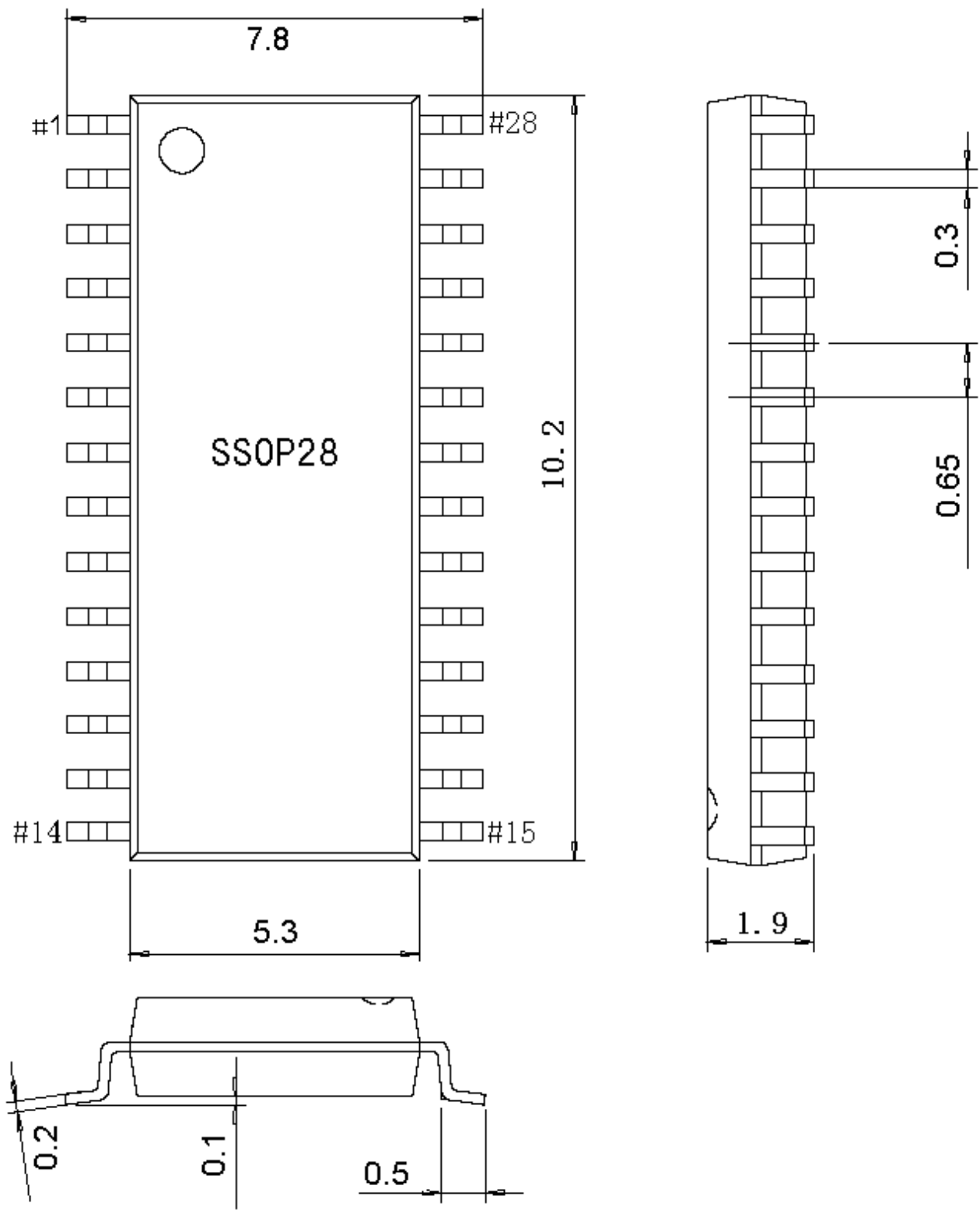
• SSOP20 (SSOP20-209mil-0.65)



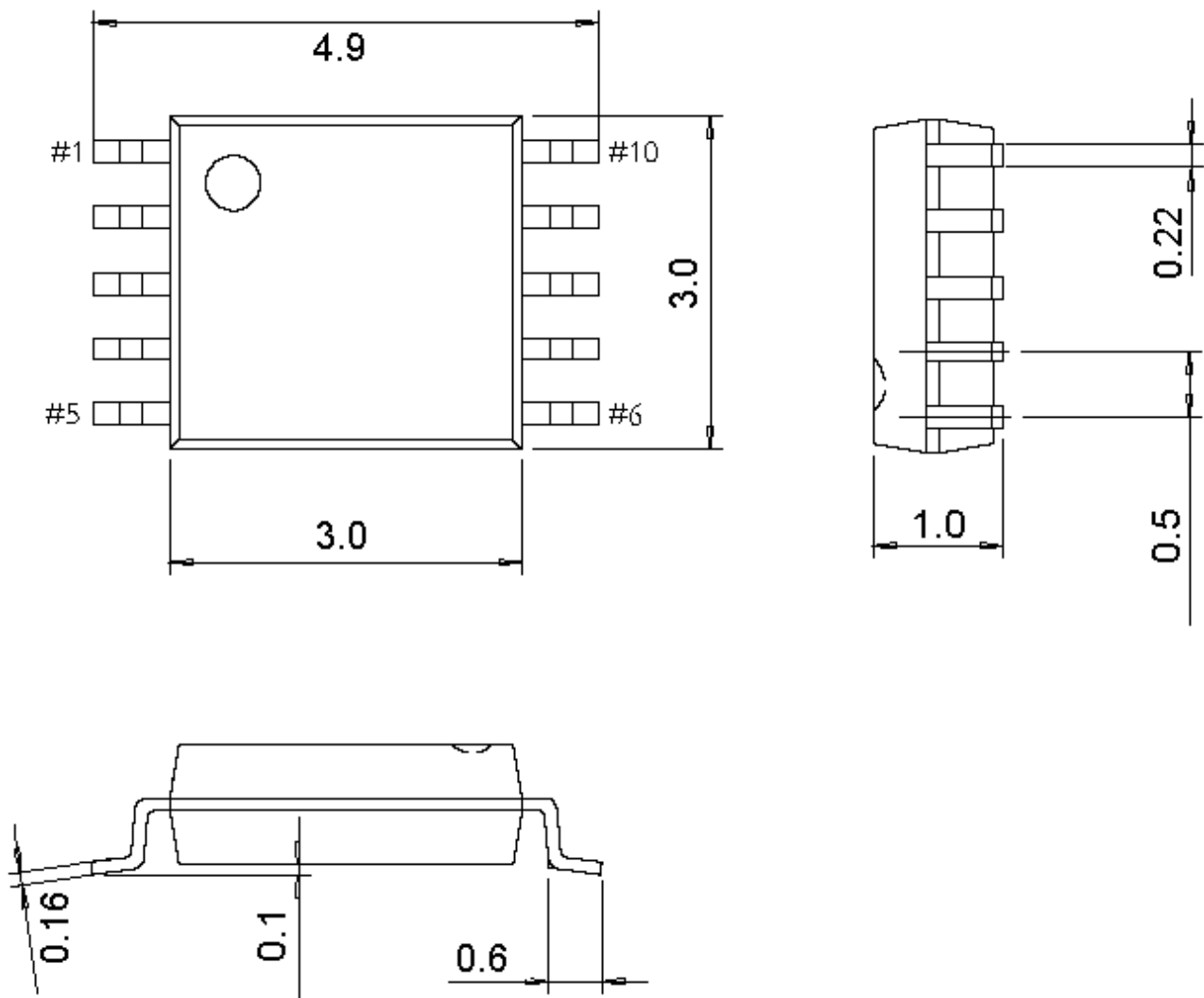
• SSOP24 (SSOP24-209mil-0.65)



• SSOP28 (SSOP28-209mil-0.65)

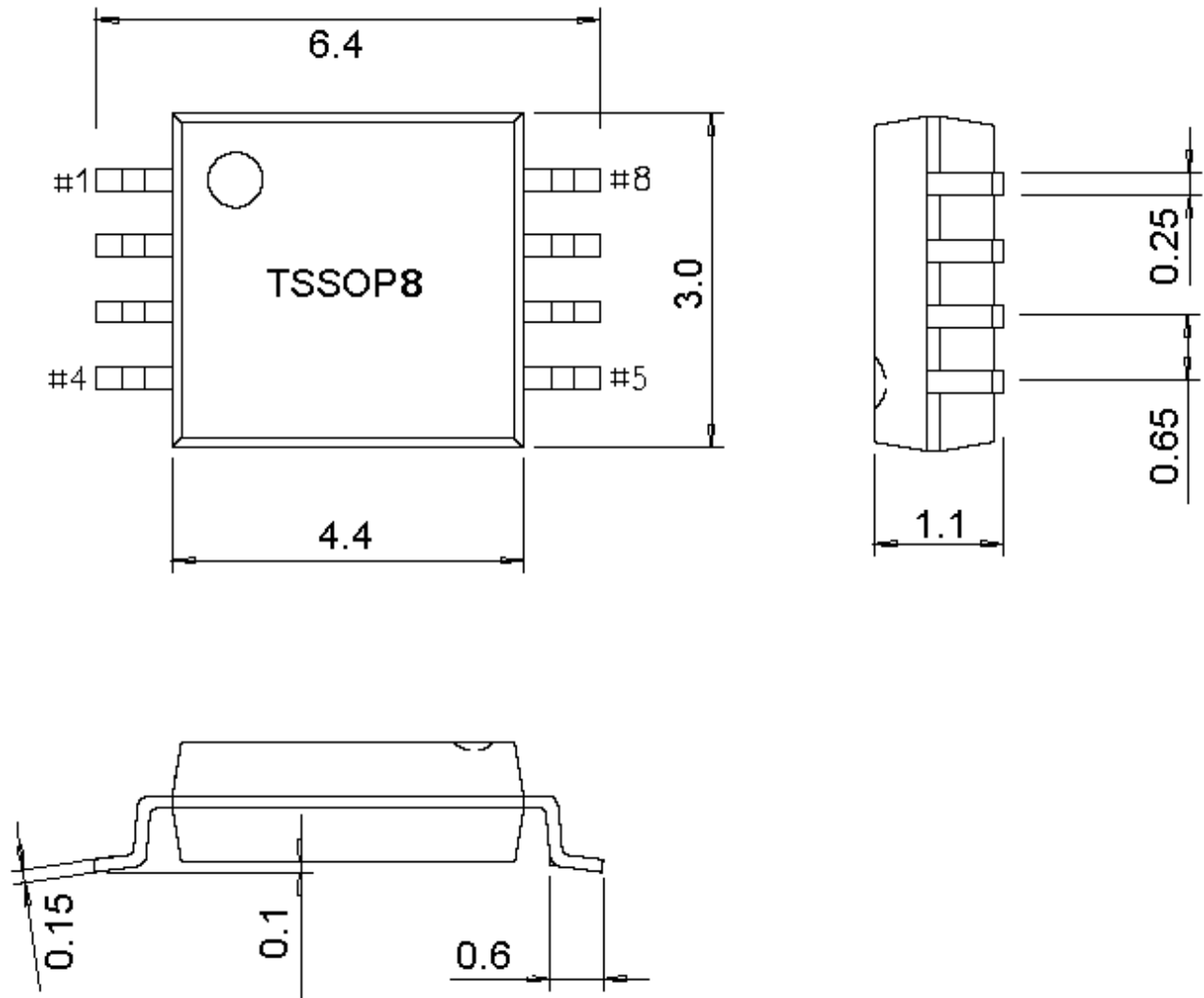


MSOP Type
 MSOP10



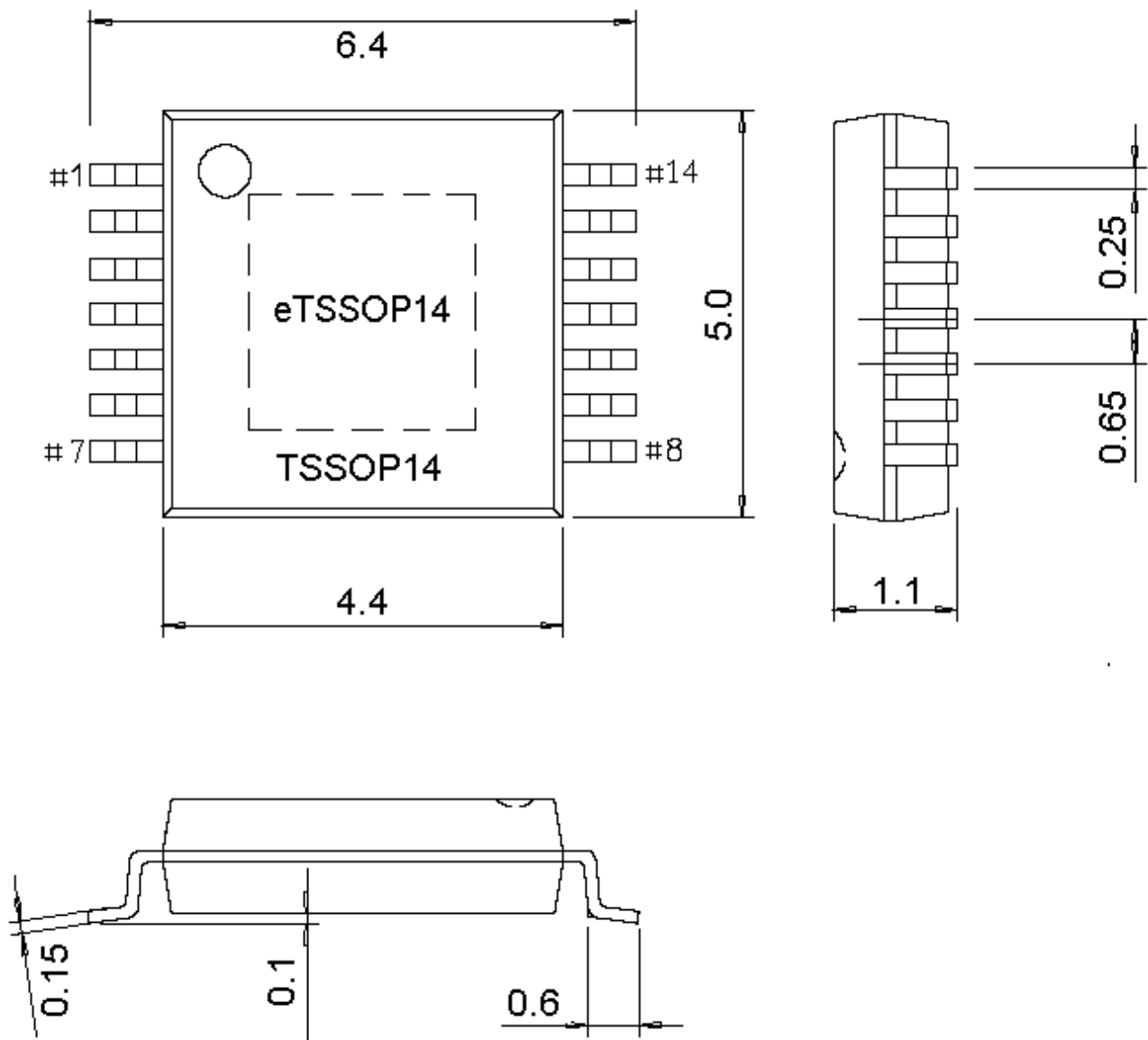
TSSOP Type (4.4mm, 173mil)

· TSSOP8



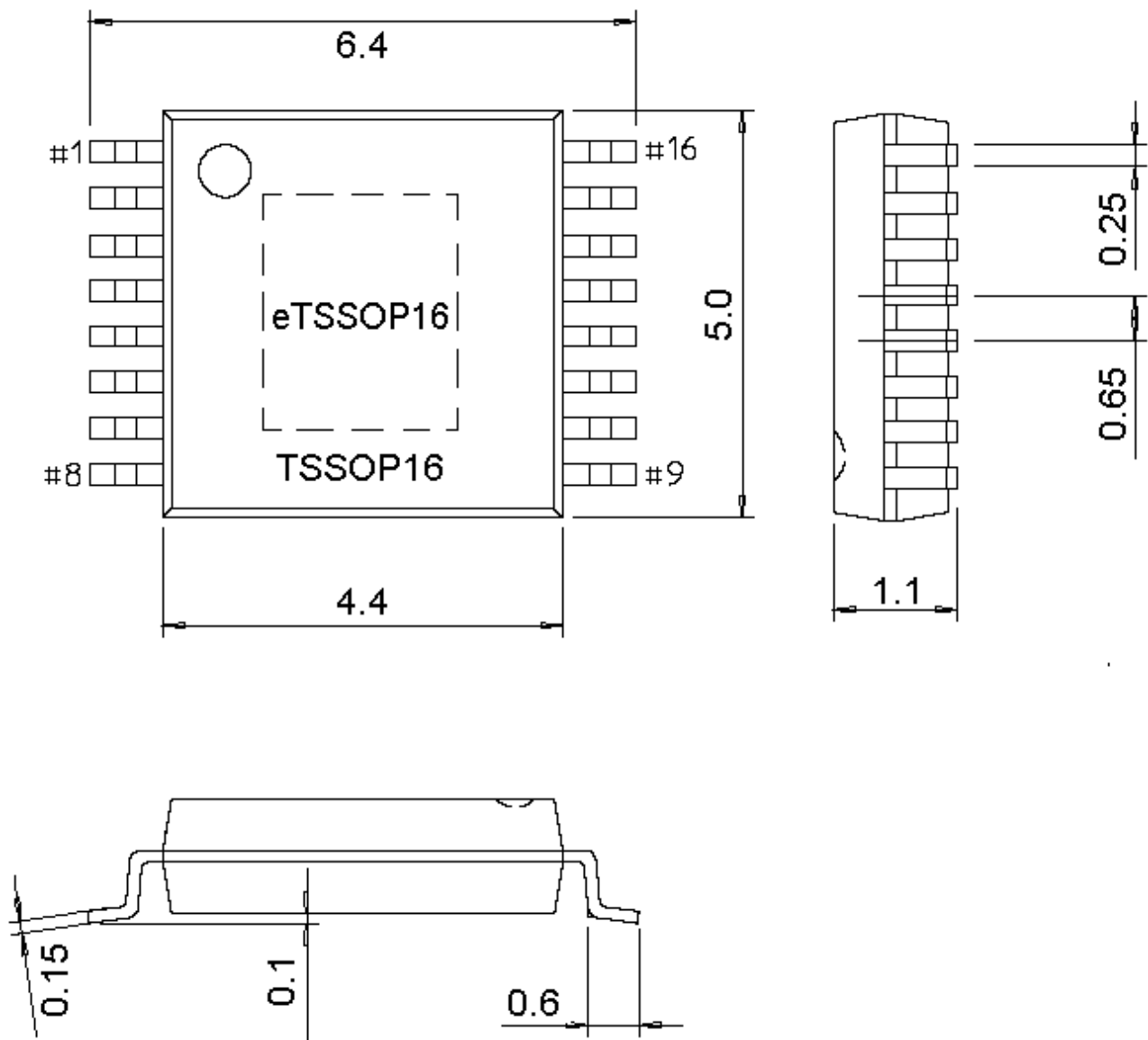
. TSSOP14, eTSSOP14

eTSSOP14 Exposed Pad: 3.0*3.0



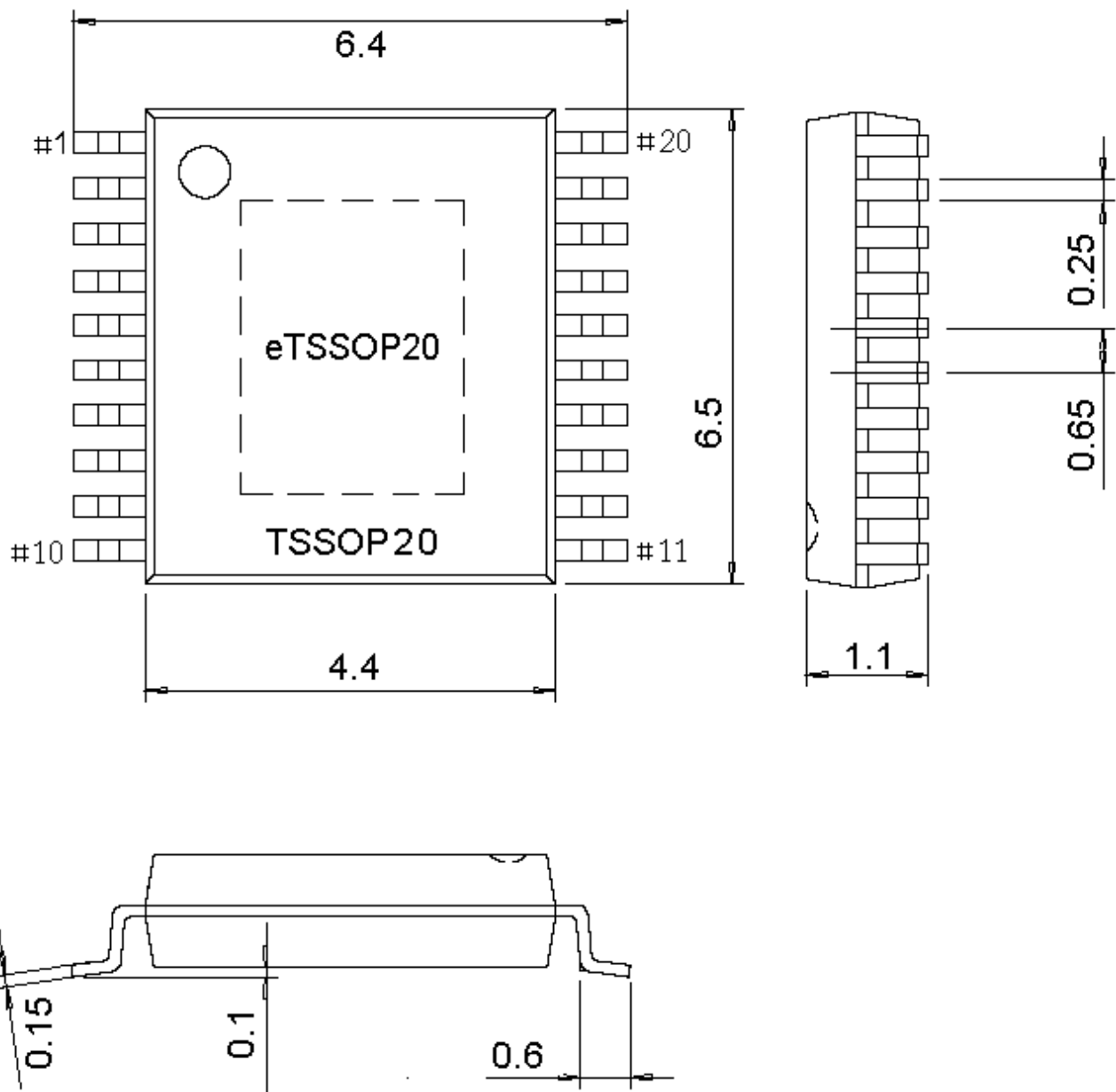
. TSSOP16, eTSSOP16

eTSSOP16 Exposed Pad: 2.8*3.0

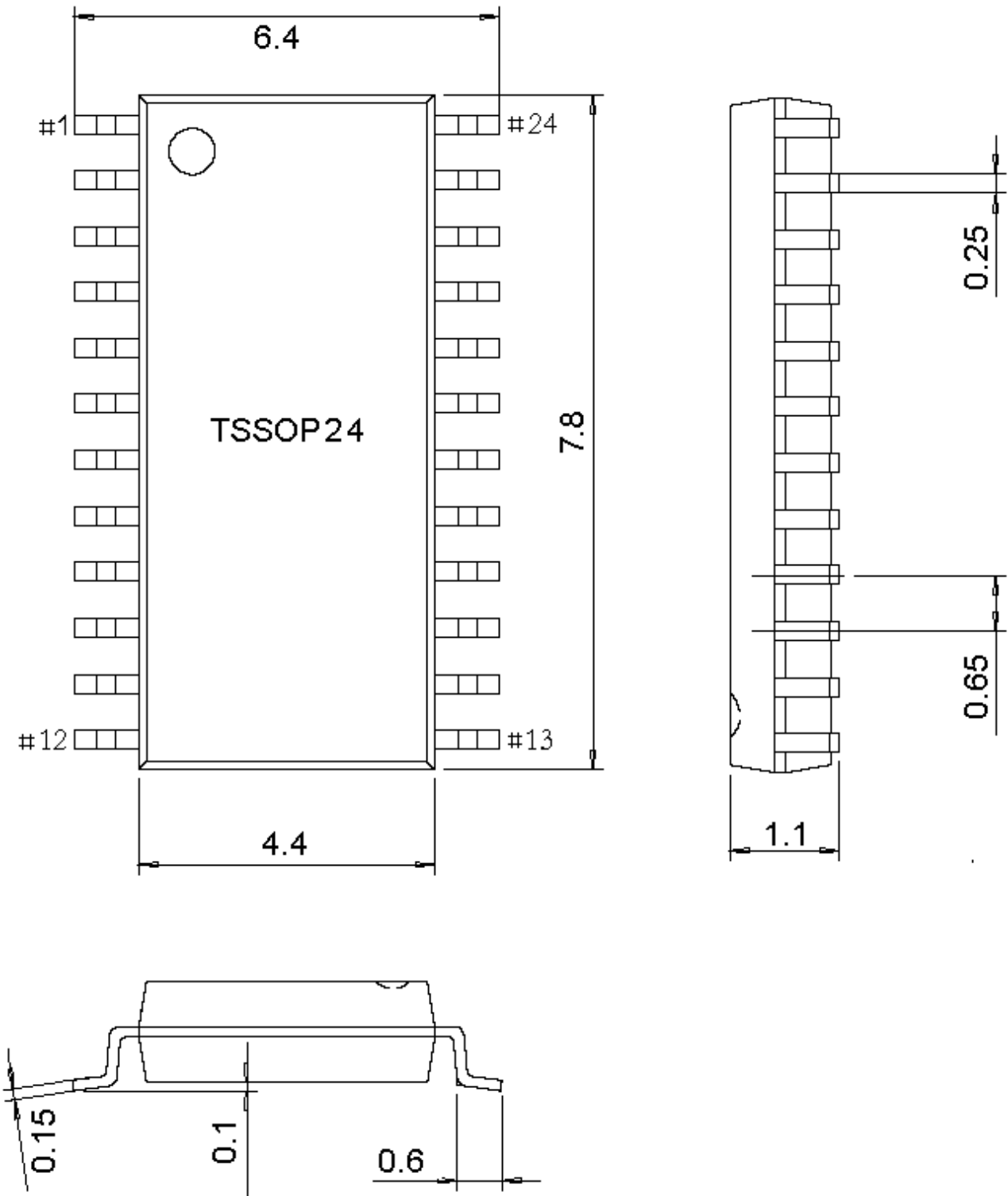


. TSSOP20, eTSSOP20

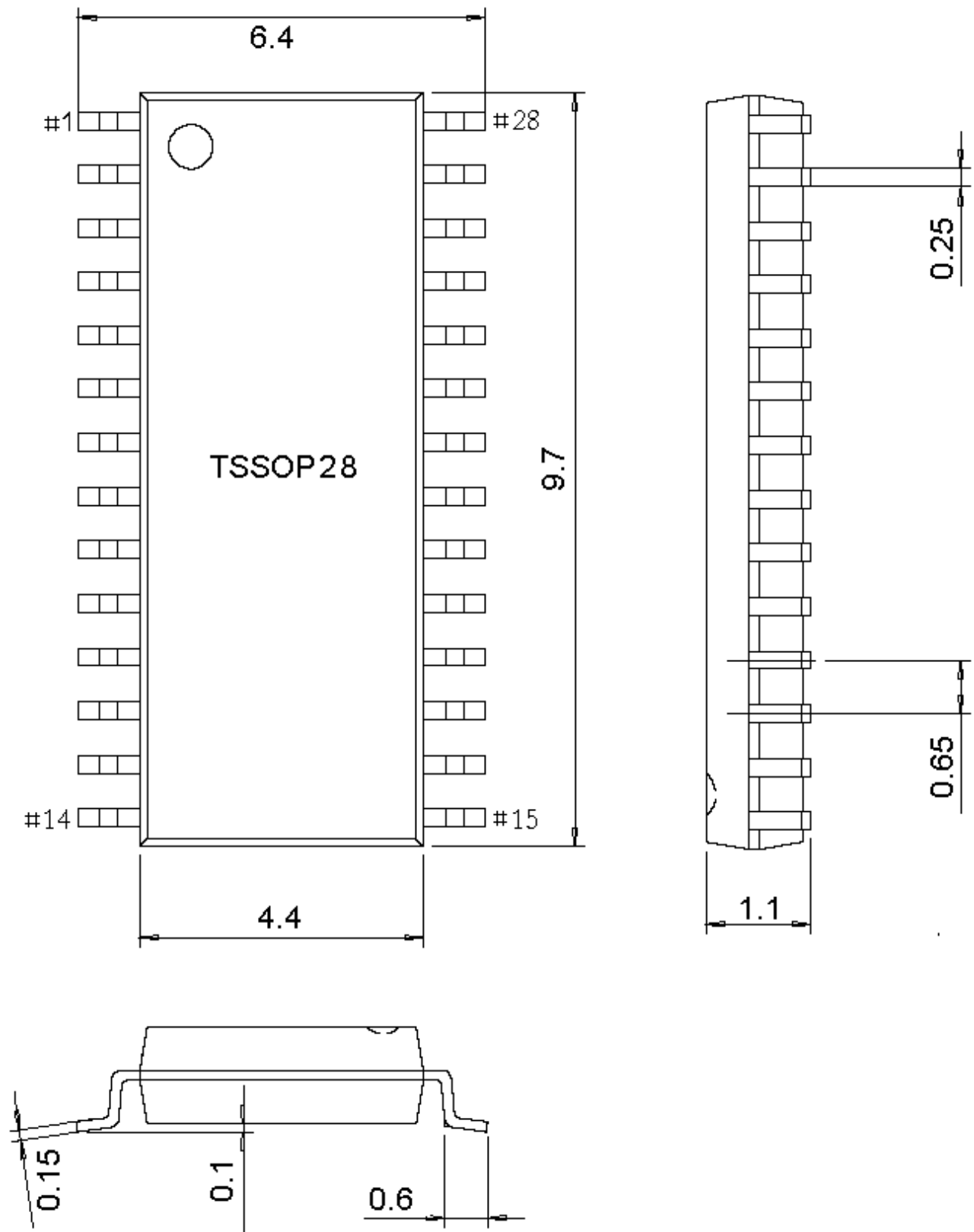
eTSSOP20 Exposed Pad: 3.0*4.2



· TSSOP24

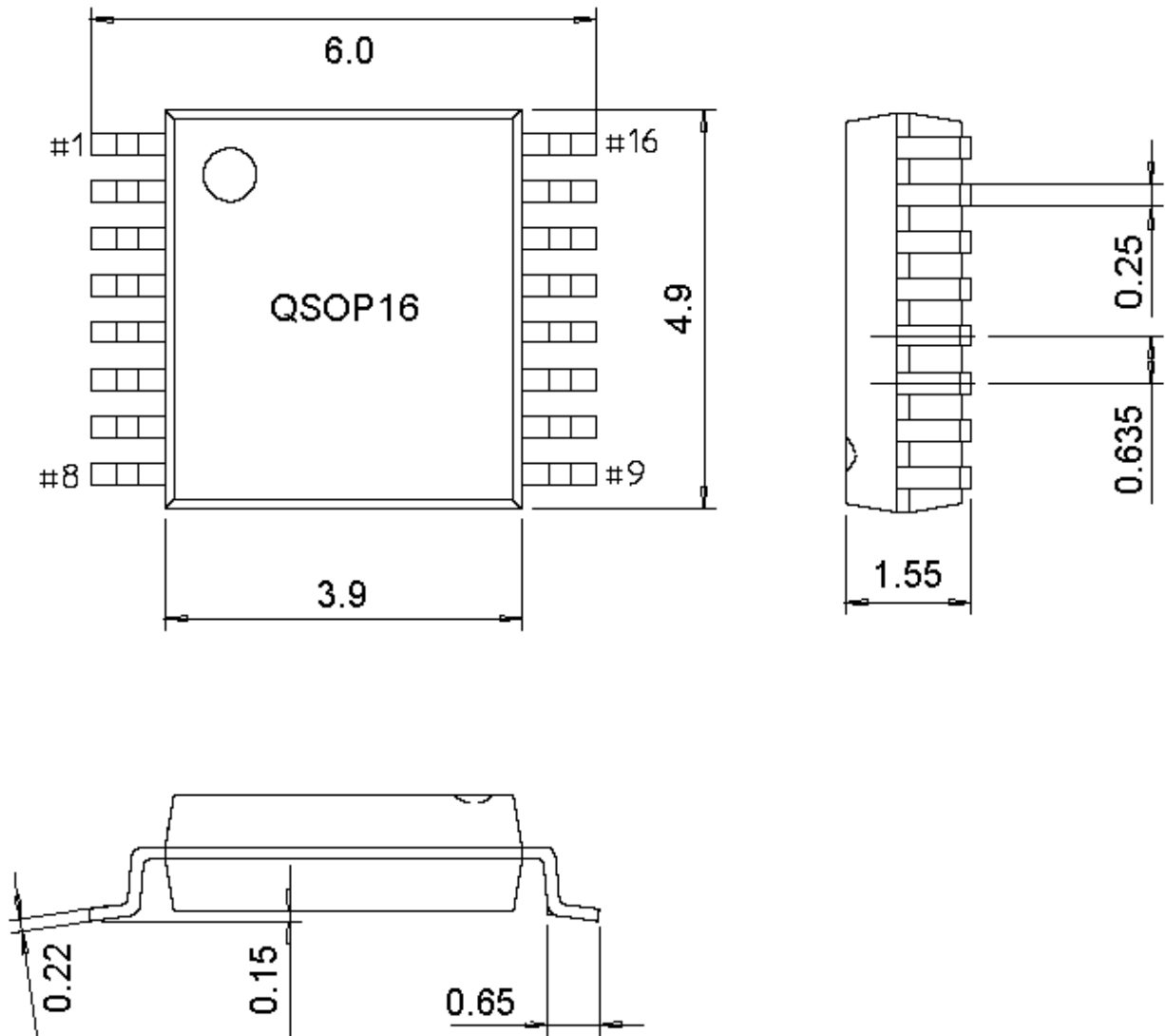


· TSSOP28

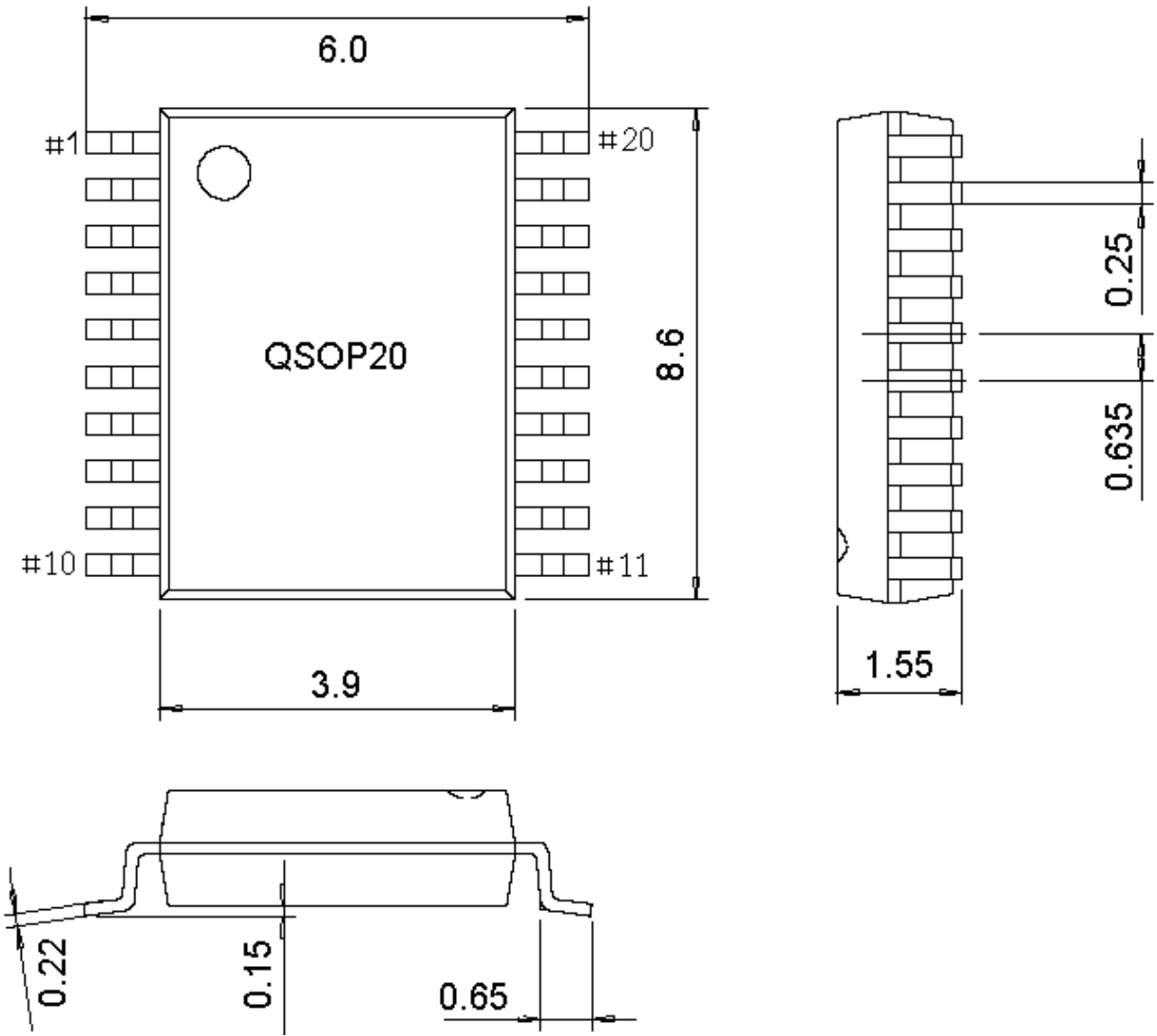


QSOP Type (3.9mm, 150mil) (SSOP-150)

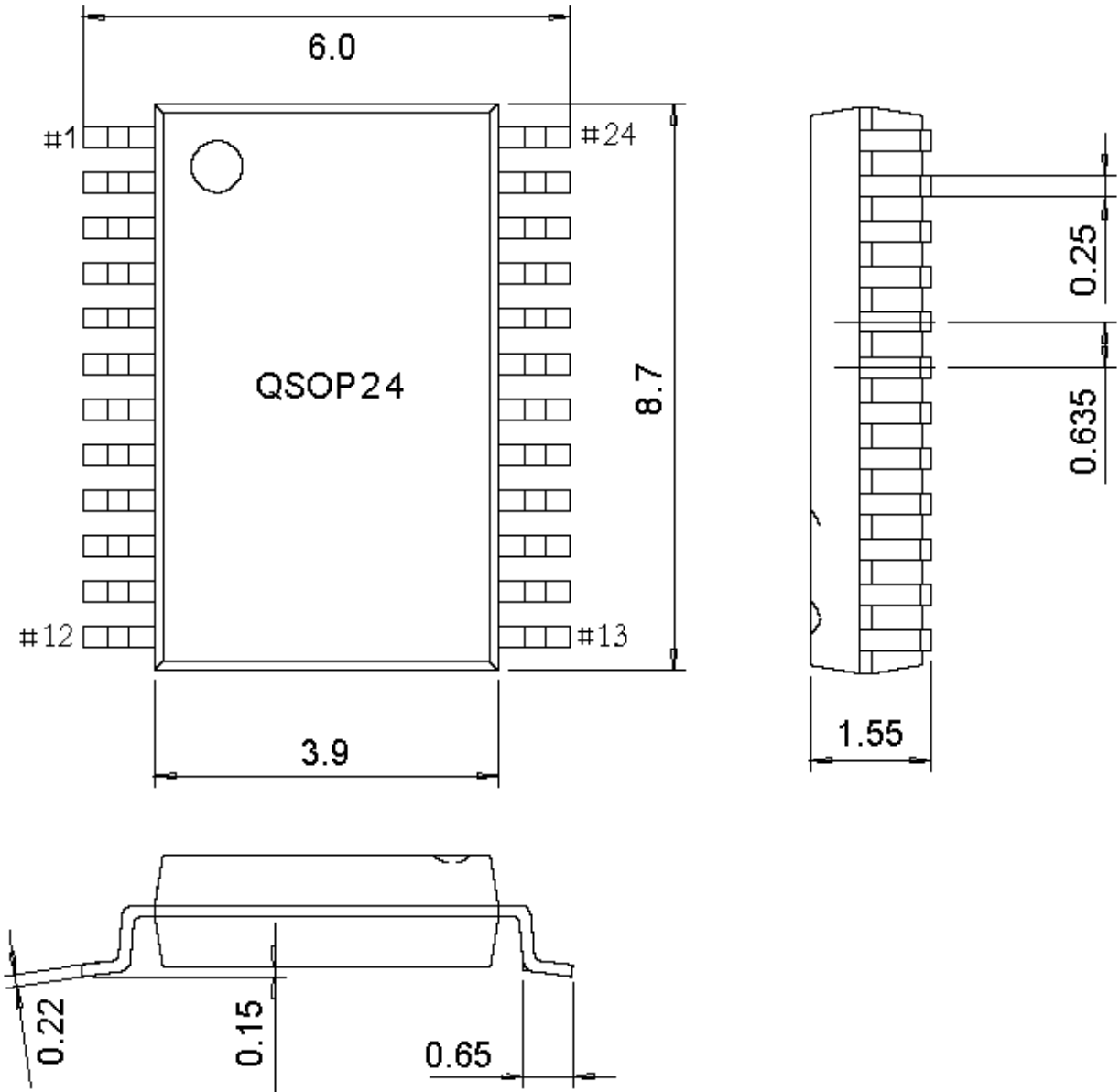
- QSOP16 (SSOP16-150mil-0.635)



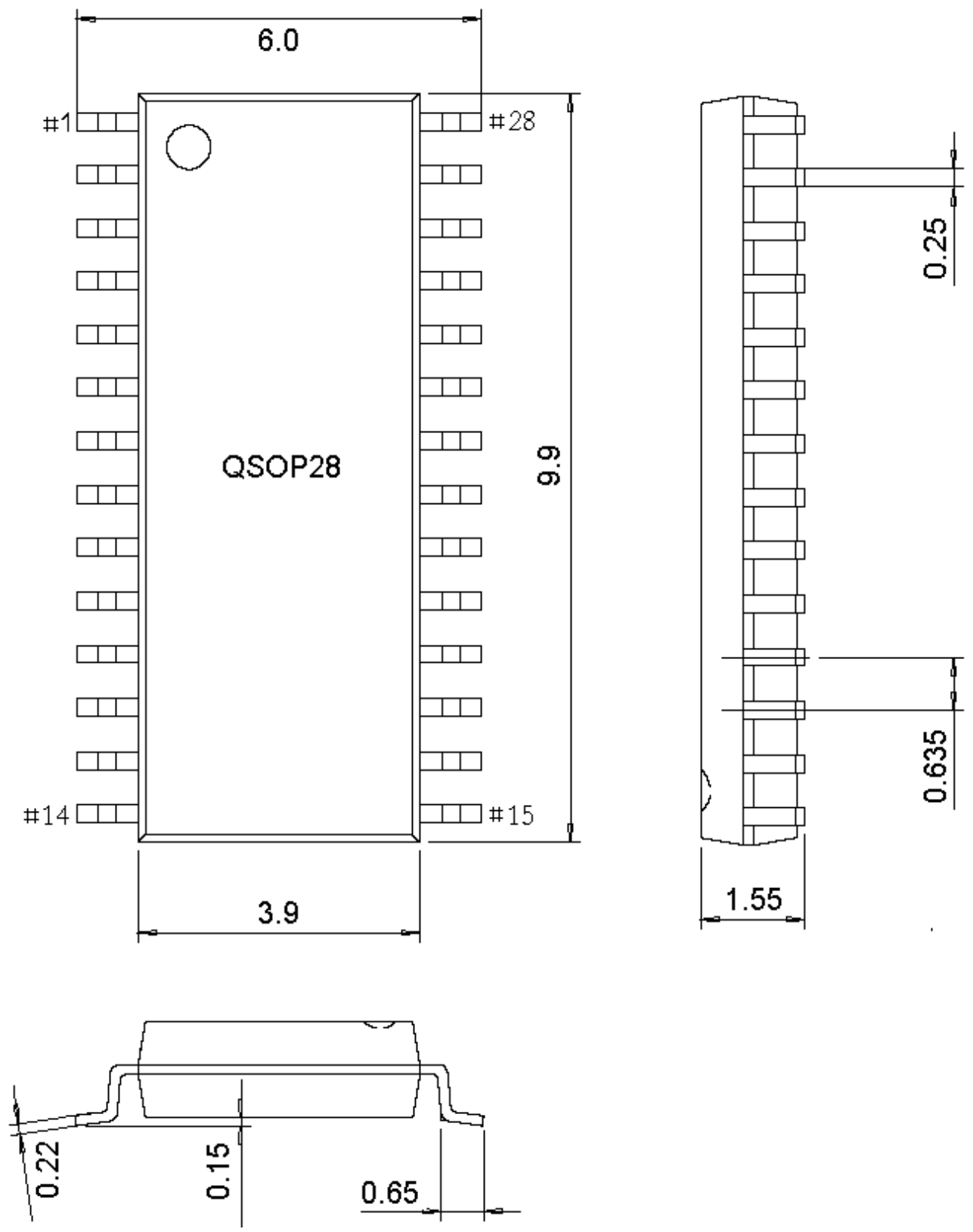
• QSOP20 (SSOP20-150mil-0.635)



• QSOP24 (SSOP24-150mil-0.635)

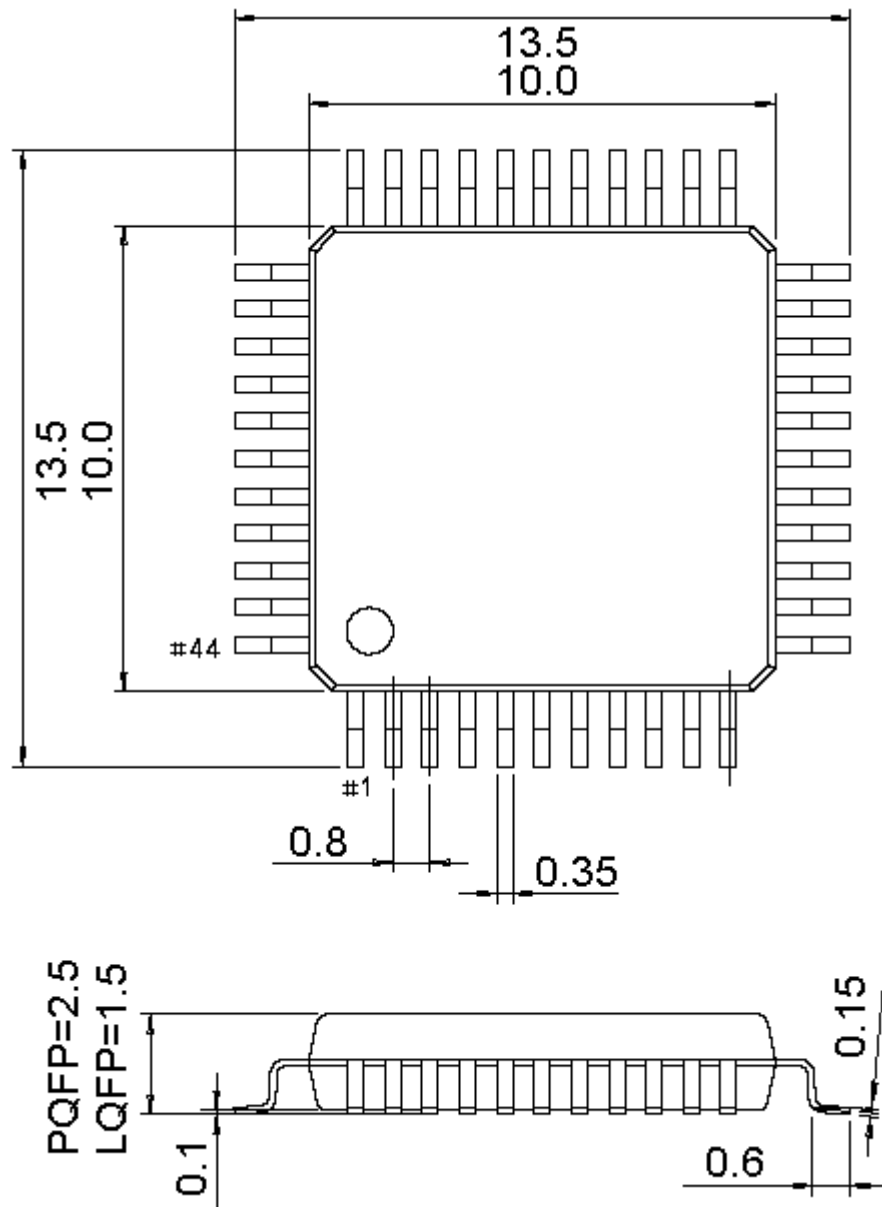


• QSOP28 (SSOP28-150mil-0.635)

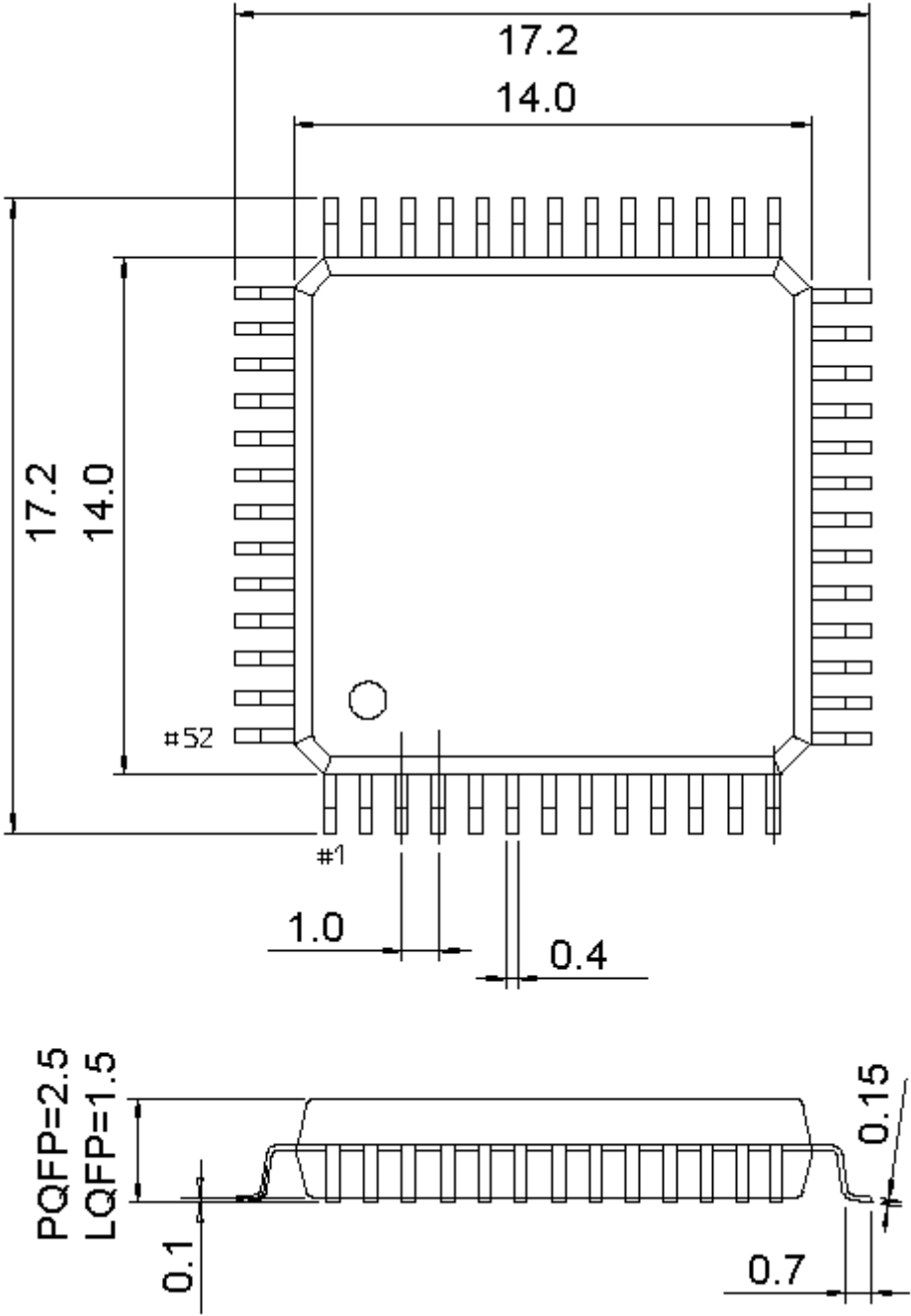


QFP Type (PQFP, LQFP, TQFP)

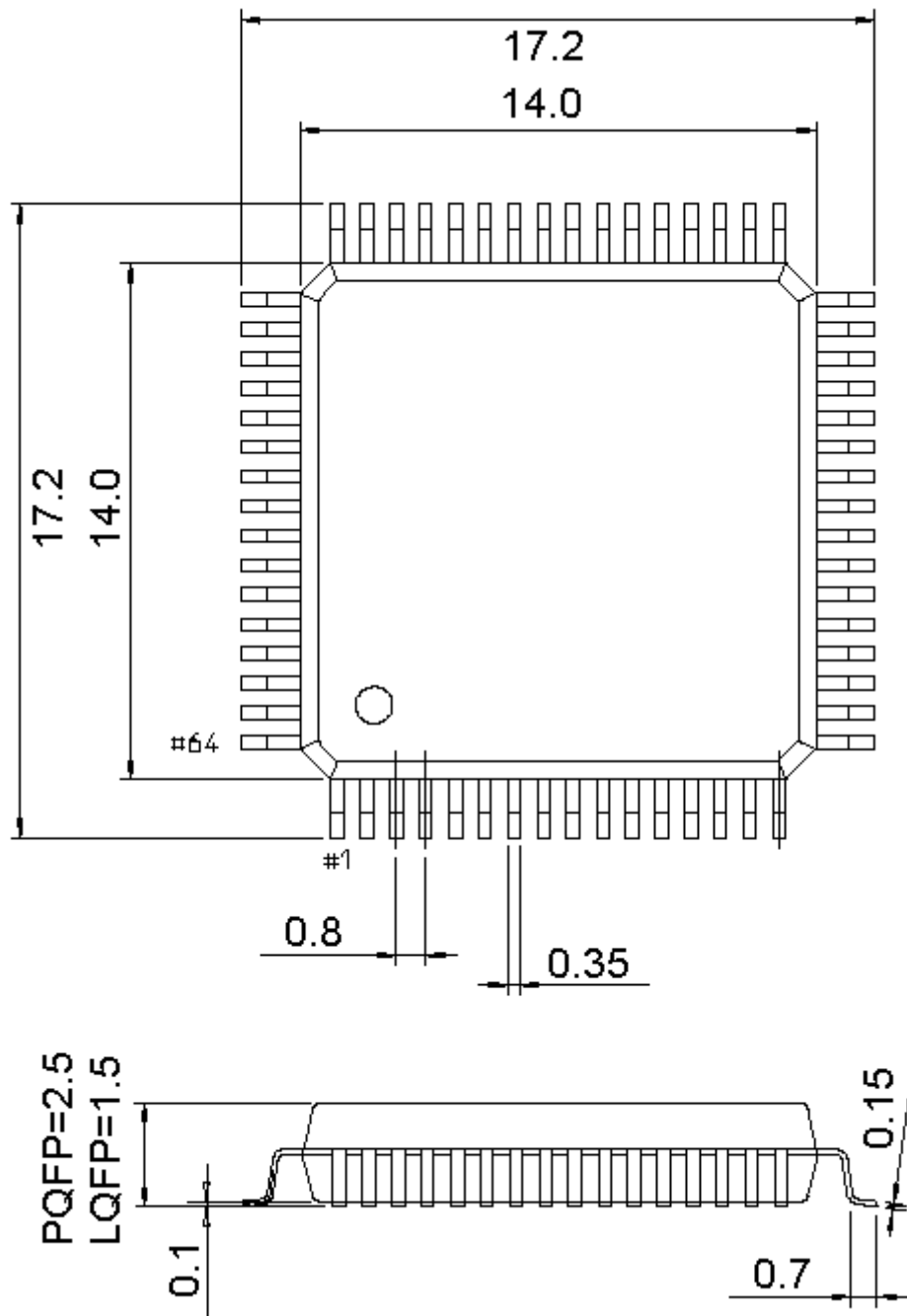
• PQFP44 (QFP44)



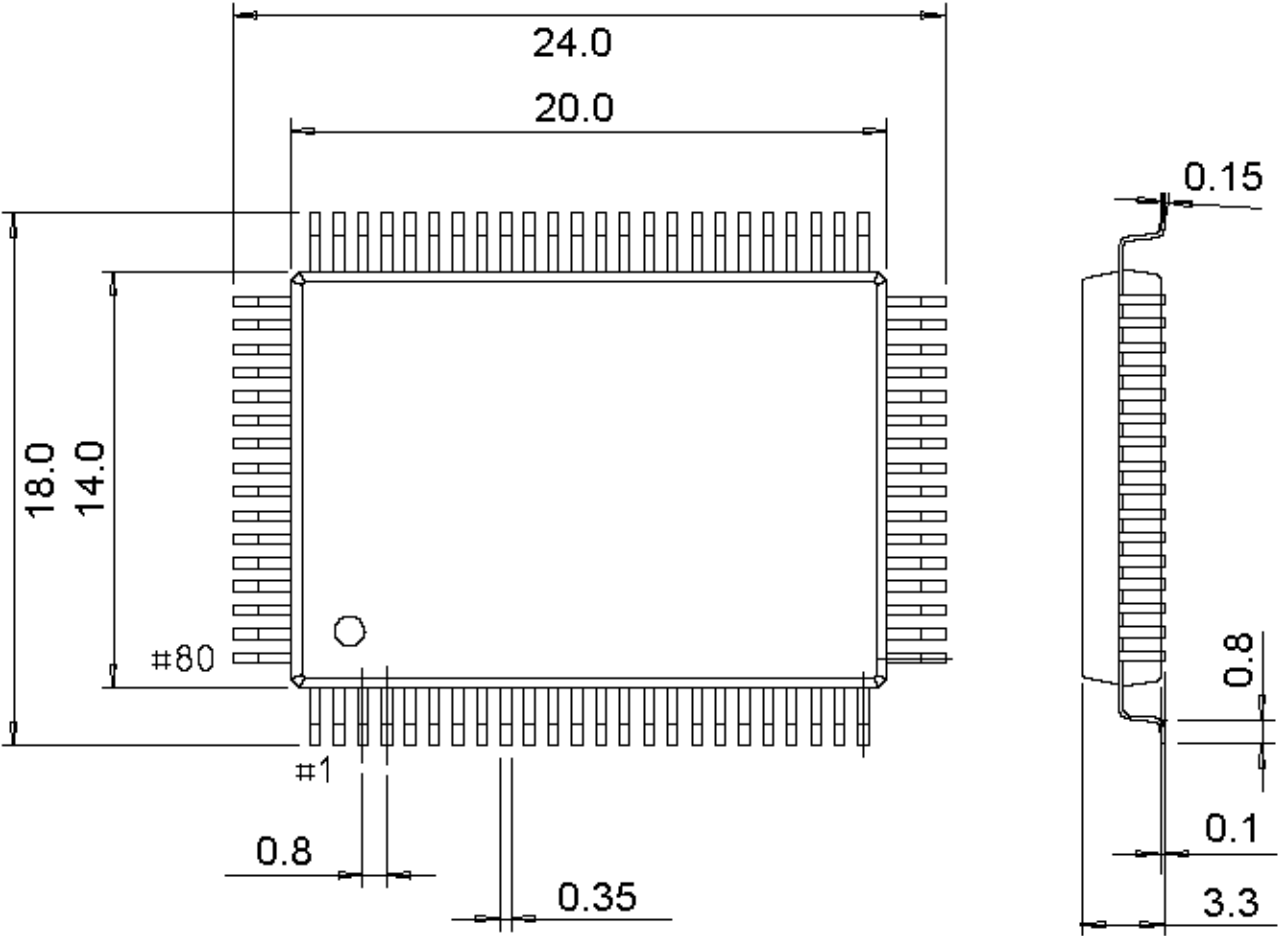
• PQFP52 (QFP52)



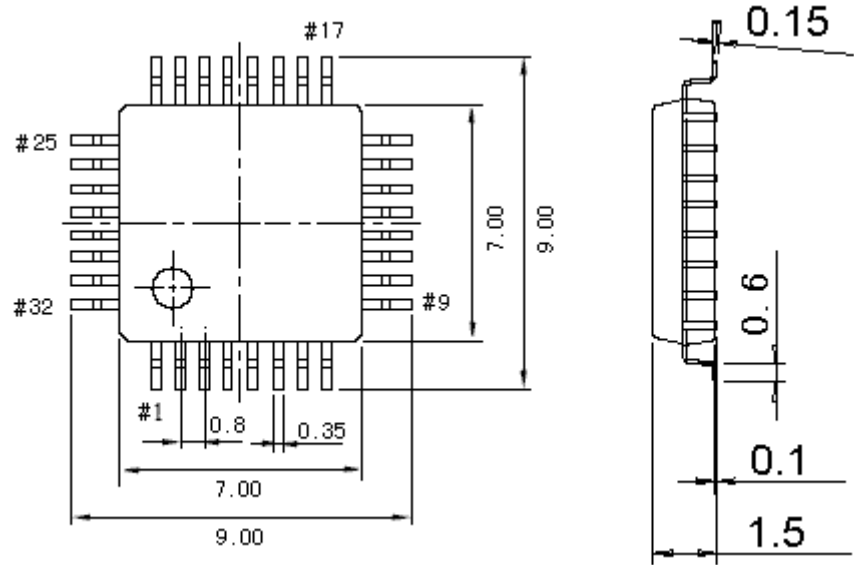
. PQFP64 (QFP64), LQFP64-14*14



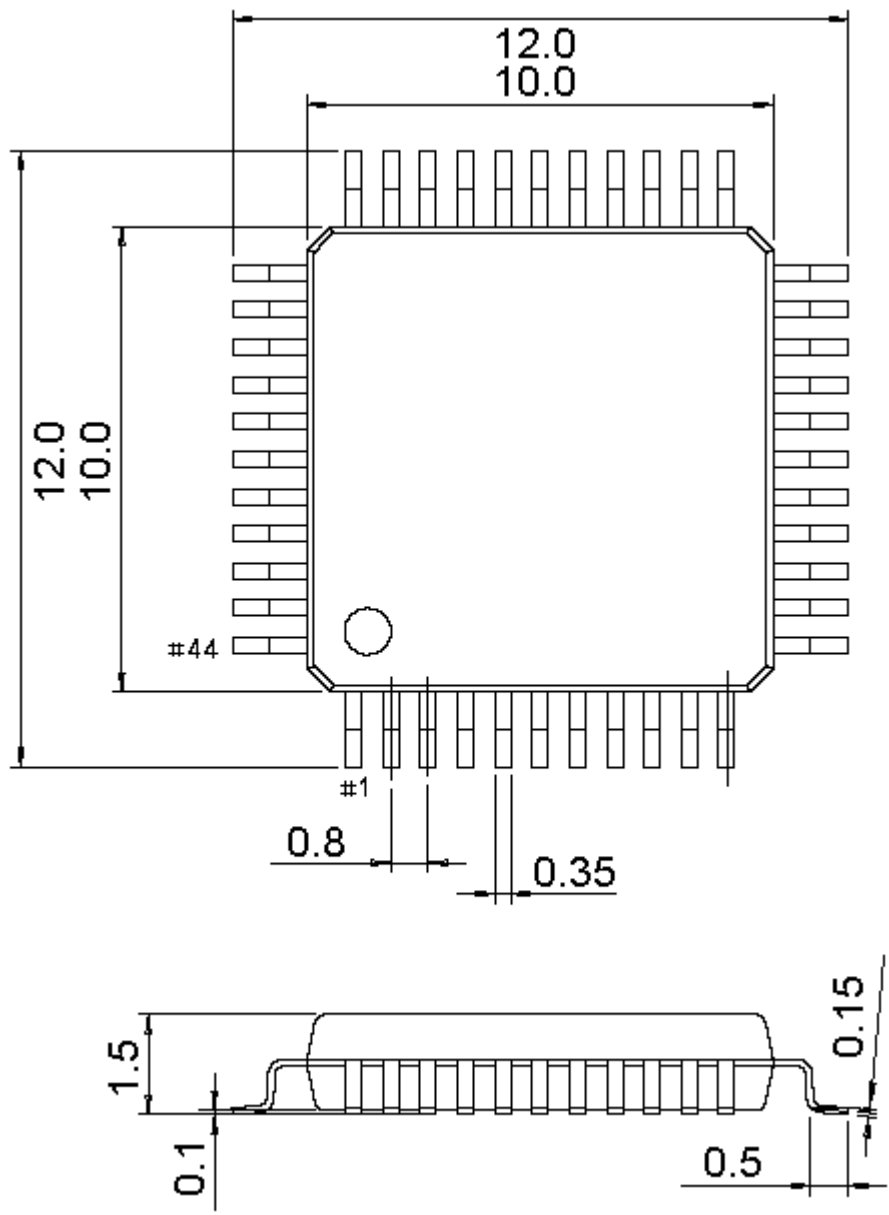
• PQFP80 (QFP80)



• LQFP32 (LQFP32-7*7)

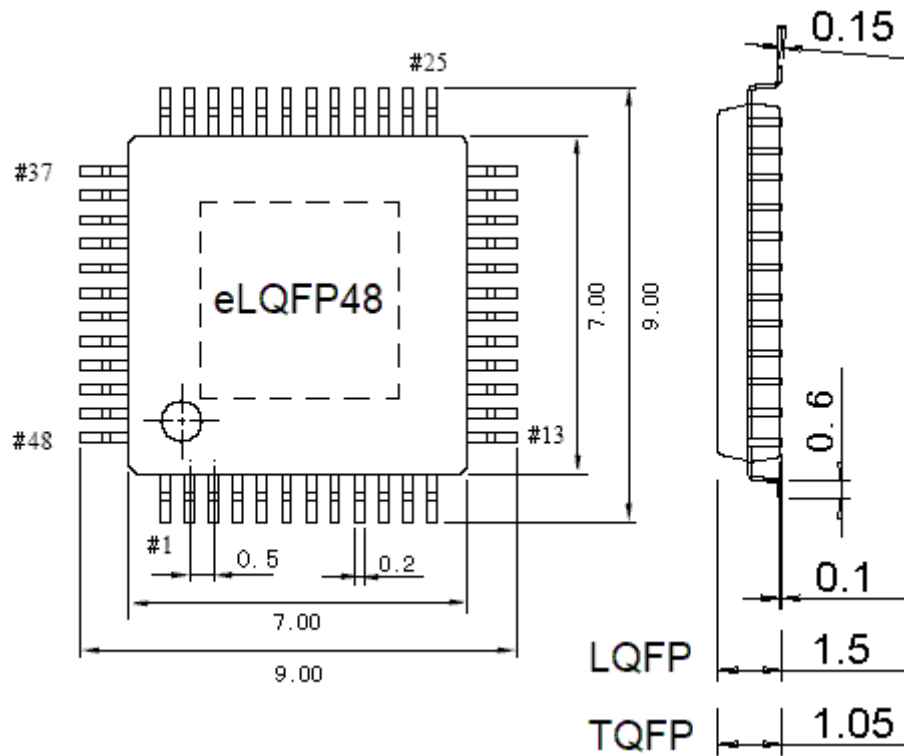


• LQFP44 (LQFP44-10*10)



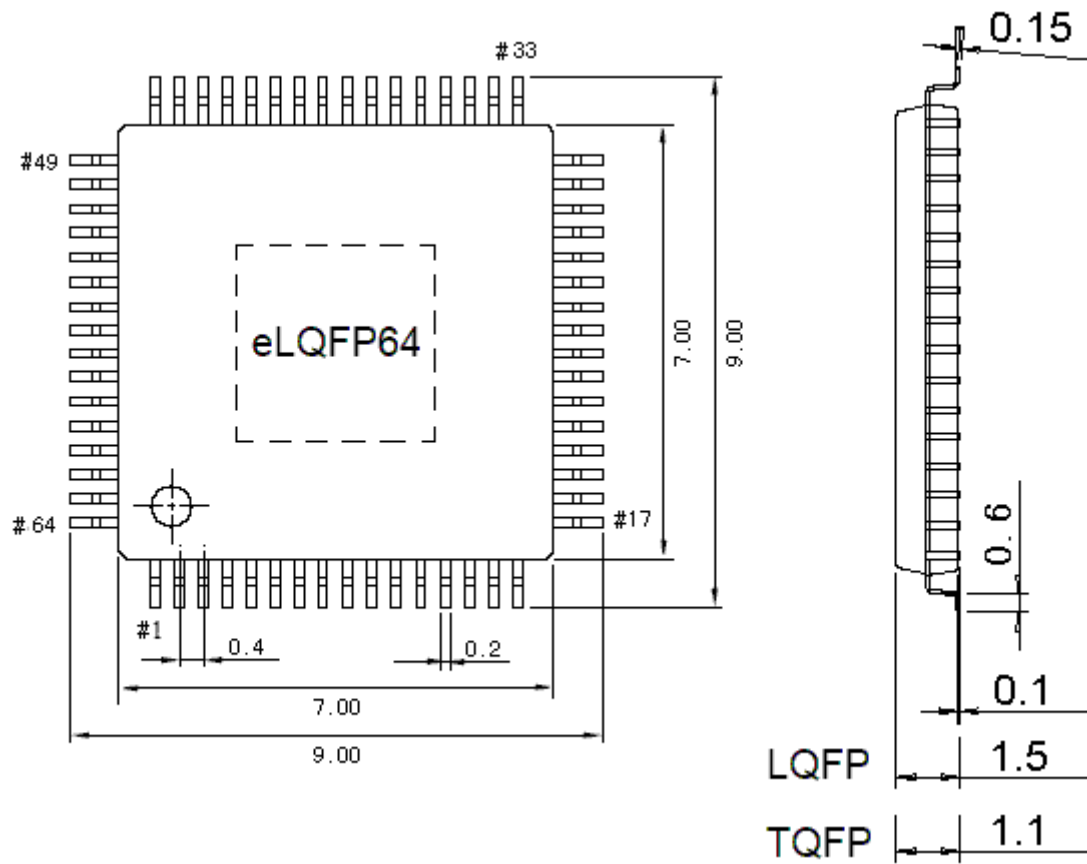
• LQFP48 (LQFP48-7*7), TQFP48、eLQFP48

eLQFP48 Exposed Pad: 3.2*3.2

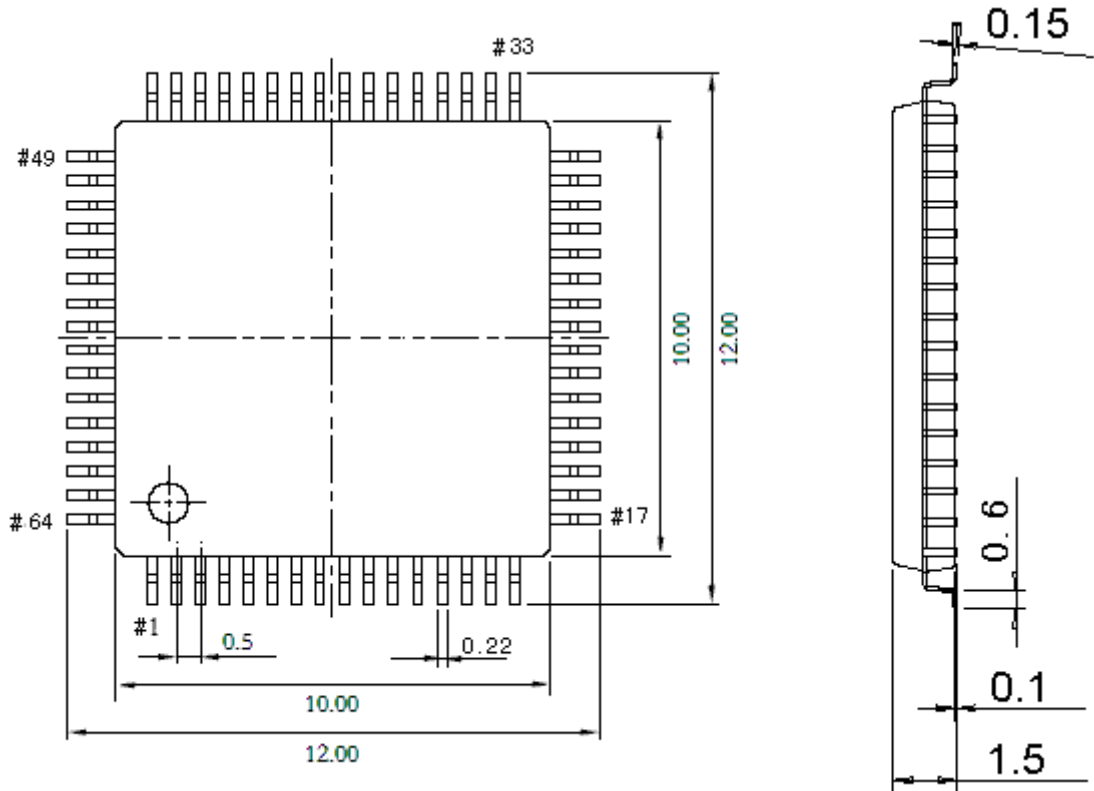


• **LQFP64 (LQFP64-7*7), TQFP64, eLQFP64**

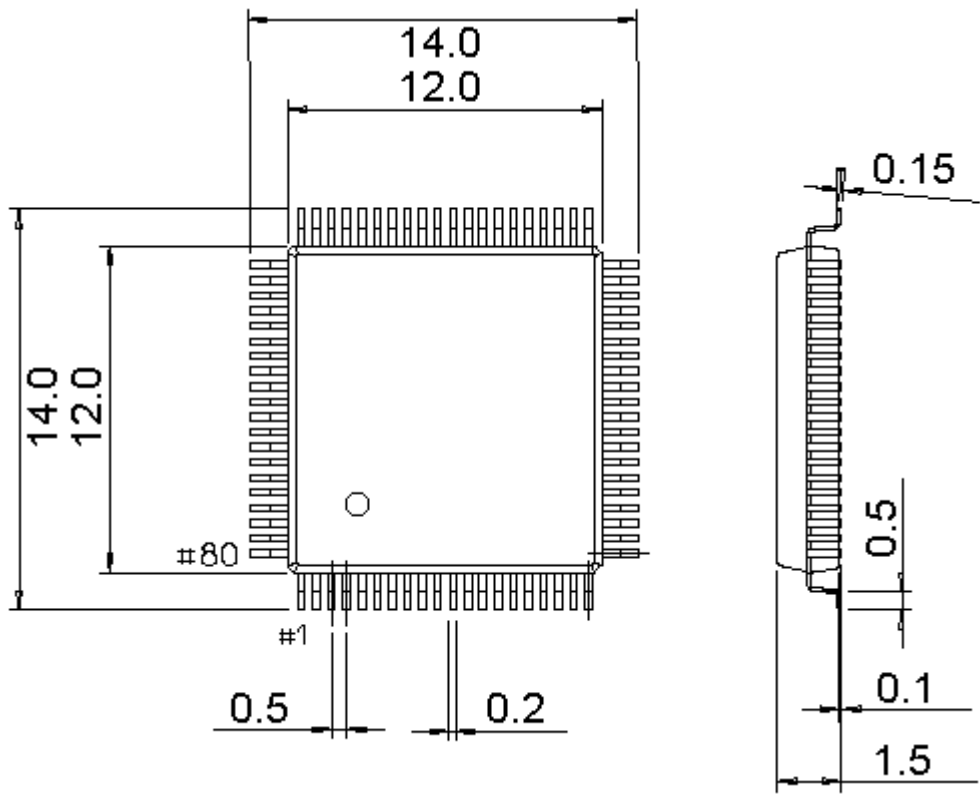
eLQFP64 Exposed Pad: 3.2*3.2



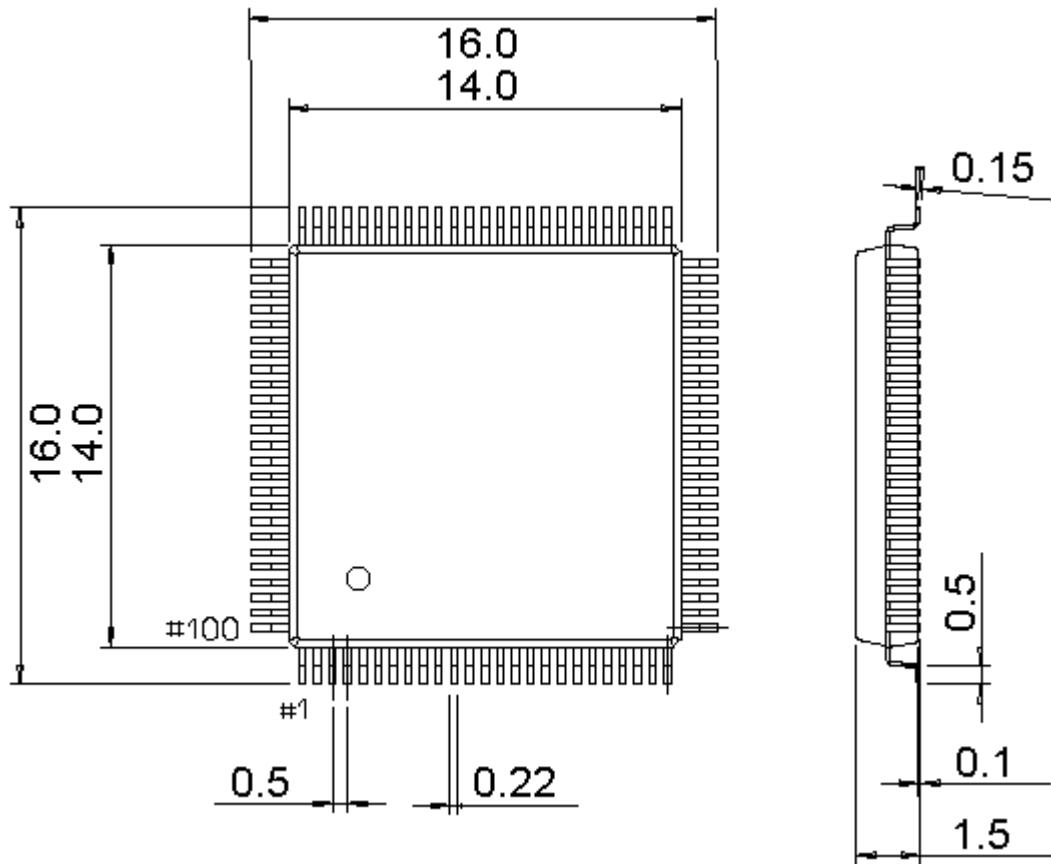
• LQFP64M (LQFP64-10*10)



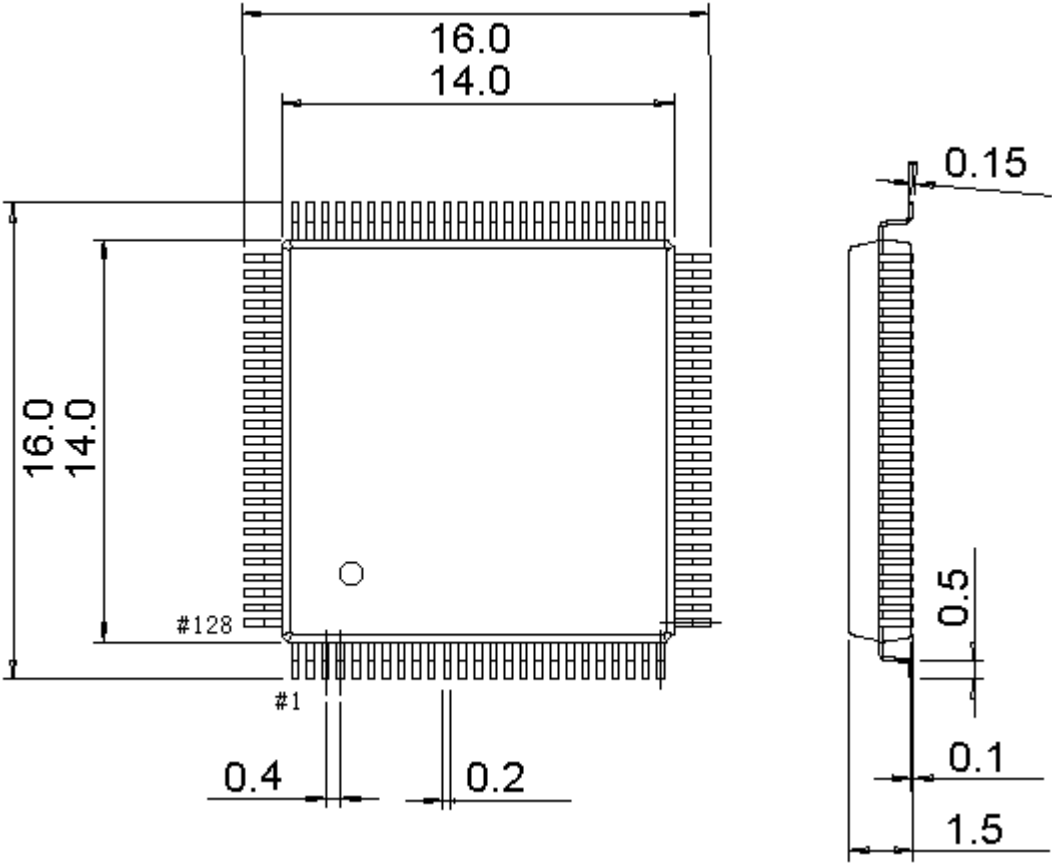
• LQFP80 (LQFP80-12*12)



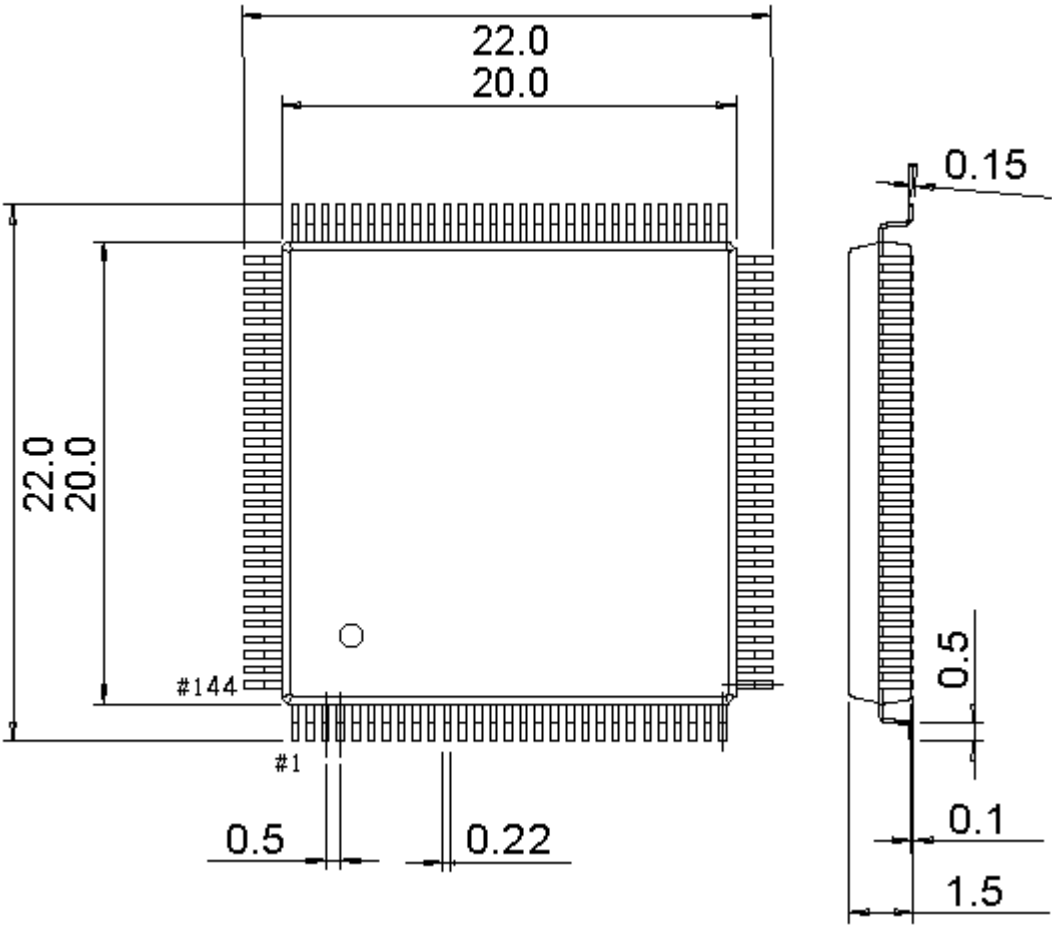
. LQFP100 (LQFP100-14*14)



• LQFP128 (LQFP128-14*14)



• LQFP144 (LQFP144-20*20)



QFN Type

. QFN/DFN Naming Rules Reference

Standard naming

QFN ab - d * e * t - p

Number ab: QFN package 4-side cumulative pin count, currently up to 128.

Numbers d and e: d and e represent the length and width of the QFN shape (The side where pin 1# is located).

Number t: t stands for the thickness of the QFN profile. 0.75 and 0.55 are more commonly used, as well as 0.85, 0.5, 0.4 and so on.

Number p: p on behalf of the pin pitch, that is, the distance between the center of adjacent pins, if there are 2 kinds of take its small, 0.4 and 0.5 are more commonly used, and another 0.35, 0.65, 0.45, 0.3 and so on.

Reference simplified naming

QFN ab c d X e

Number ab: QFN package 4-side cumulative pin count, currently up to 128.

Letter c: no c represents general-purpose QFN with Exposed Pad, default size, no numbers d and e;

Letter X represents general-purpose QFN with Exposed Pad, non-default size, at least number d;

Letter L represents general-purpose QFN without Exposed Pad, non-default size, at least number d;

Letter C represents WCH-designed general-purpose QFN with Exposed Pad, at least number d;

Letter F represents WCH-customized dedicated QFN without Exposed Pad, at least number d;

Letter E represents WCH-customized specialized QFN with Exposed Pad, at least number d.

Numbers d and e: d and e represent the length and width of the QFN profile (The side where pin 1# is located);

No d no e represents the default size, which is also the common size;

With d without e means the size is d*d square;

If the number exceeds 13 then divide by 10, e.g. 45 means 4.5.

The default size is usually the smallest square size when pitch=0.4, which is also the common size:

QFN12, QFN14 defaults to 2*2 square;

QFN16, QFN20 defaults to 3*3 square;

QFN24, QFN28, QFN32 defaults to 4*4 square;

QFN36, QFN40, QFN44 defaults to 5*5 square.

Take QFN20 for example:

QFN20: General-purpose QFN with Exposed Pad, default size (QFN20 is 3*3 by default);

QFN20X4: General-purpose QFN with Exposed Pad, size 4*4;

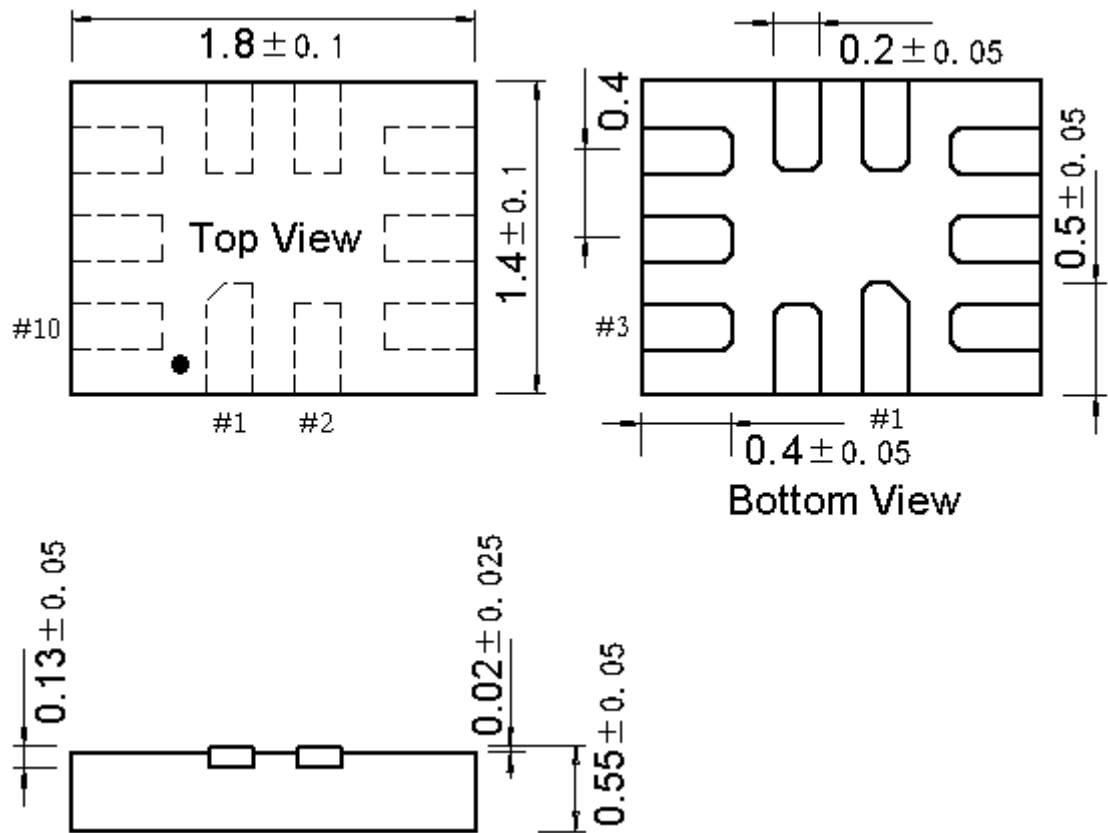
QFN20X25X45: General-purpose QFN with Exposed Pad, size 2.5*4.5;

QFN20C2: WCH-designed general-purpose QFN with Exposed Pad, size 2*2;

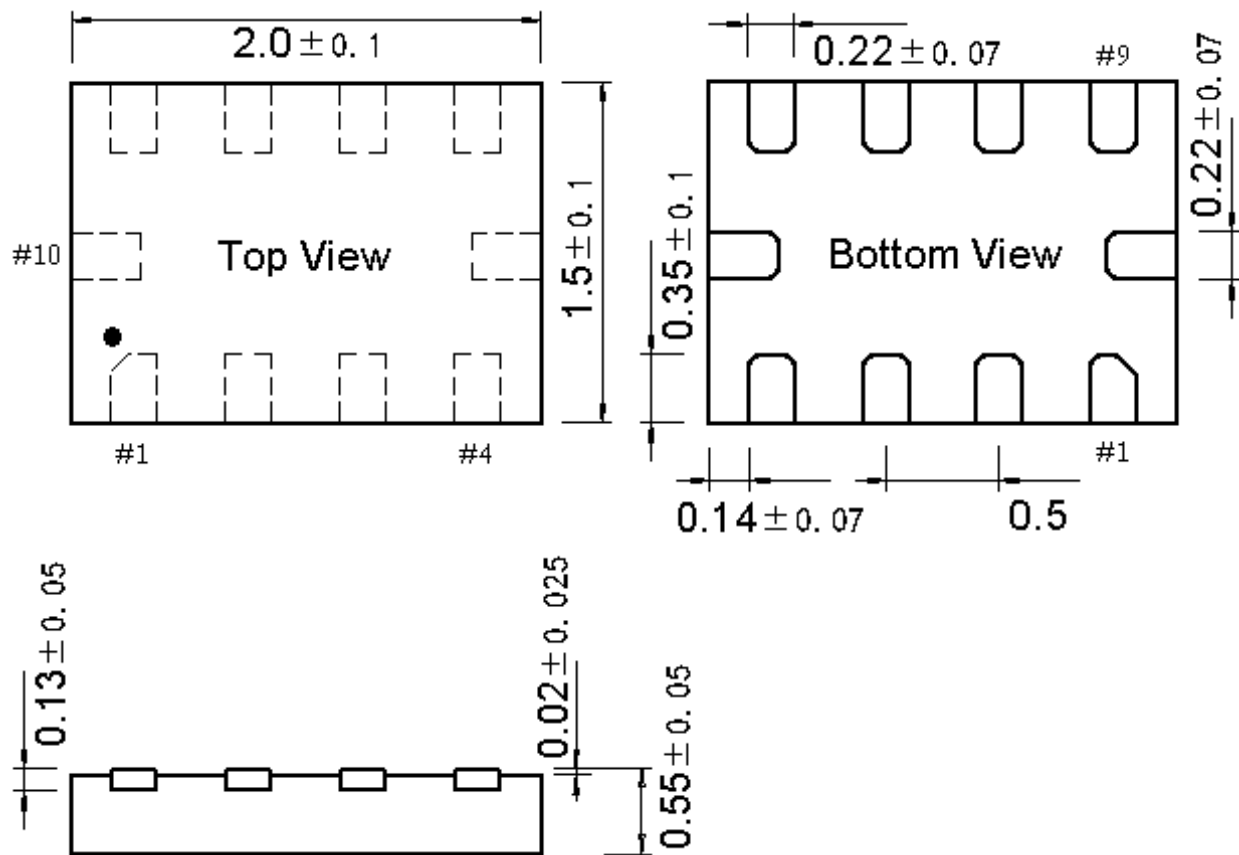
QFN20F3: WCH-customized special QFN, without Exposed Pad, size 3*3;

QFN20E3X4: WCH-customized special QFN with Exposed Pad, size 3*4.

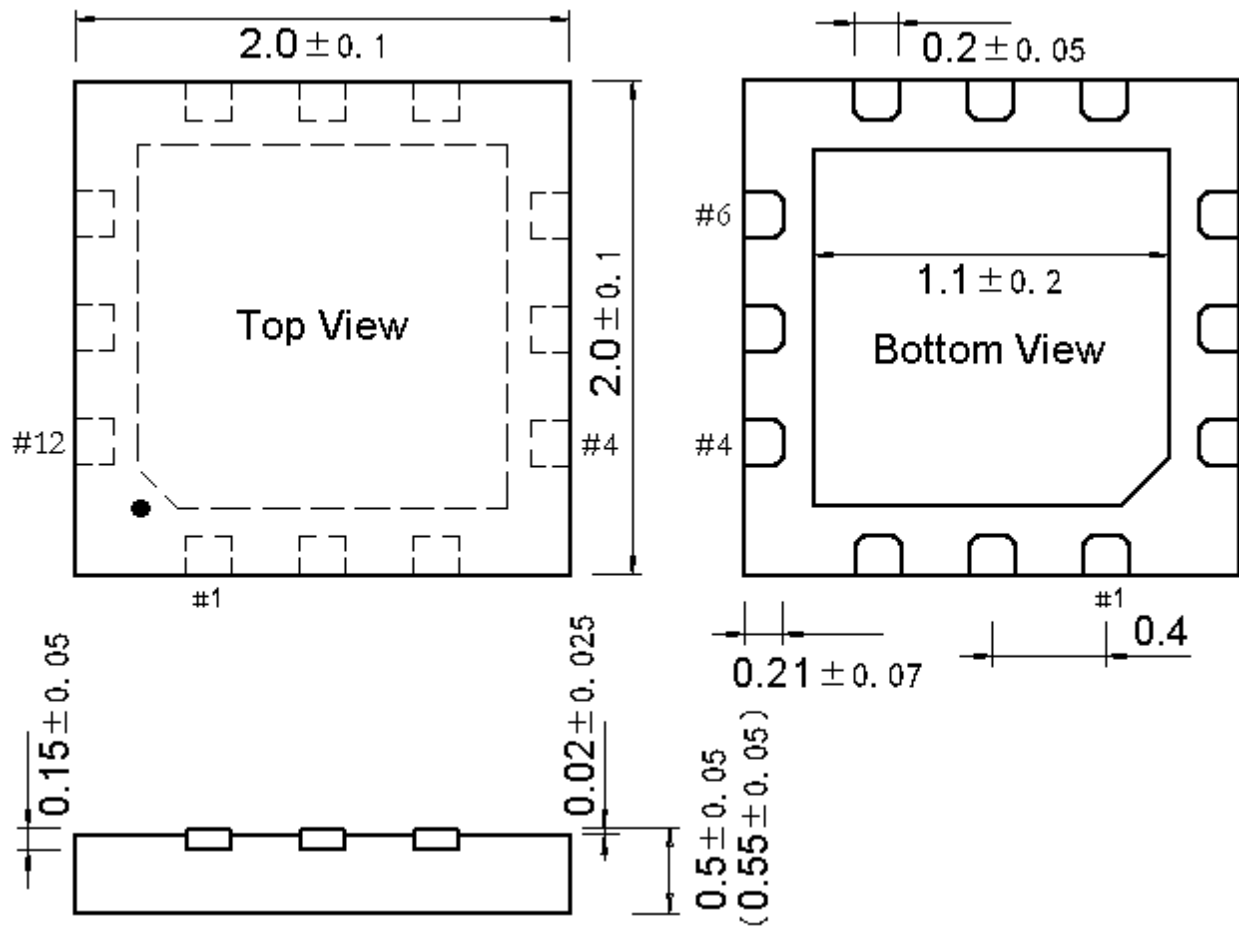
• QFN10L14X18 (QFN10-1.4*1.8*0.55-0.4)



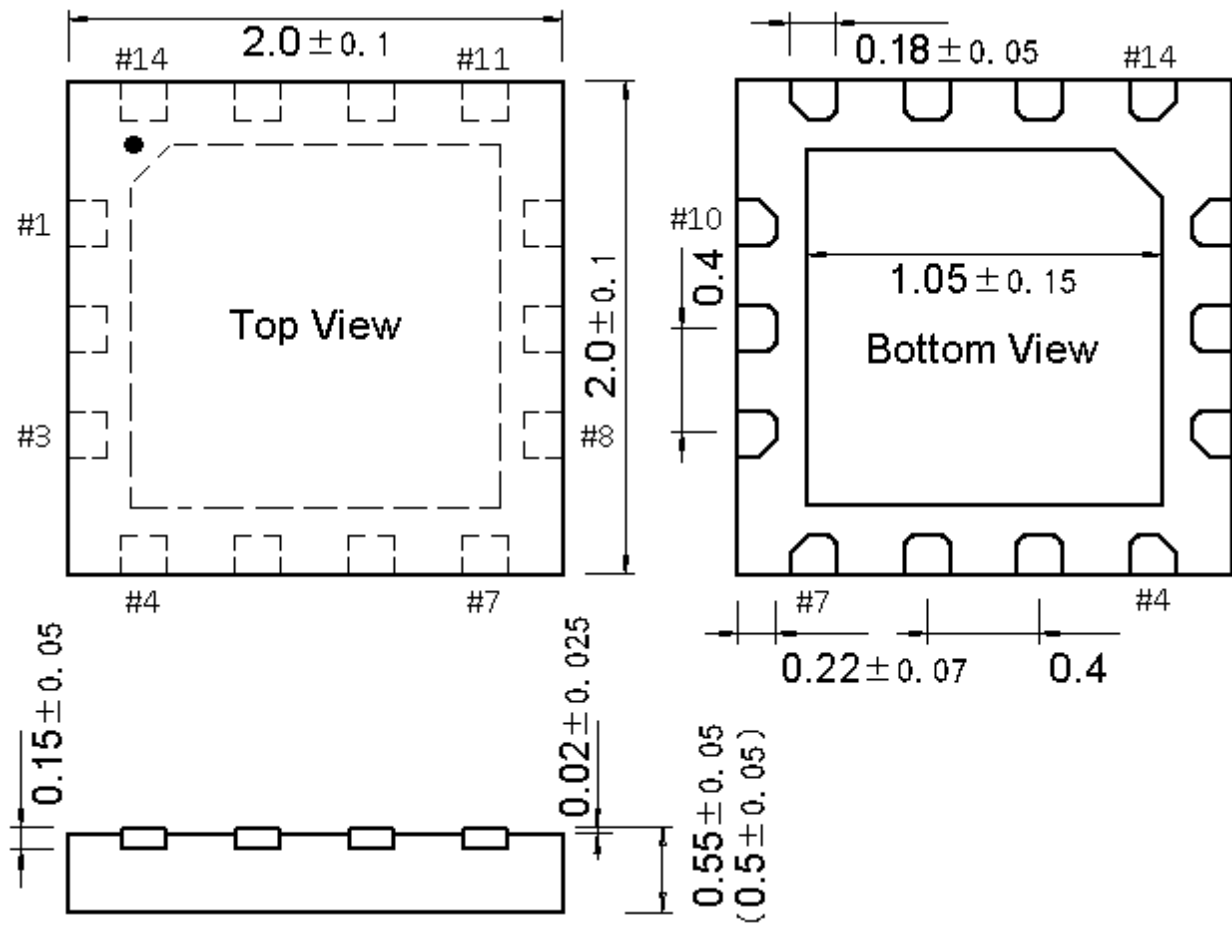
. QFN10L15X2 (QFN10-1.5*2*0.55-0.4)



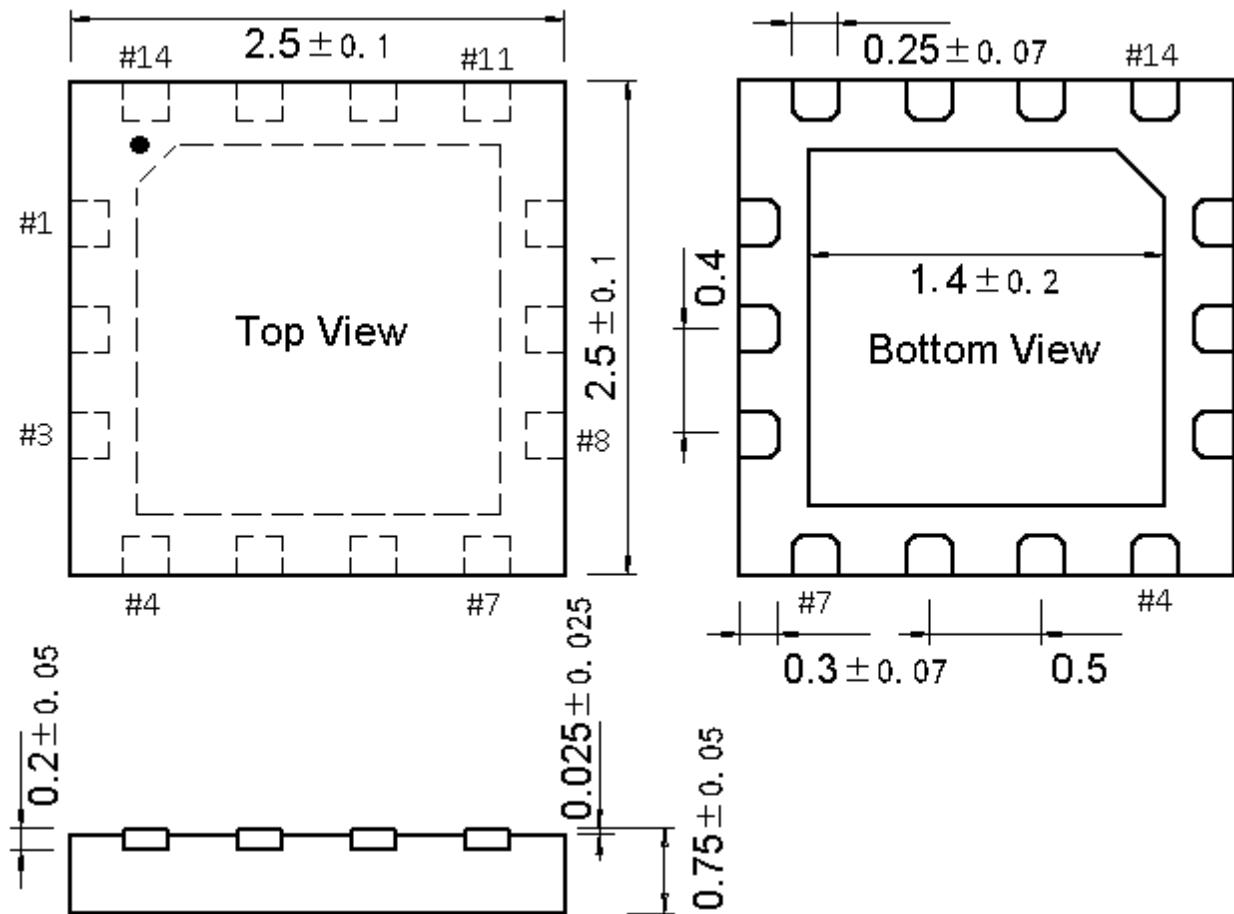
. QFN12 (QFN12-2*2*0.5-0.4)



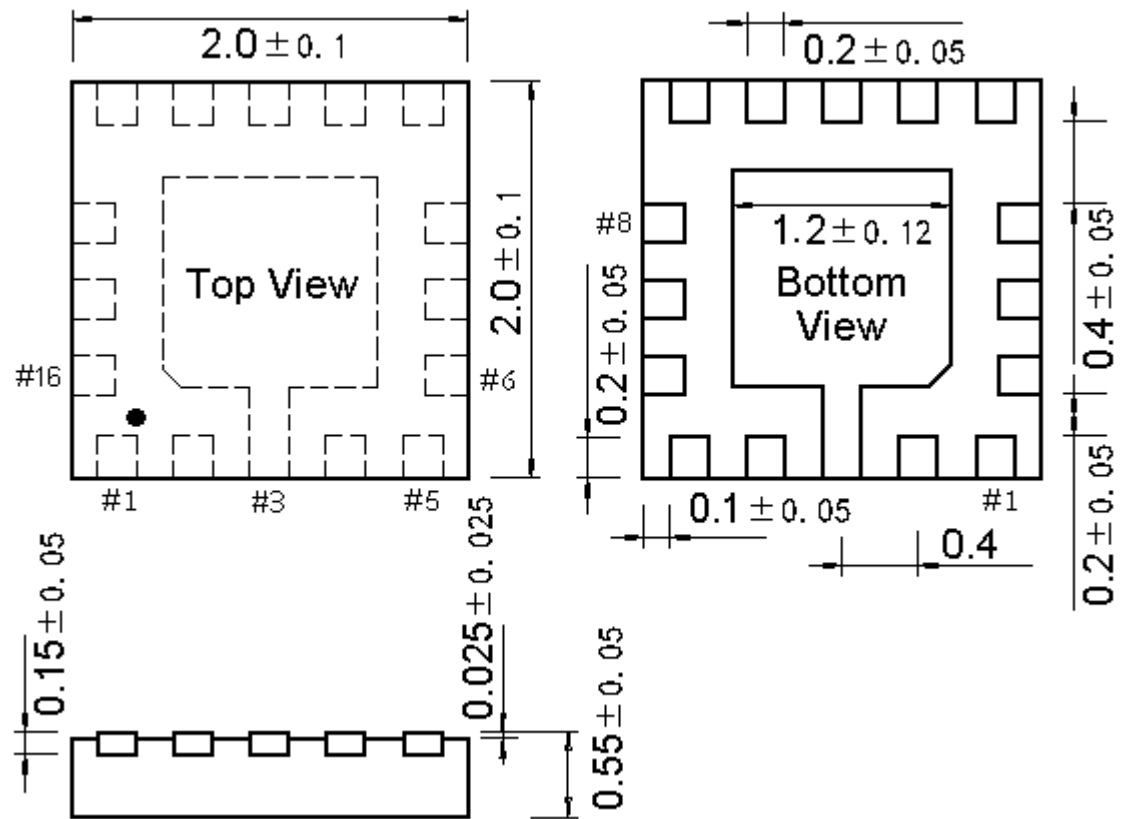
• QFN14 (QFN14-2*2*0.55-0.4)



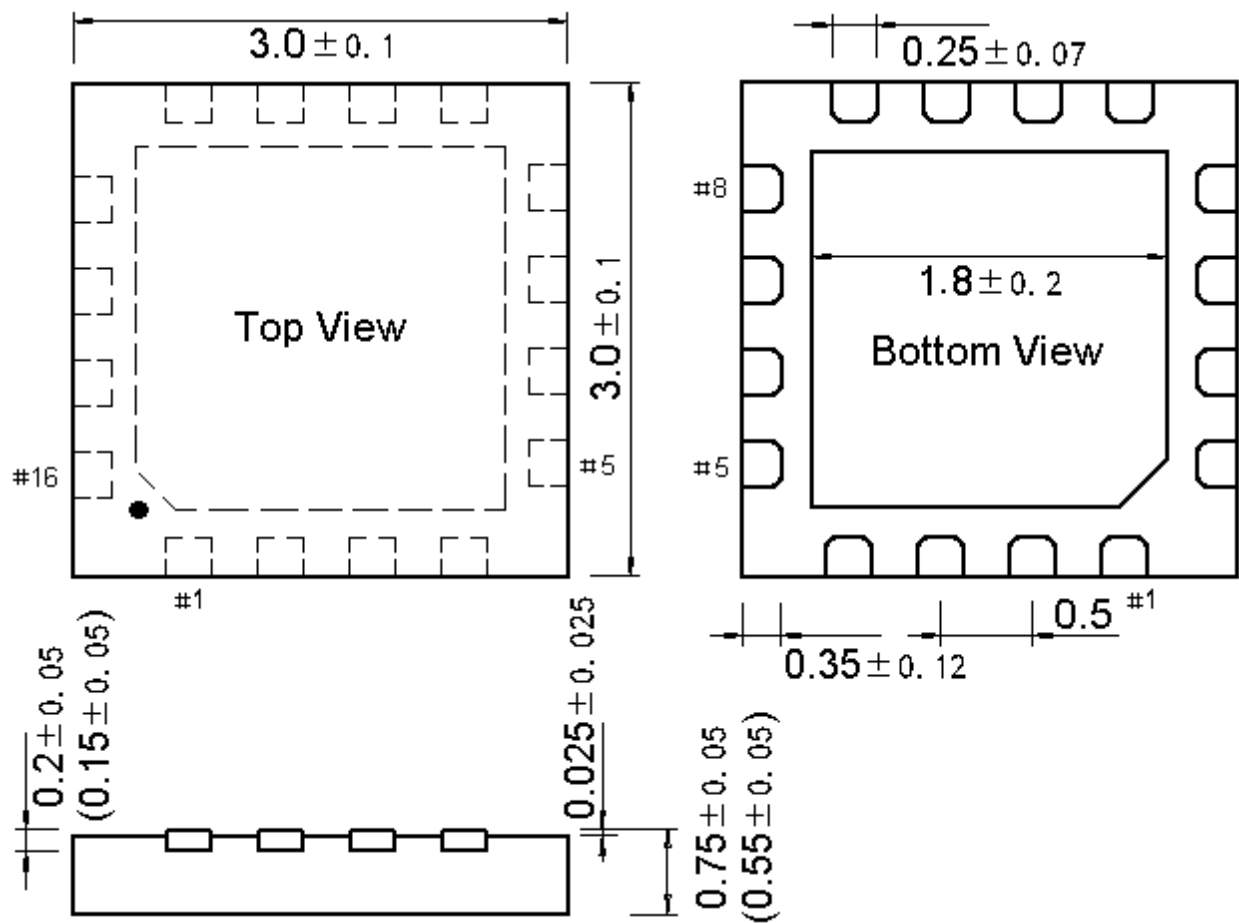
. QFN14X25 (QFN14-2.5*2.5*0.75-0.5)



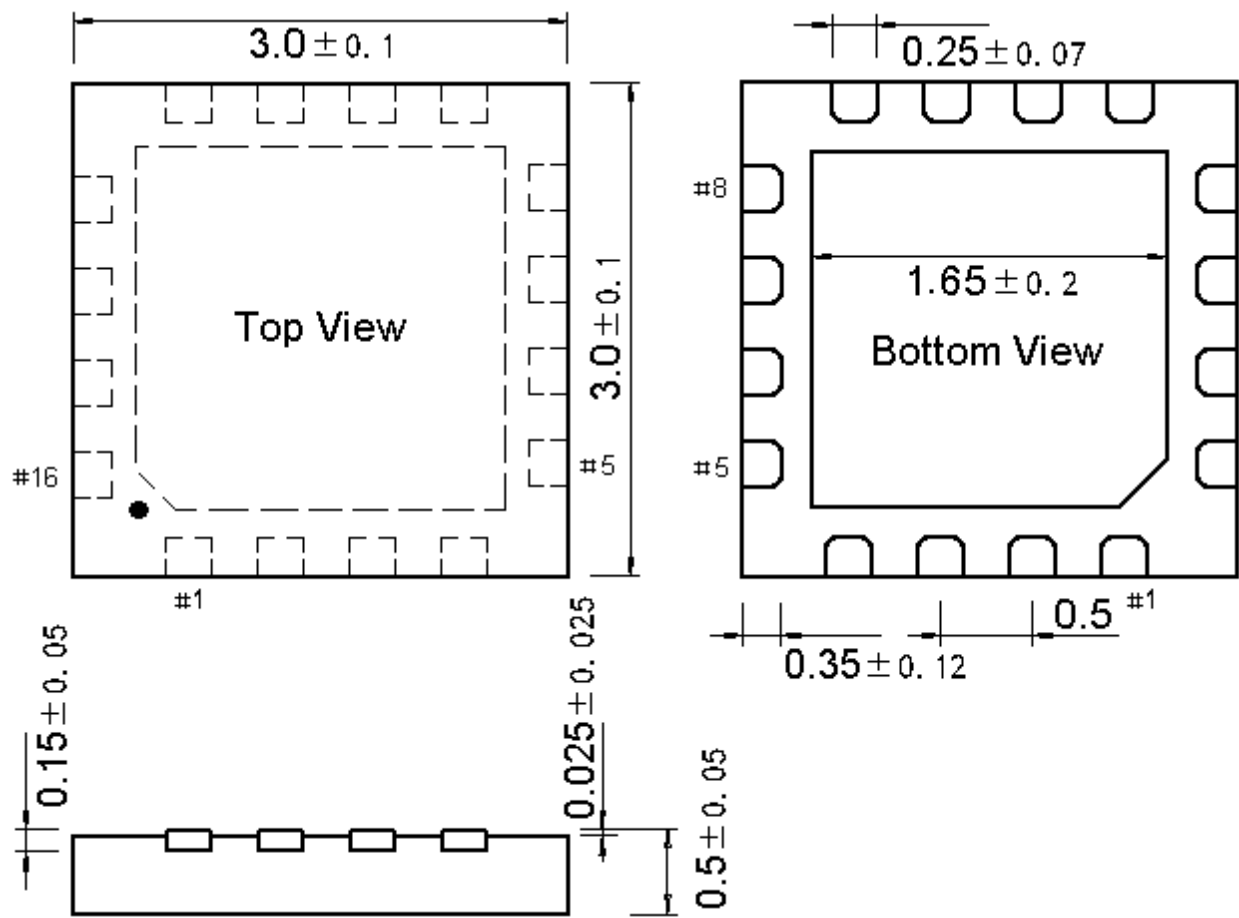
• QFN16C2 (QFN16C-2*2*0.55-0.4)



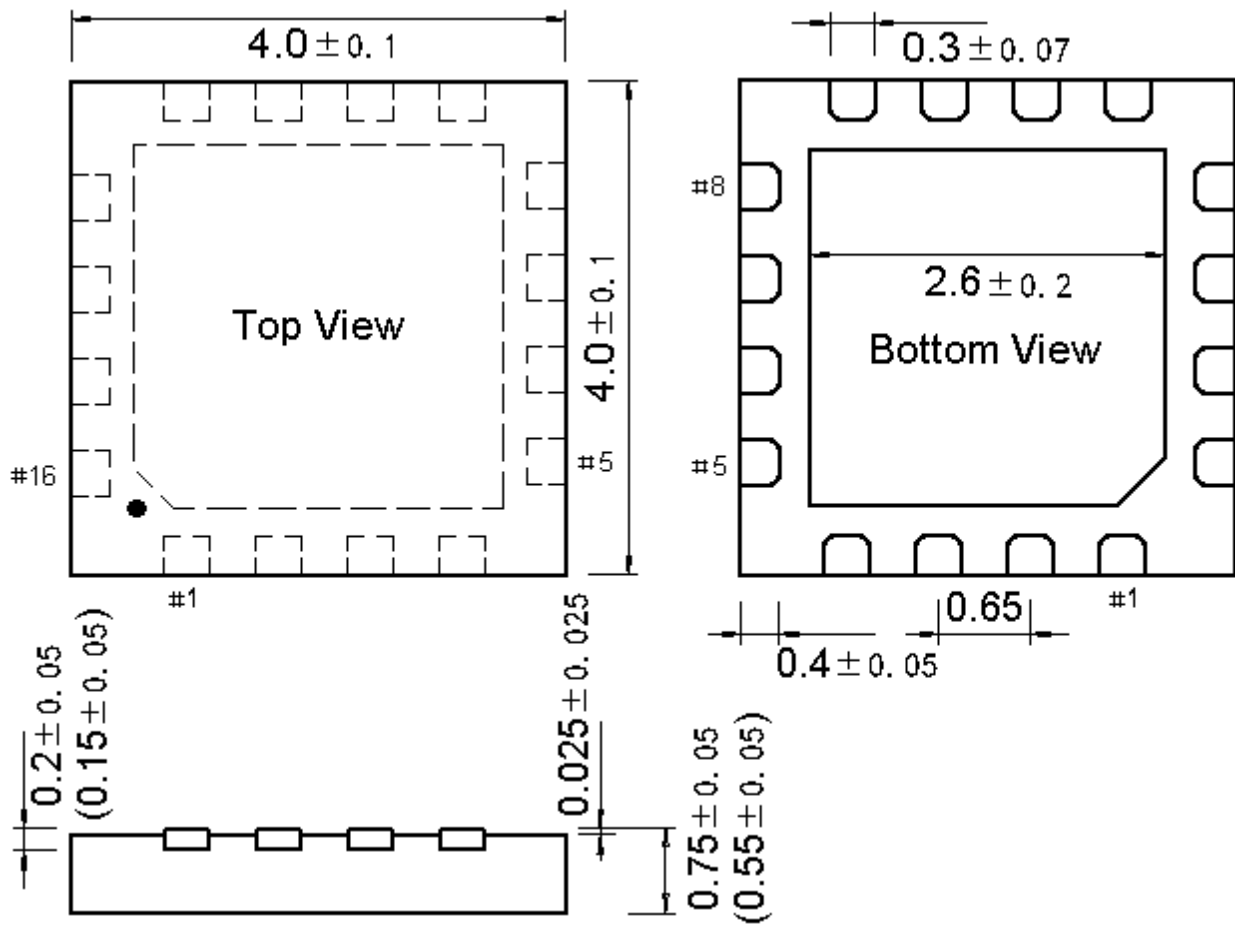
• QFN16 (QFN16-3*3)



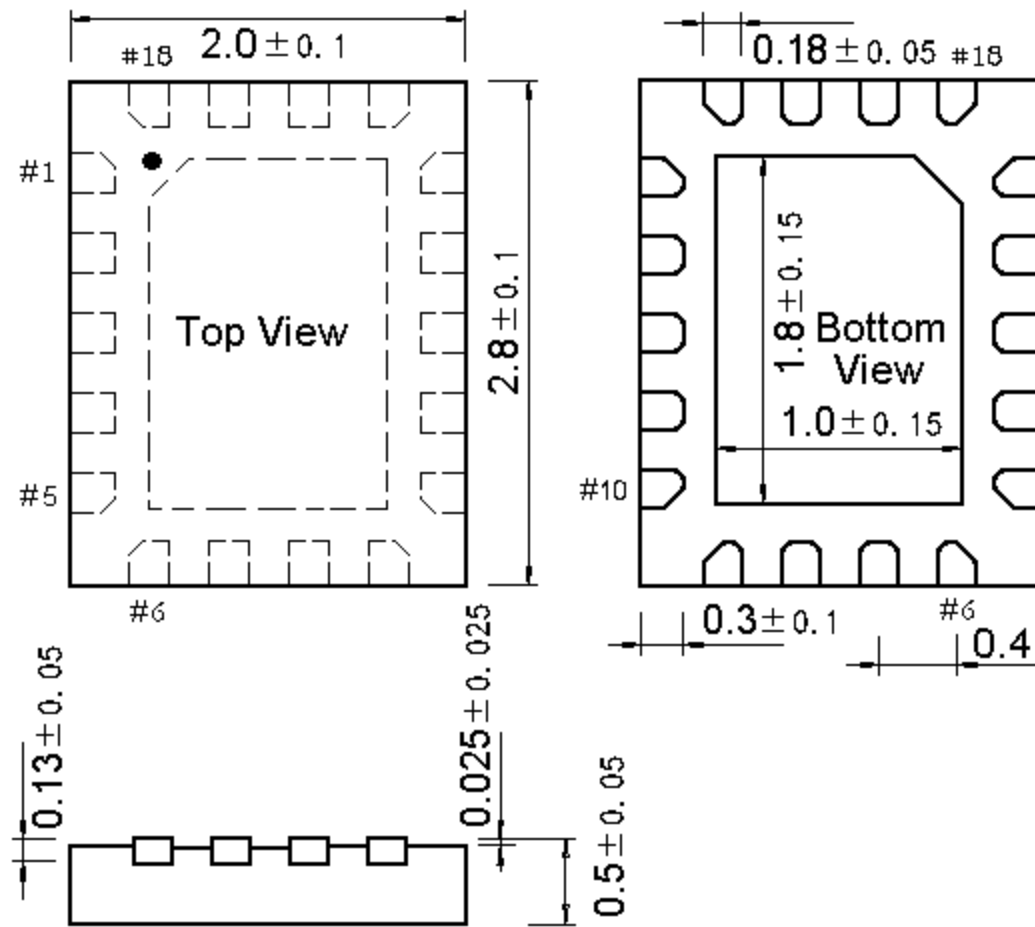
• QFN16-3*3*0.5-0.4



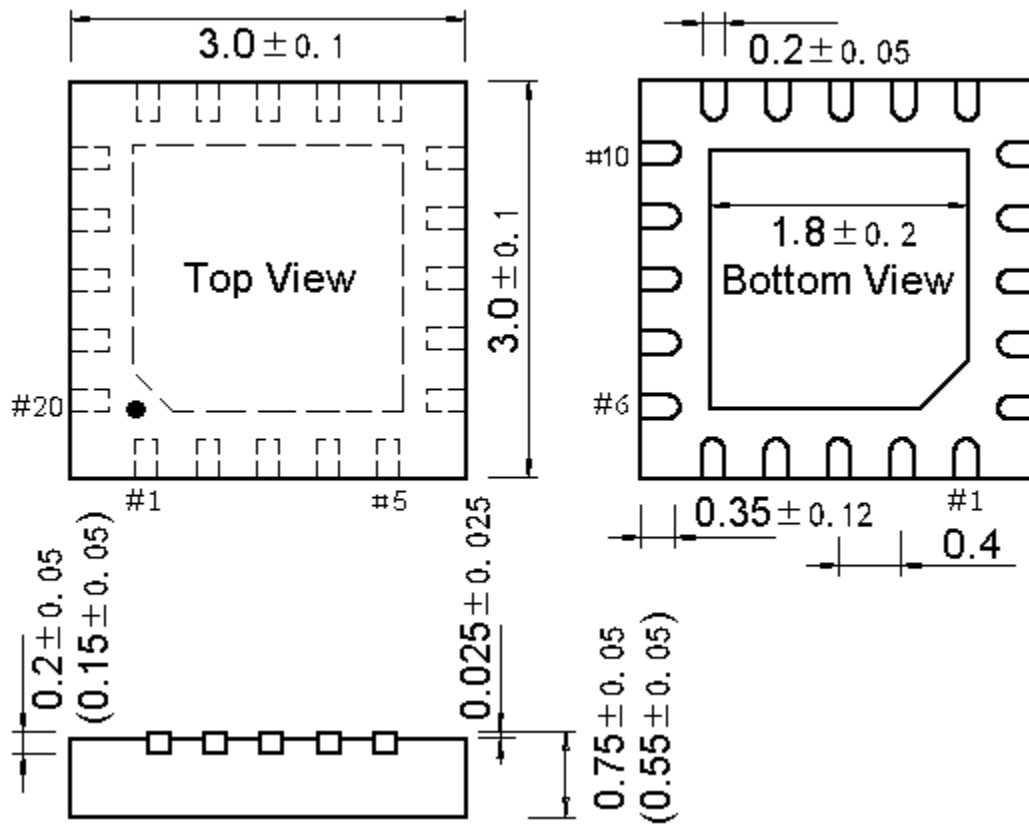
. QFN16X4 (QFN16-4*4)



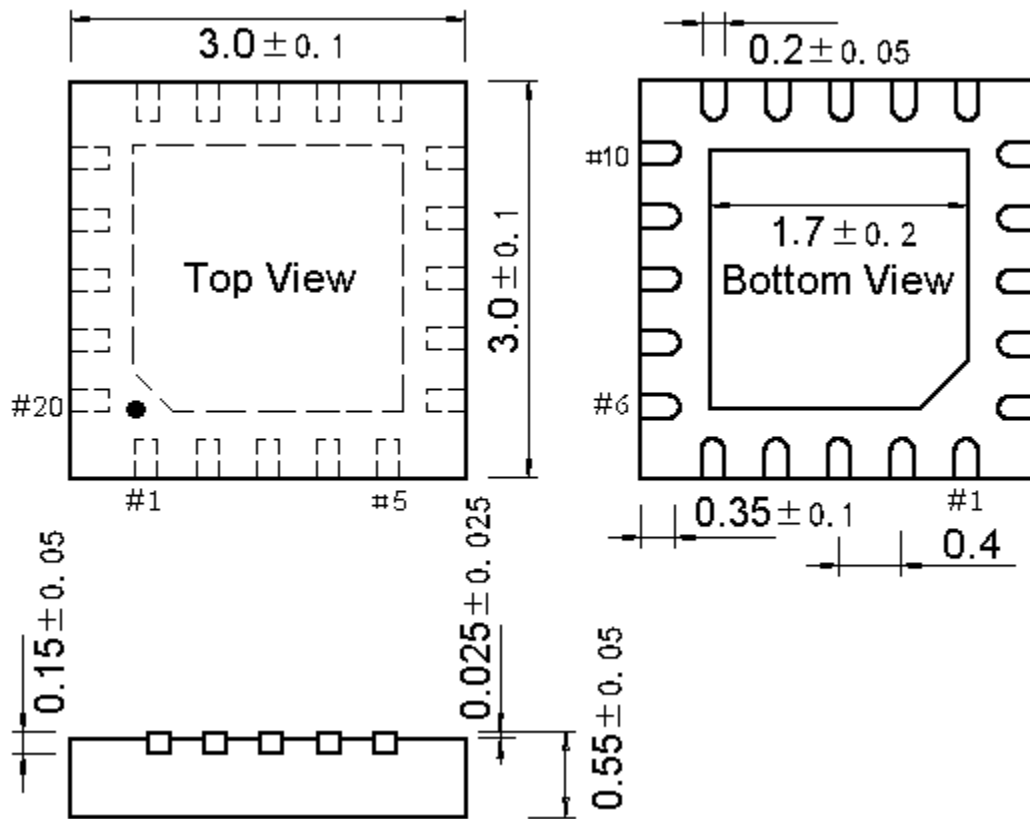
• QFN18X2X28 (QFN18-2*2.8*0.5-0.4)



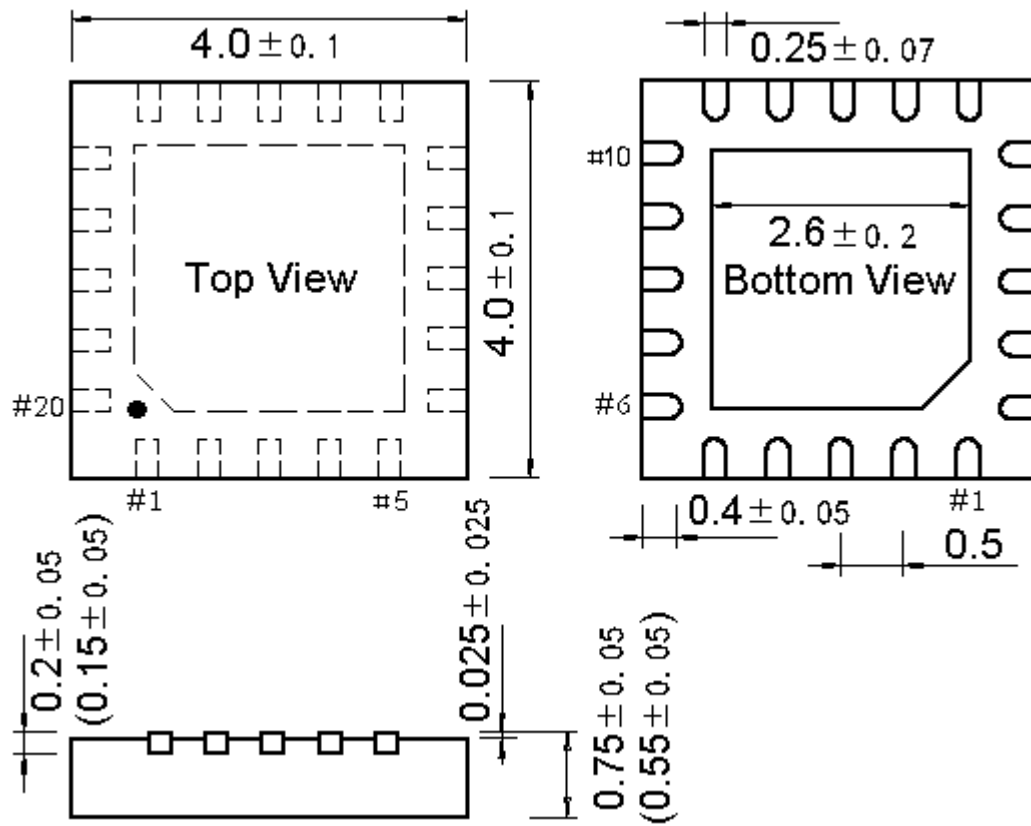
• QFN20 (QFN20-3*3)



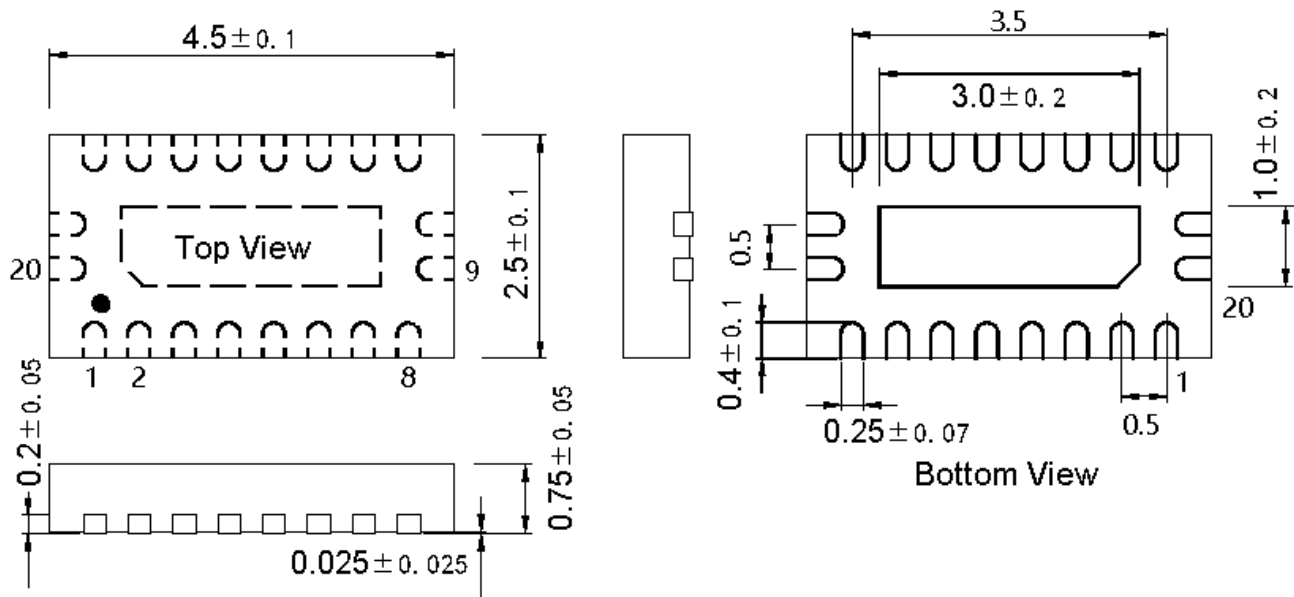
. QFN20-3*3*0.55-0.4



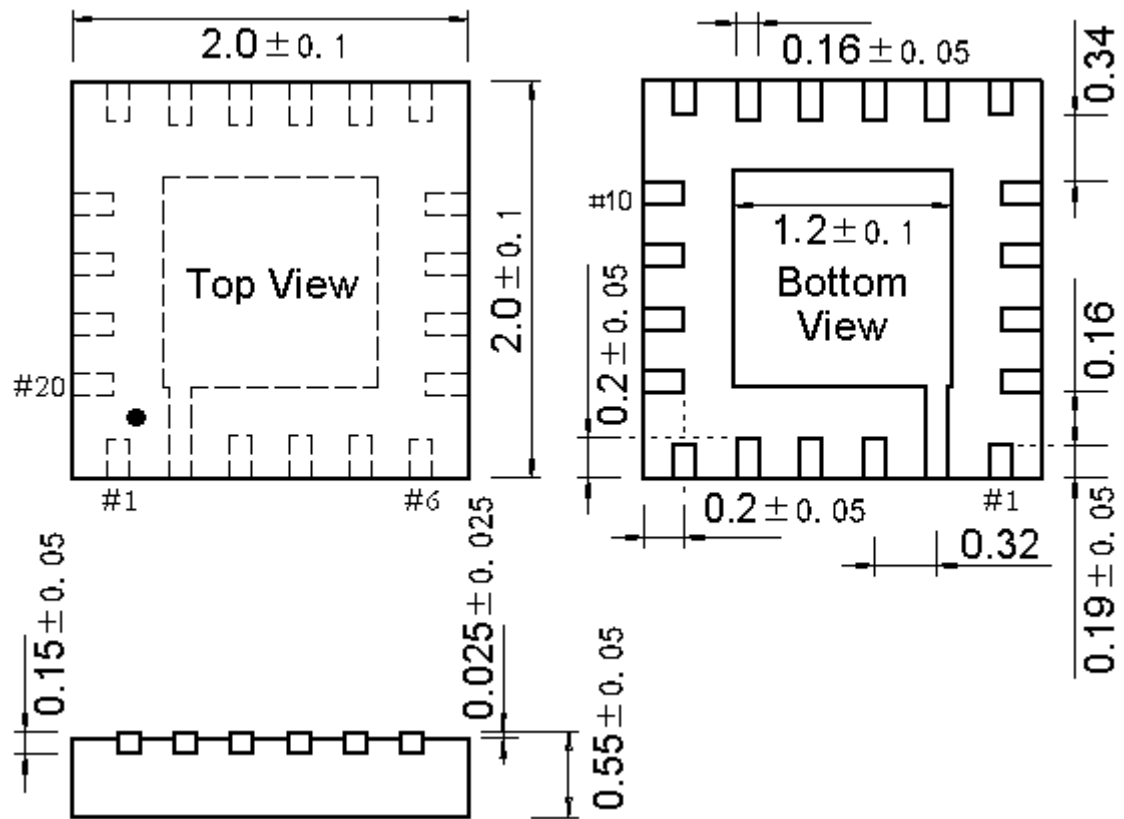
• QFN20X4 (QFN20-4*4)



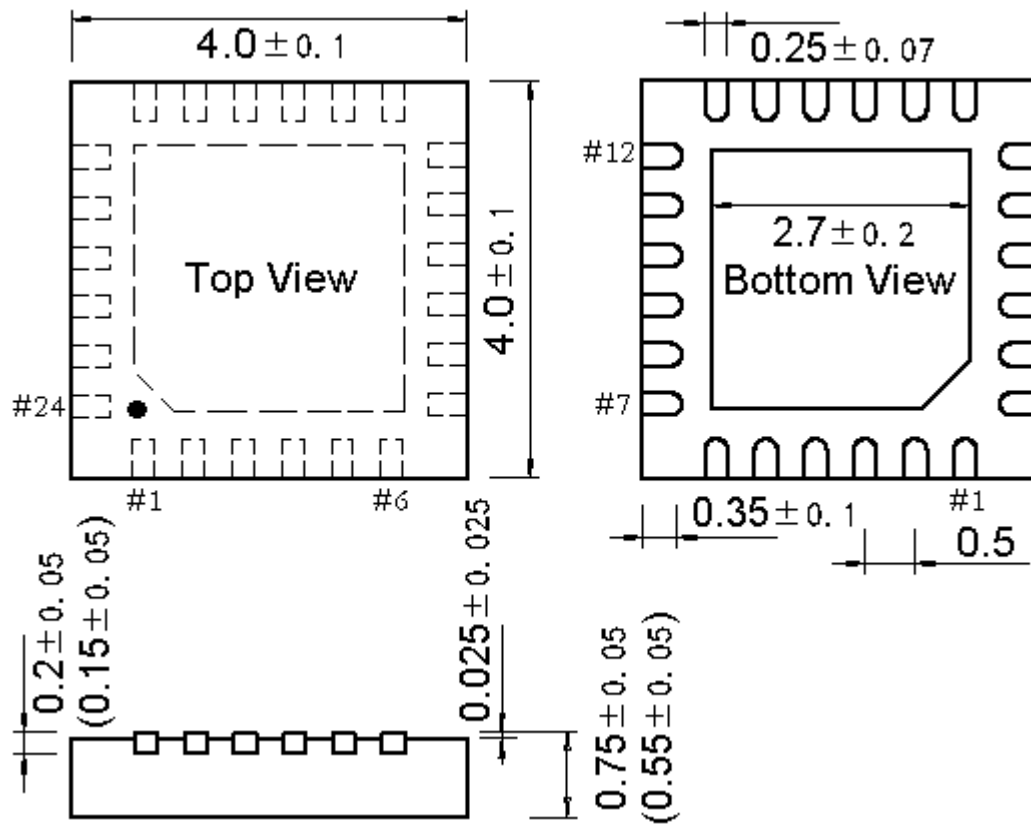
• QFN20X25X45 (QFN20-2.5*4.5*0.75-0.5)



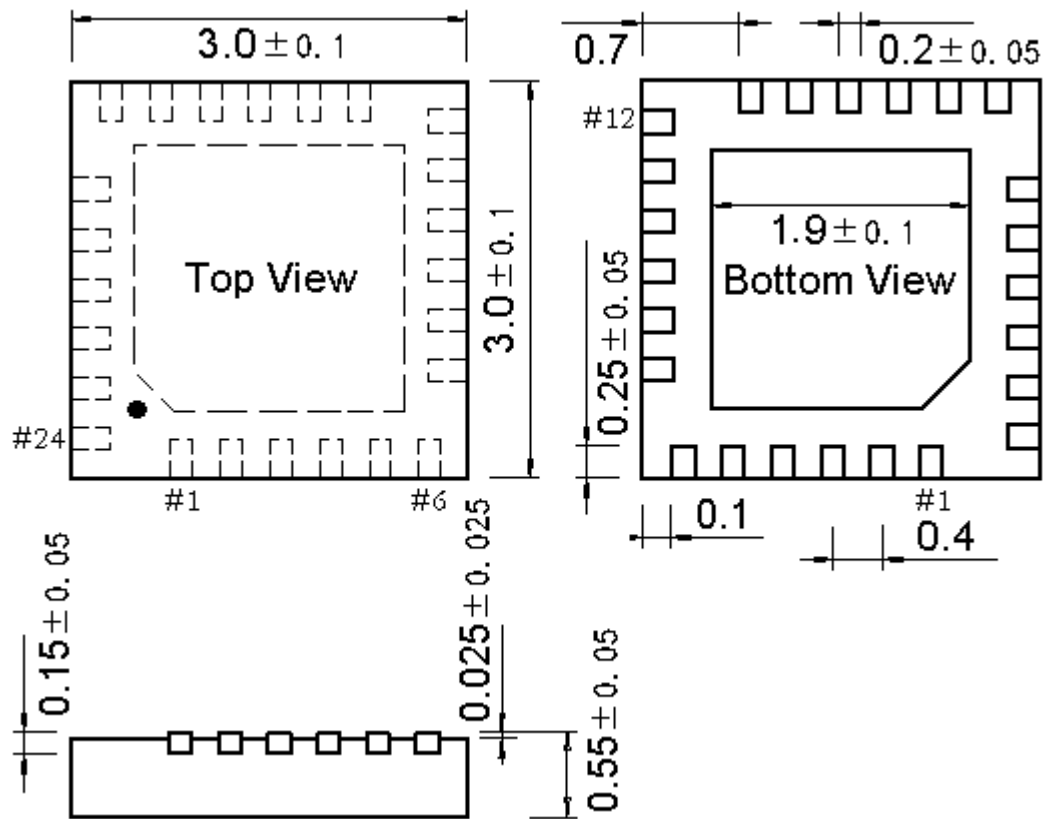
. QFN20C2 (QFN20C-2*2*0.55-0.32)



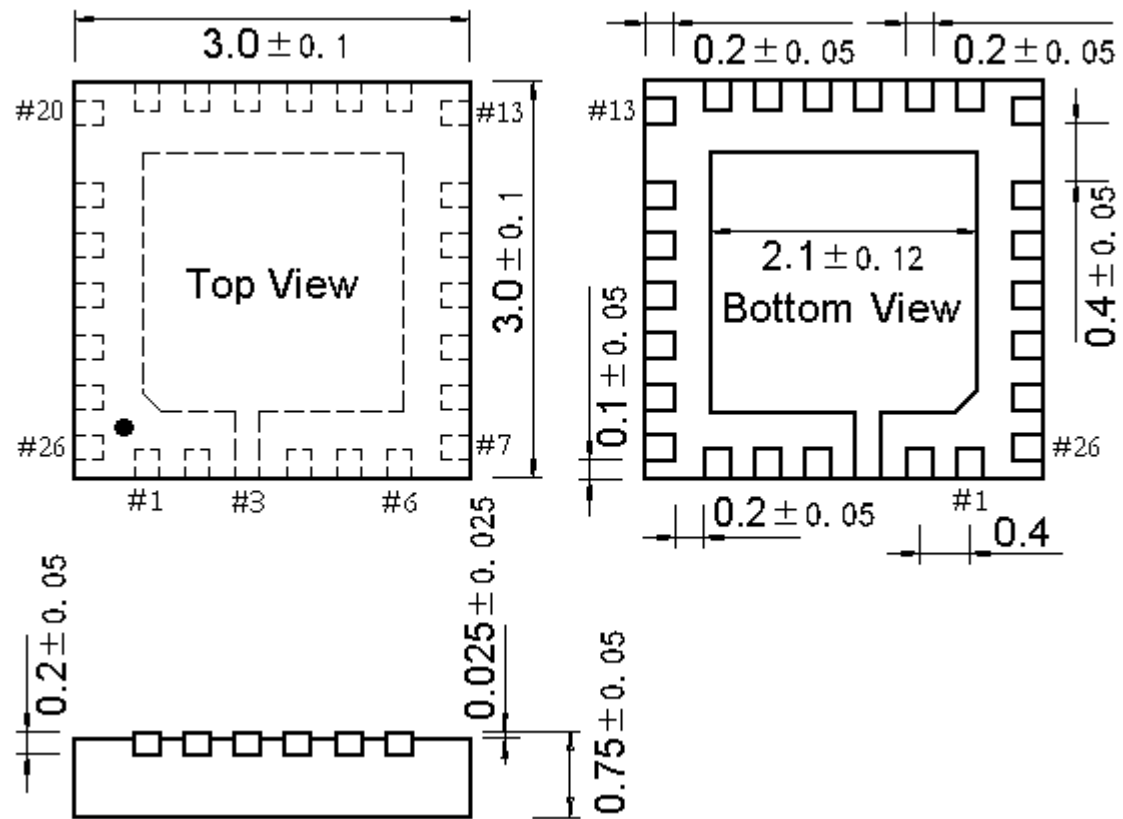
• QFN24 (QFN24-4*4)



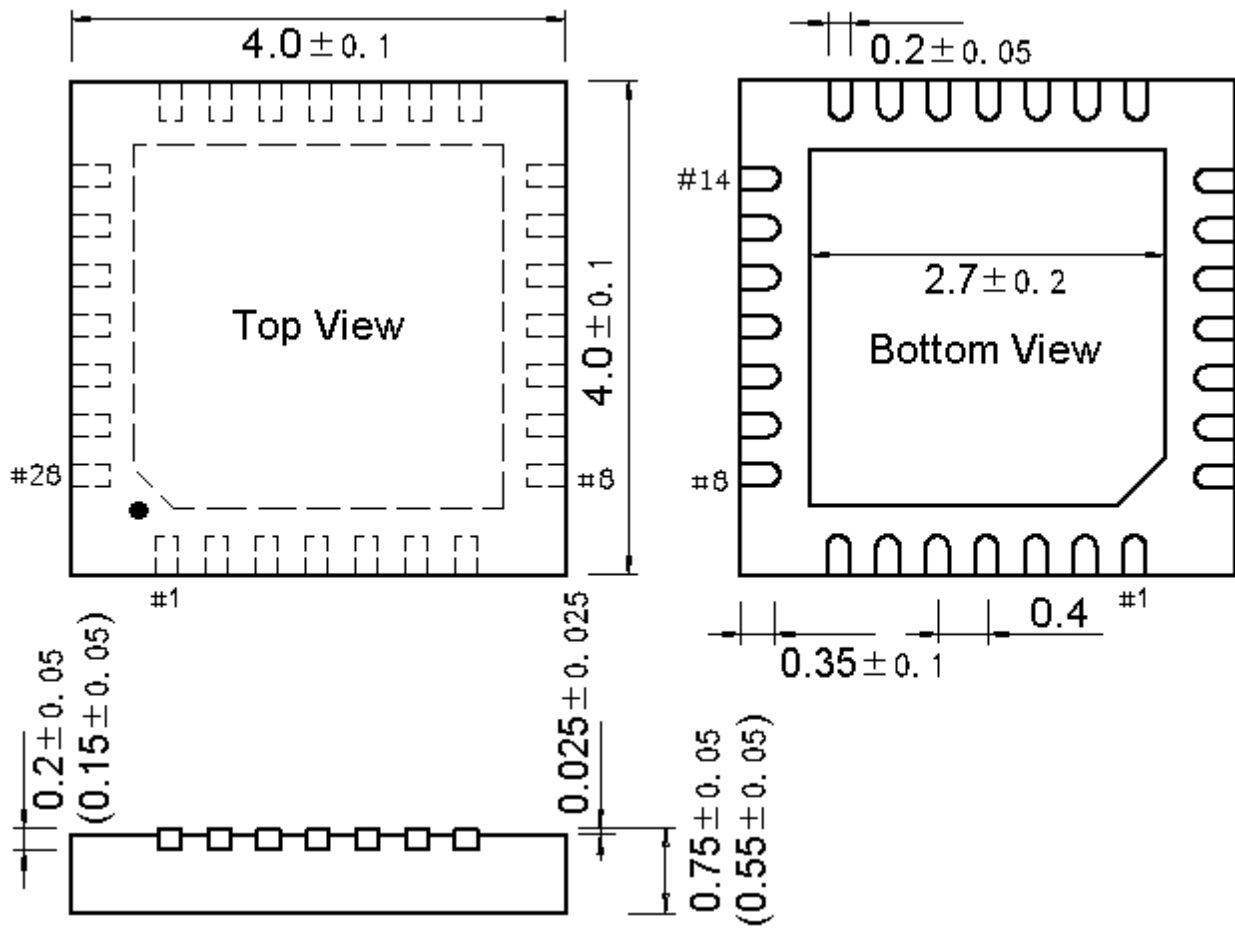
. QFN24X3 (QFN24-3*3*0.55-0.4)



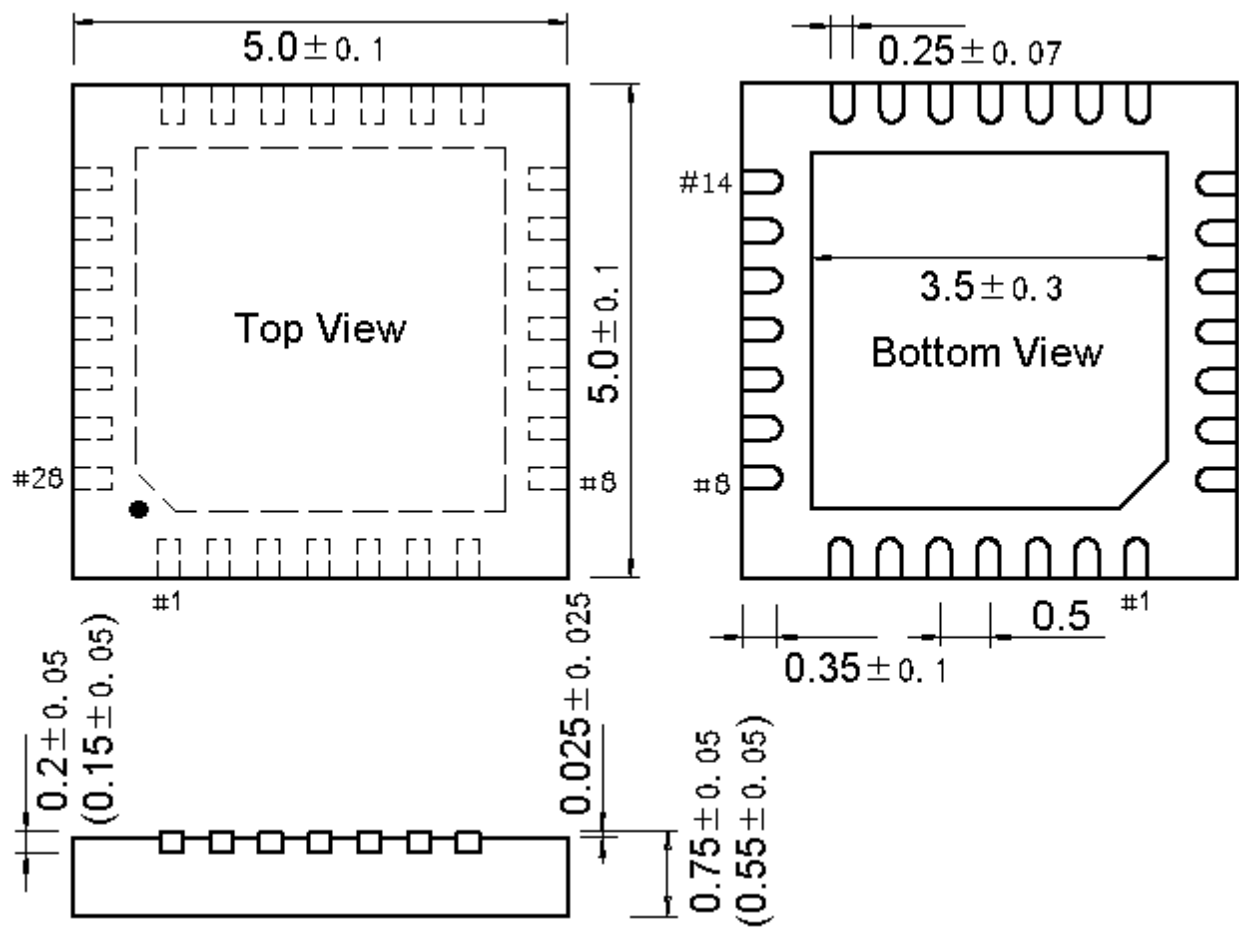
• QFN26C3 (QFN26C-3*3*0.75-0.4)



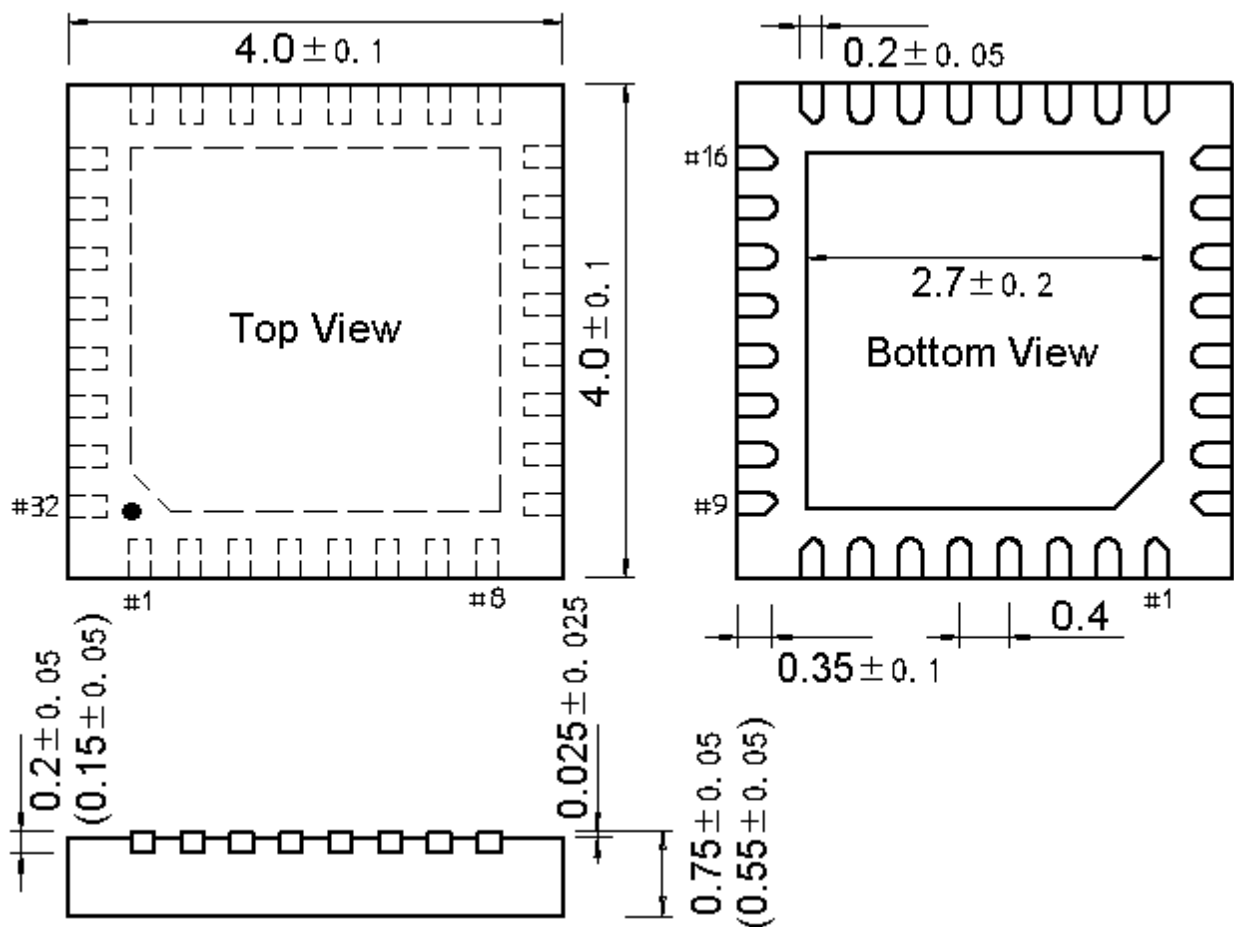
• QFN28 (QFN28-4*4)



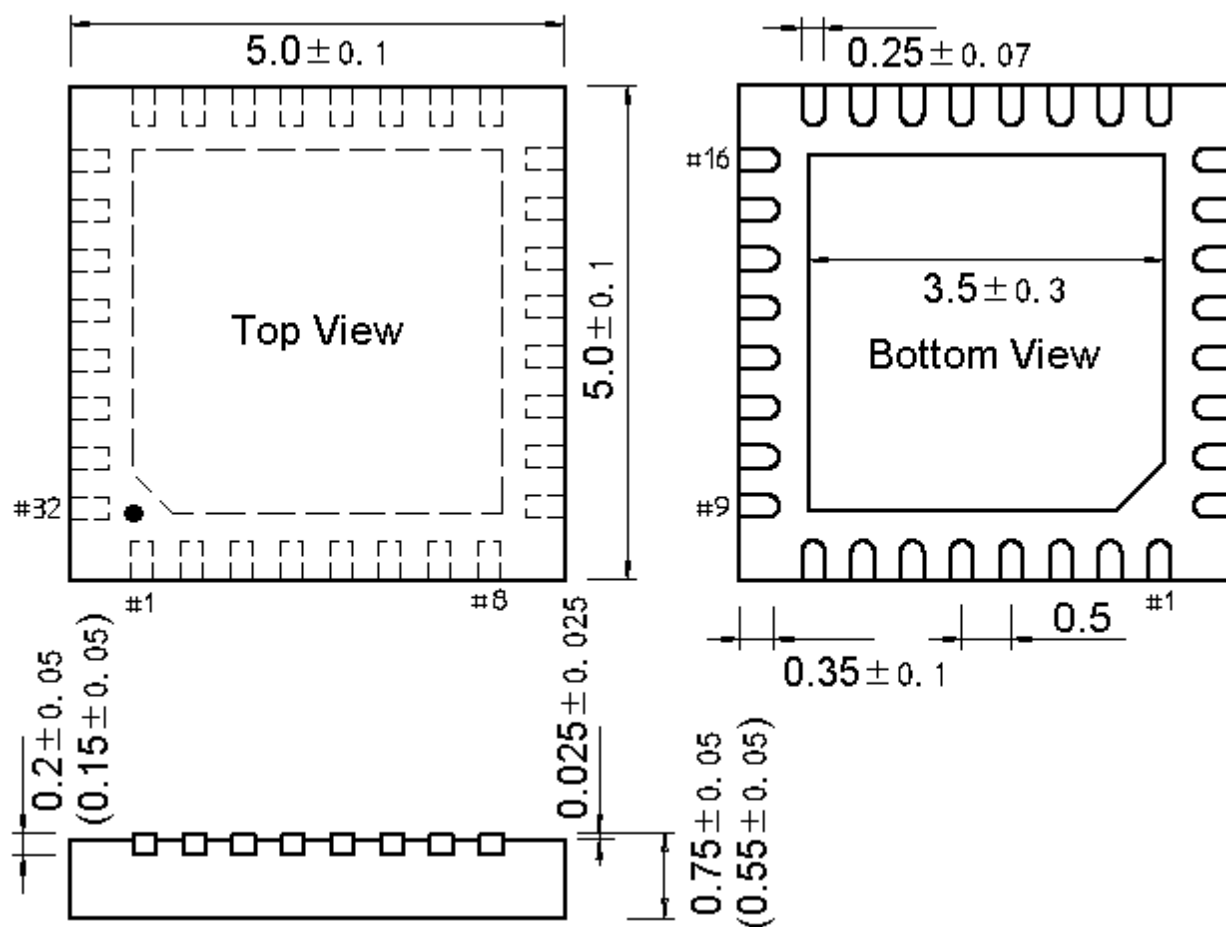
• QFN28X5 (QFN28-5*5)



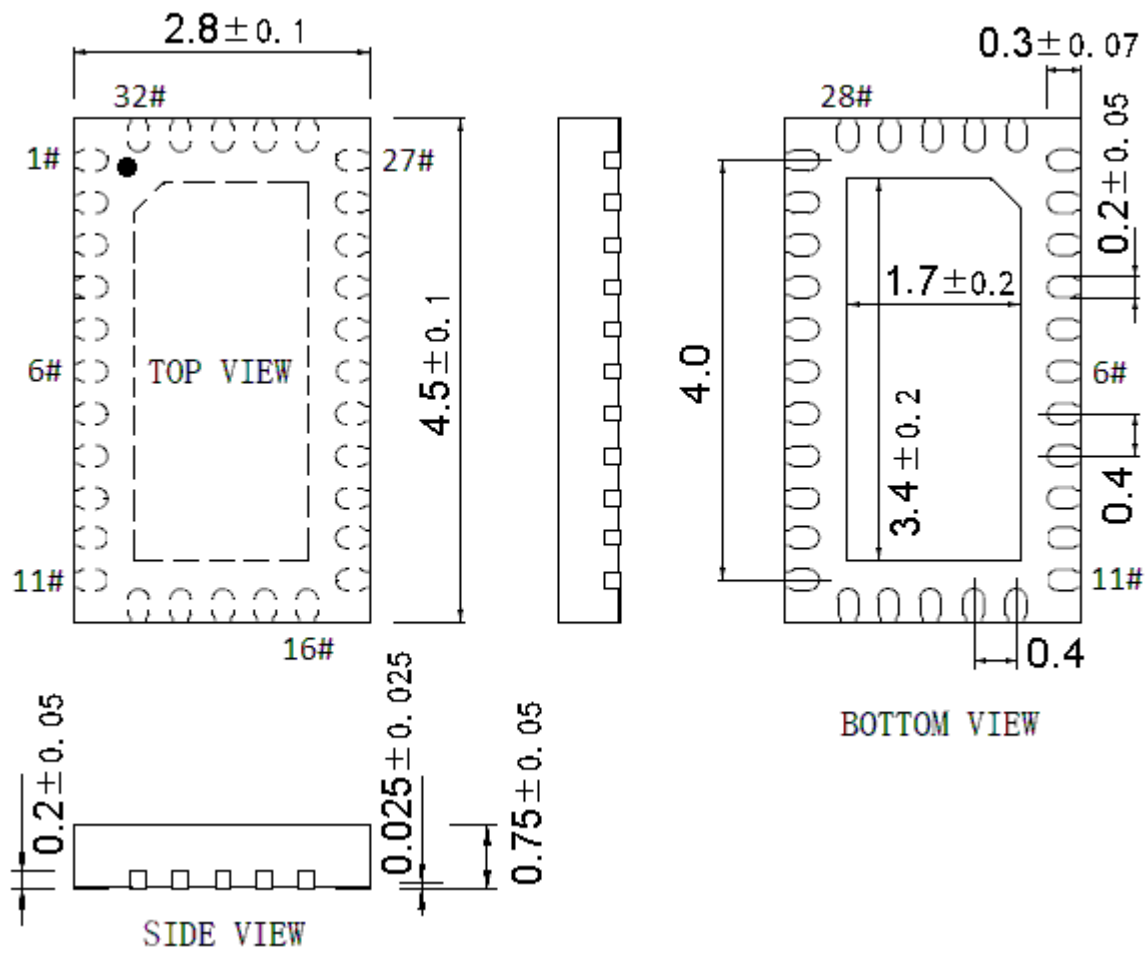
• QFN32 (QFN32-4*4)



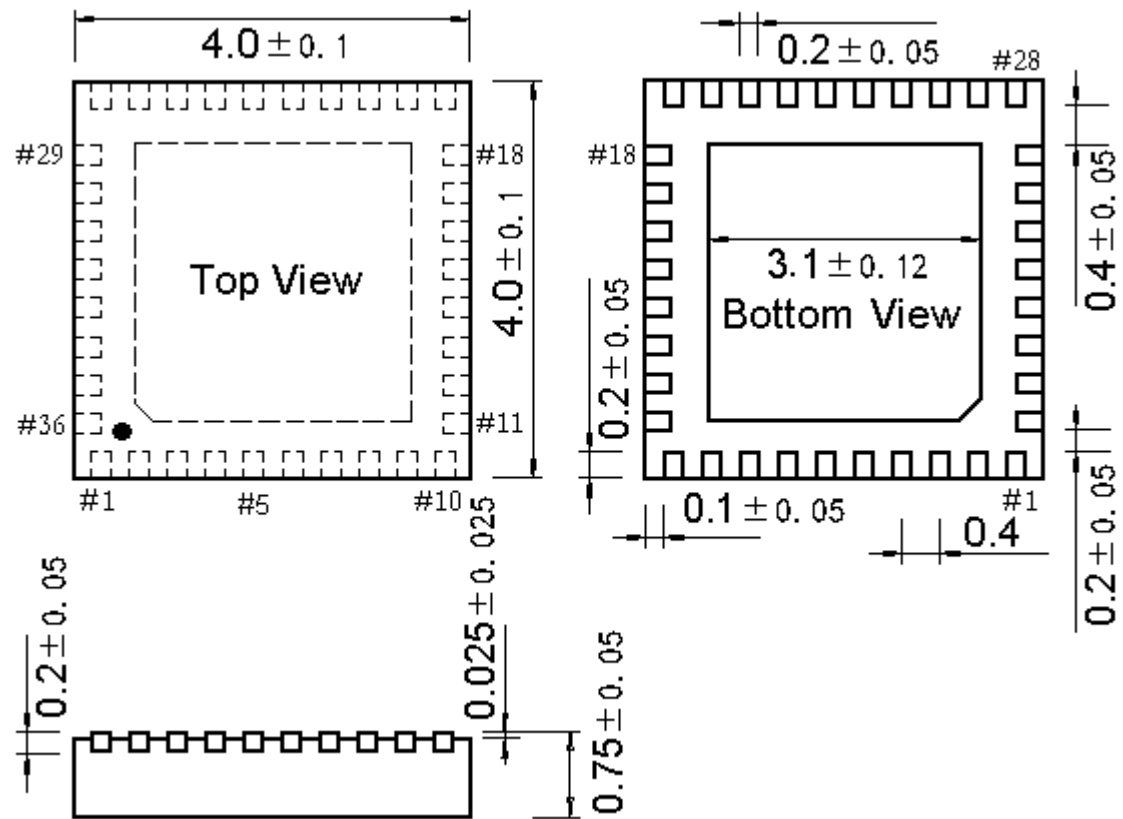
. QFN32X5 (QFN32-5*5)



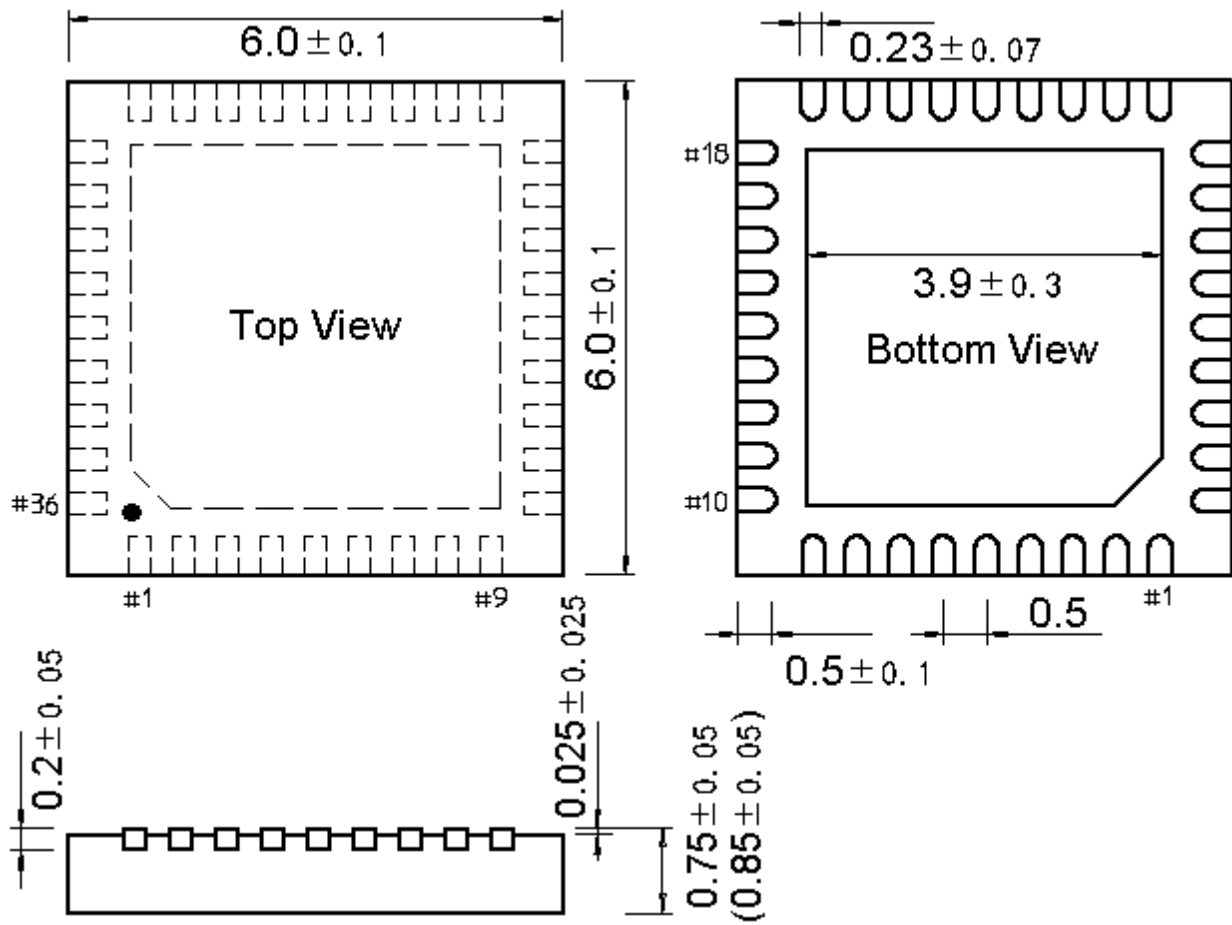
• QFN32C28X45 (QFN32C-2.8*4.5*0.75-0.4)



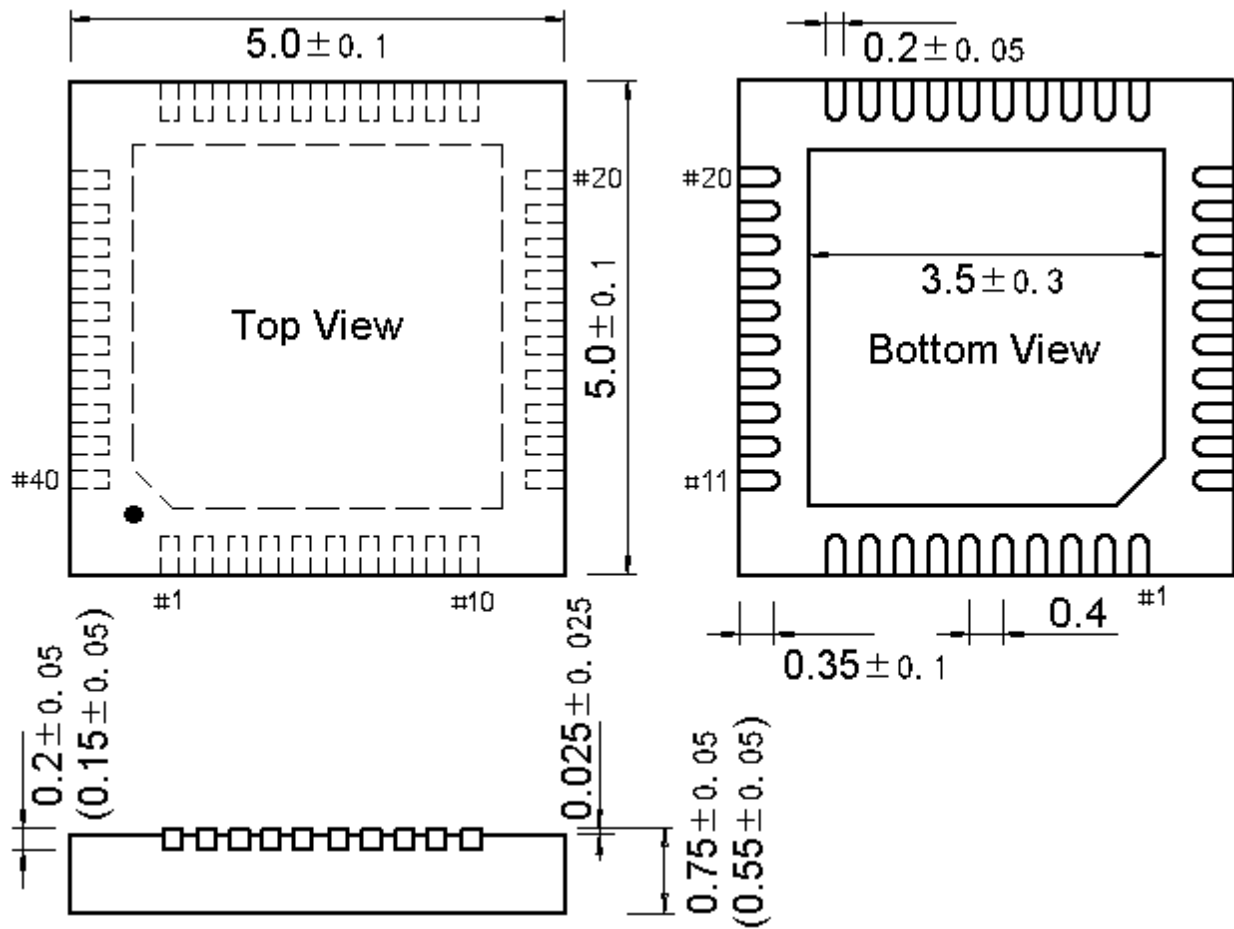
• QFN36C4 (QFN36C-4*4*0.75-0.4)



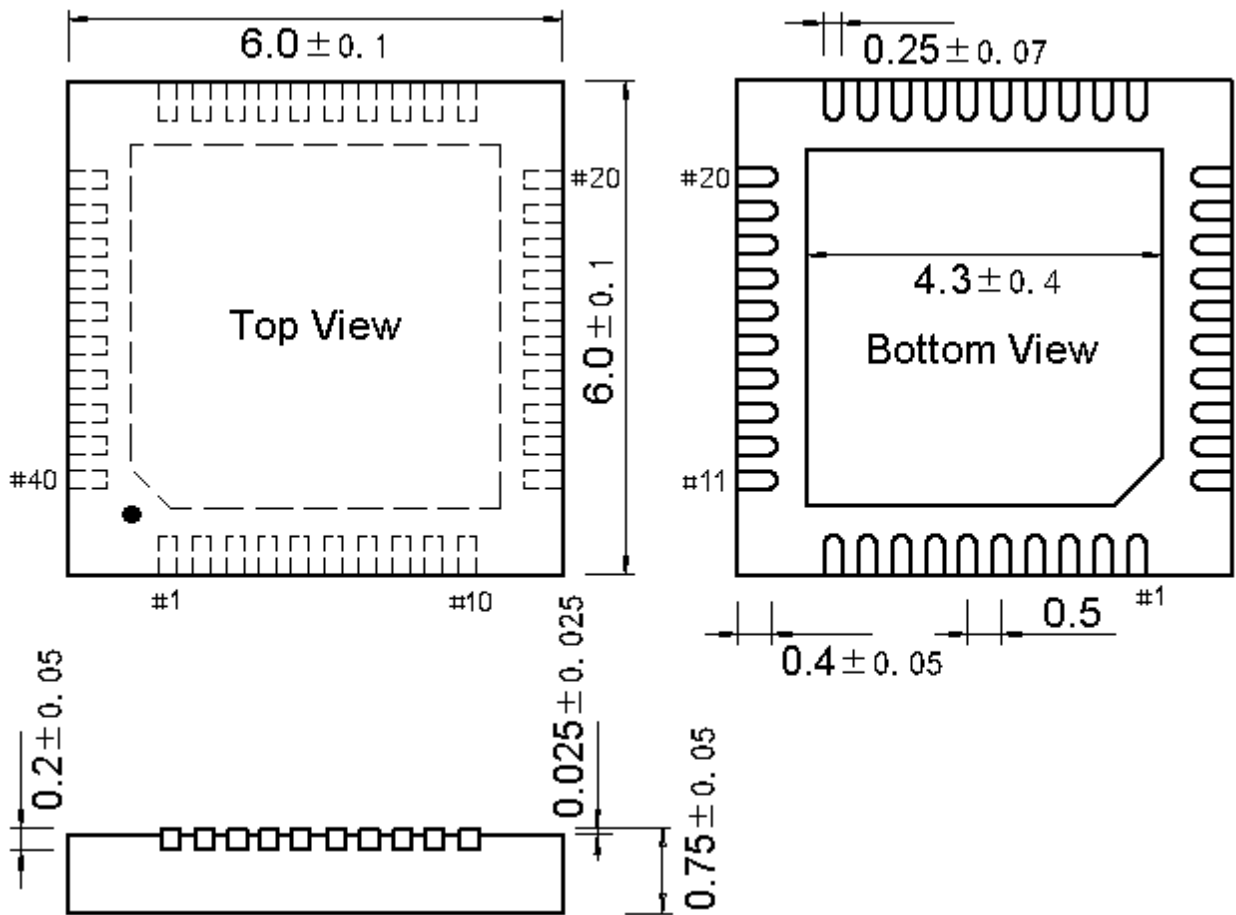
• QFN36X6 (QFN36-6*6)



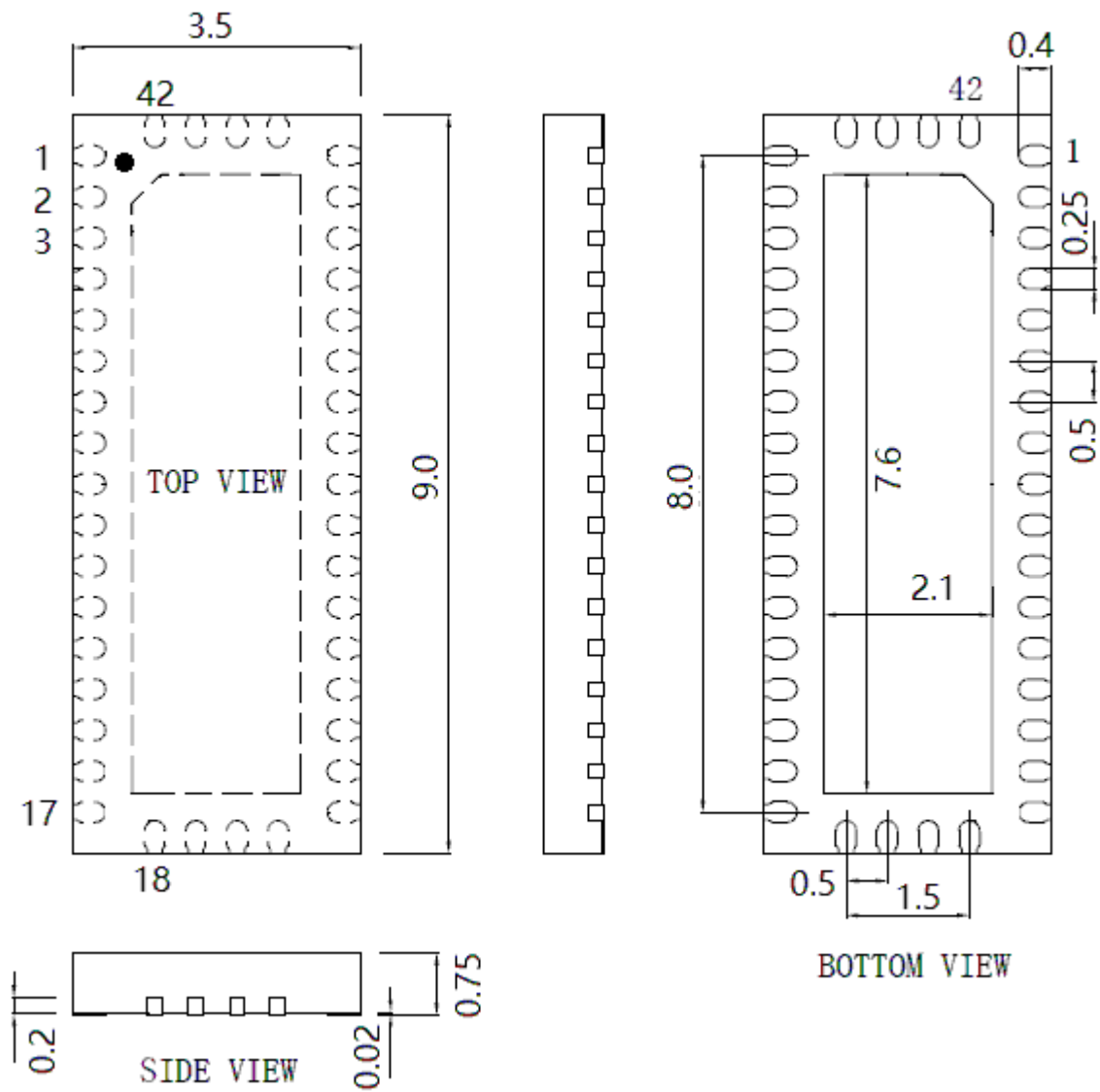
• QFN40 (QFN40-5*5)



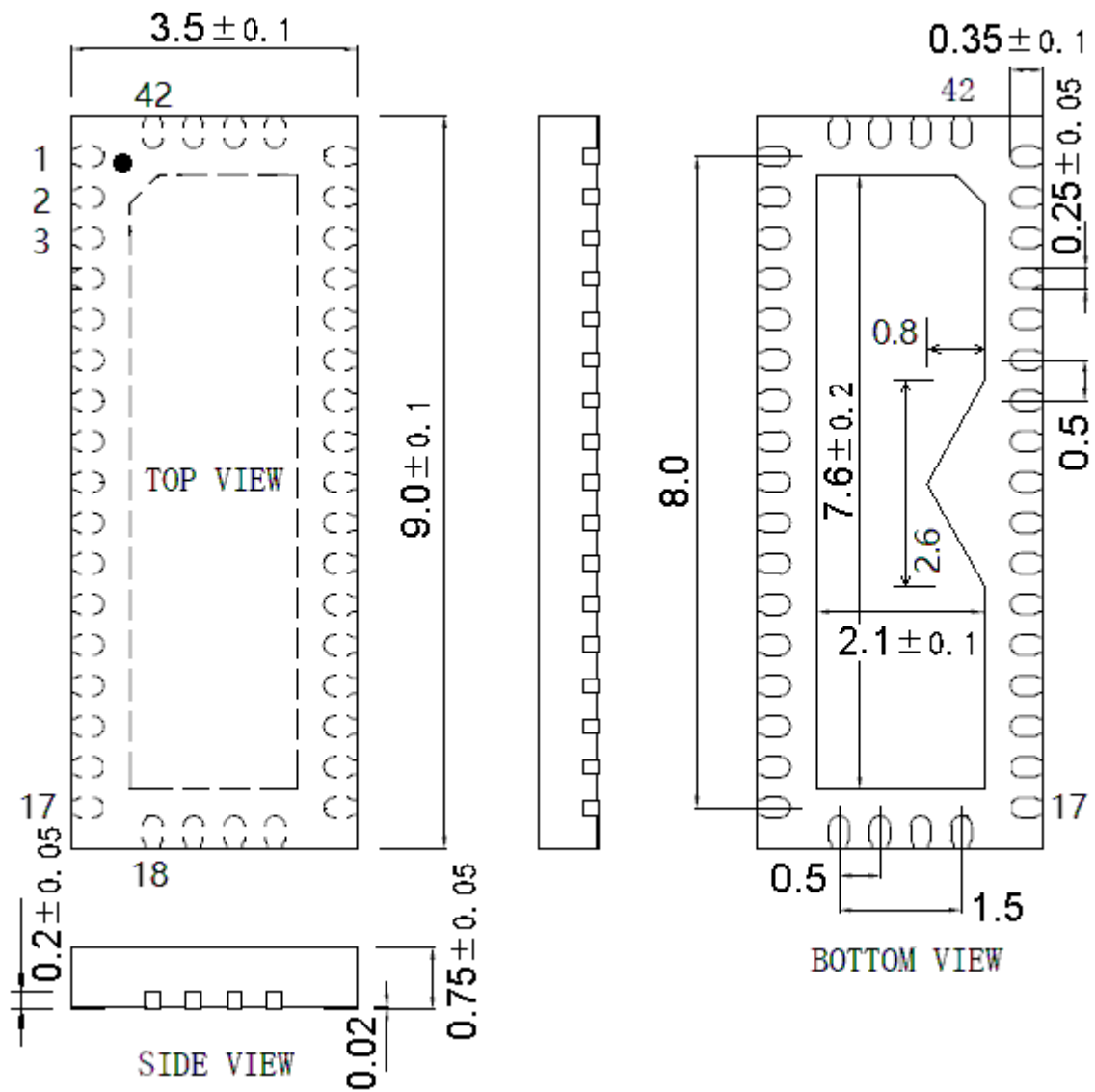
. QFN40X6 (QFN40-6*6)



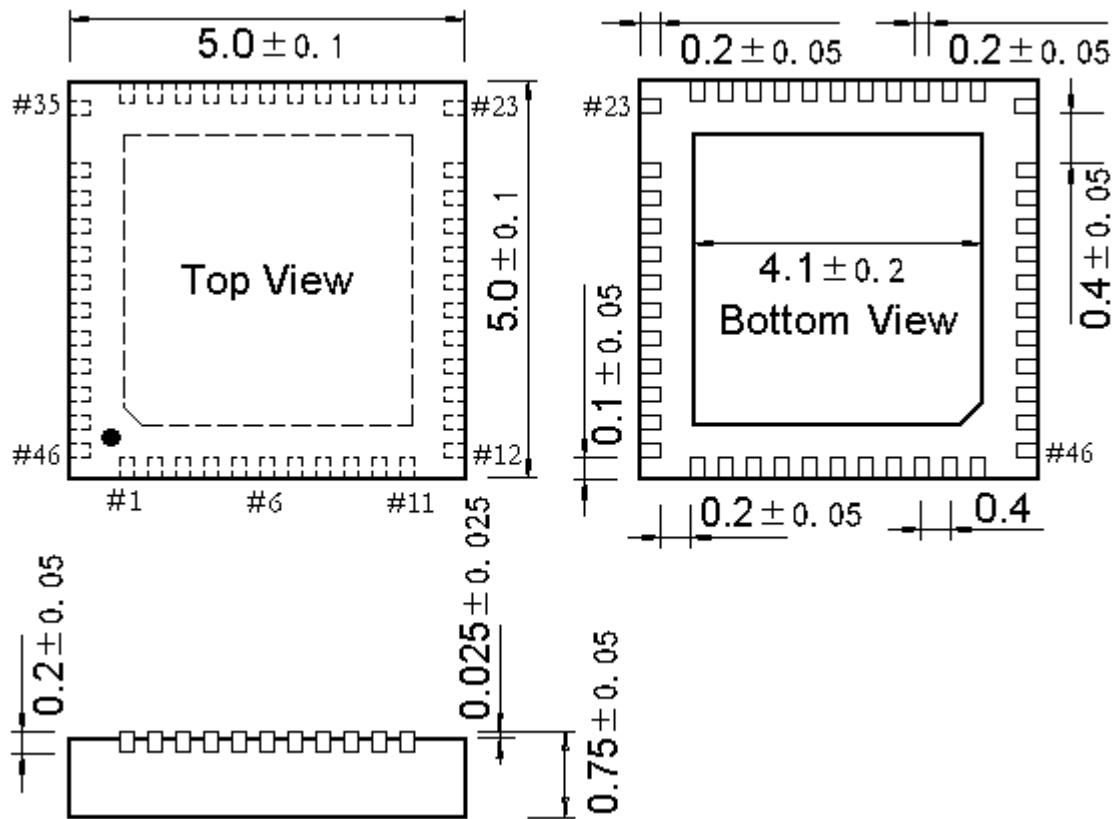
• QFN42X35X9 (QFN42-3.5*9*0.75-0.5)



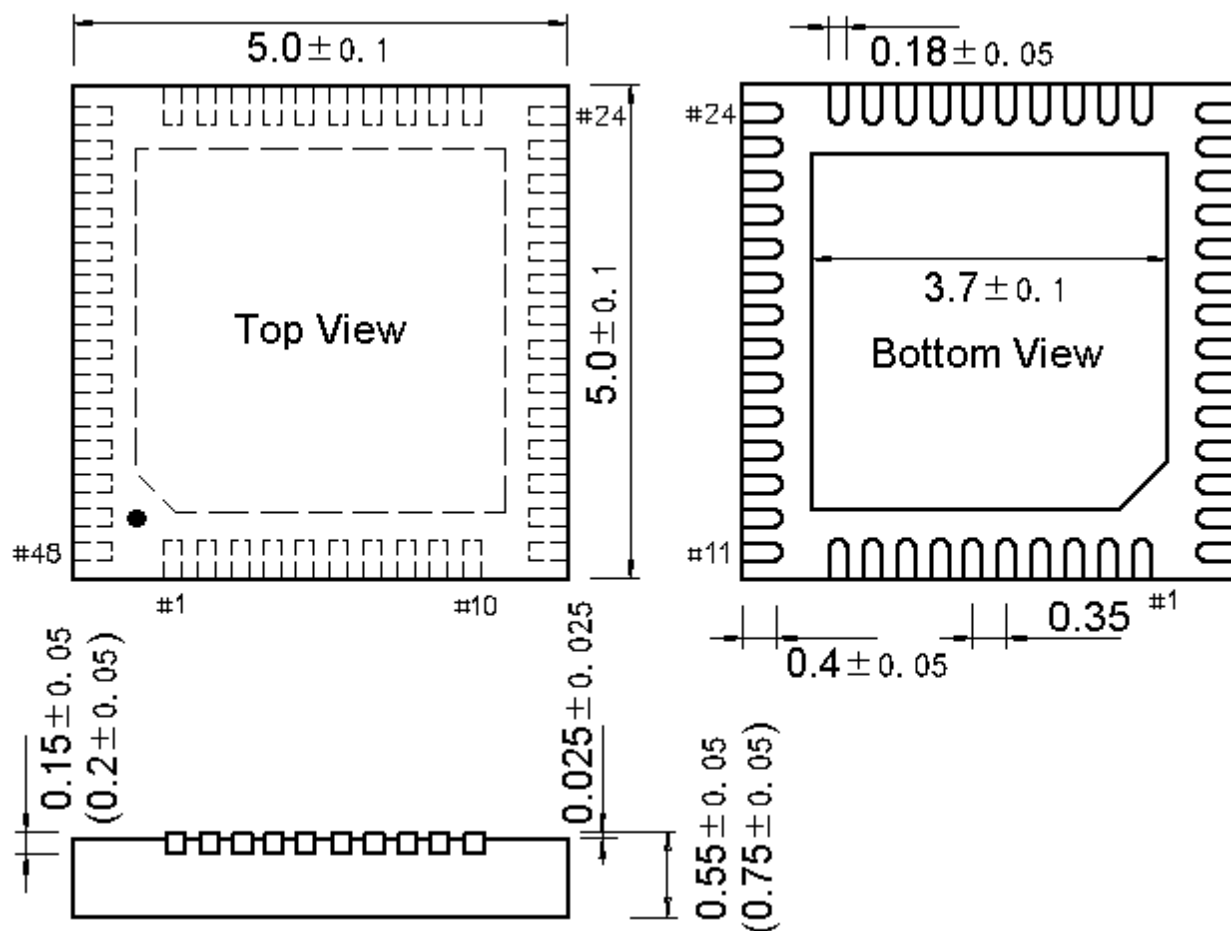
• QFN42C35X9 (QFN42C-3.5*9*0.75-0.5)



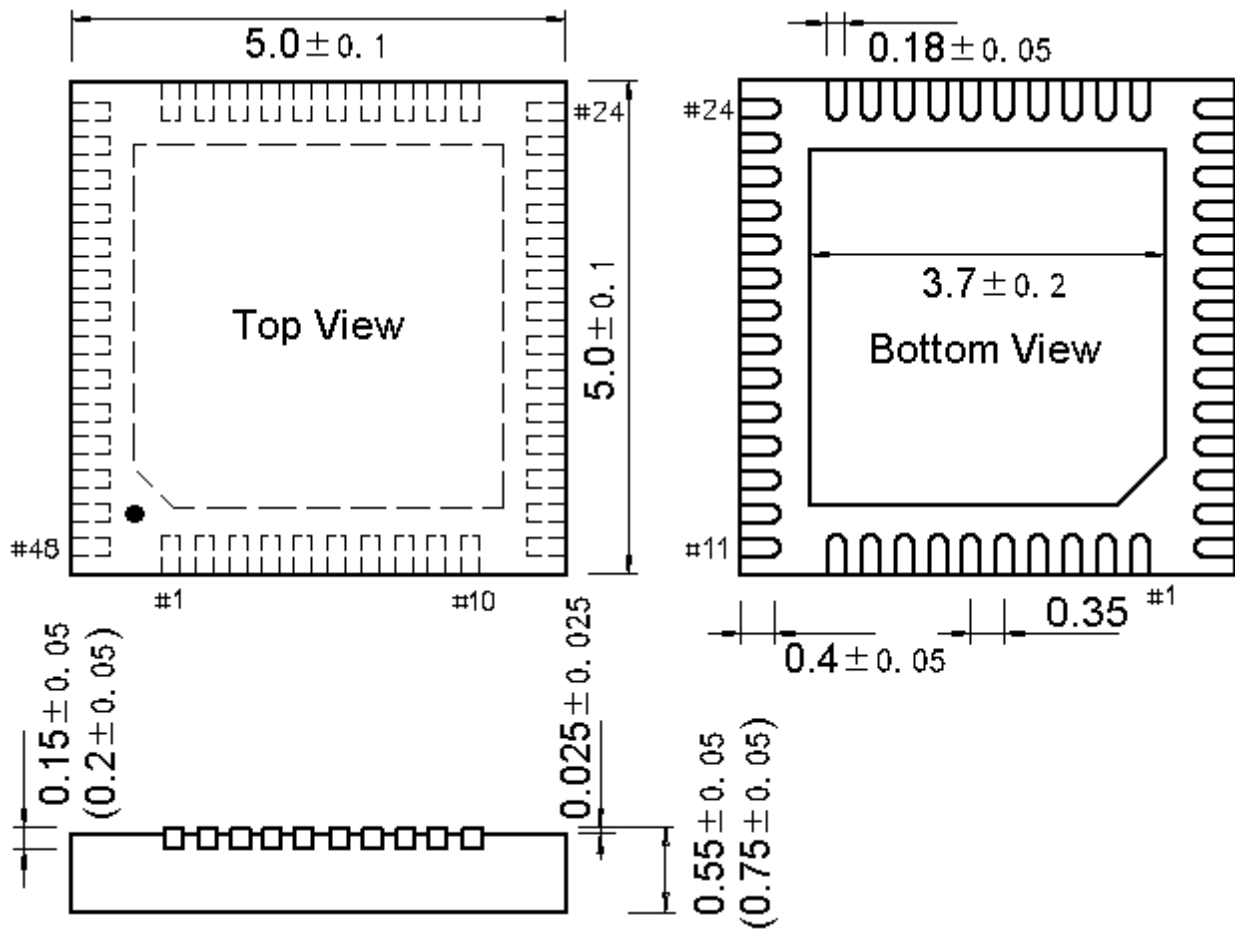
• QFN46C5 (QFN46C-5*5*0.75-0.4)



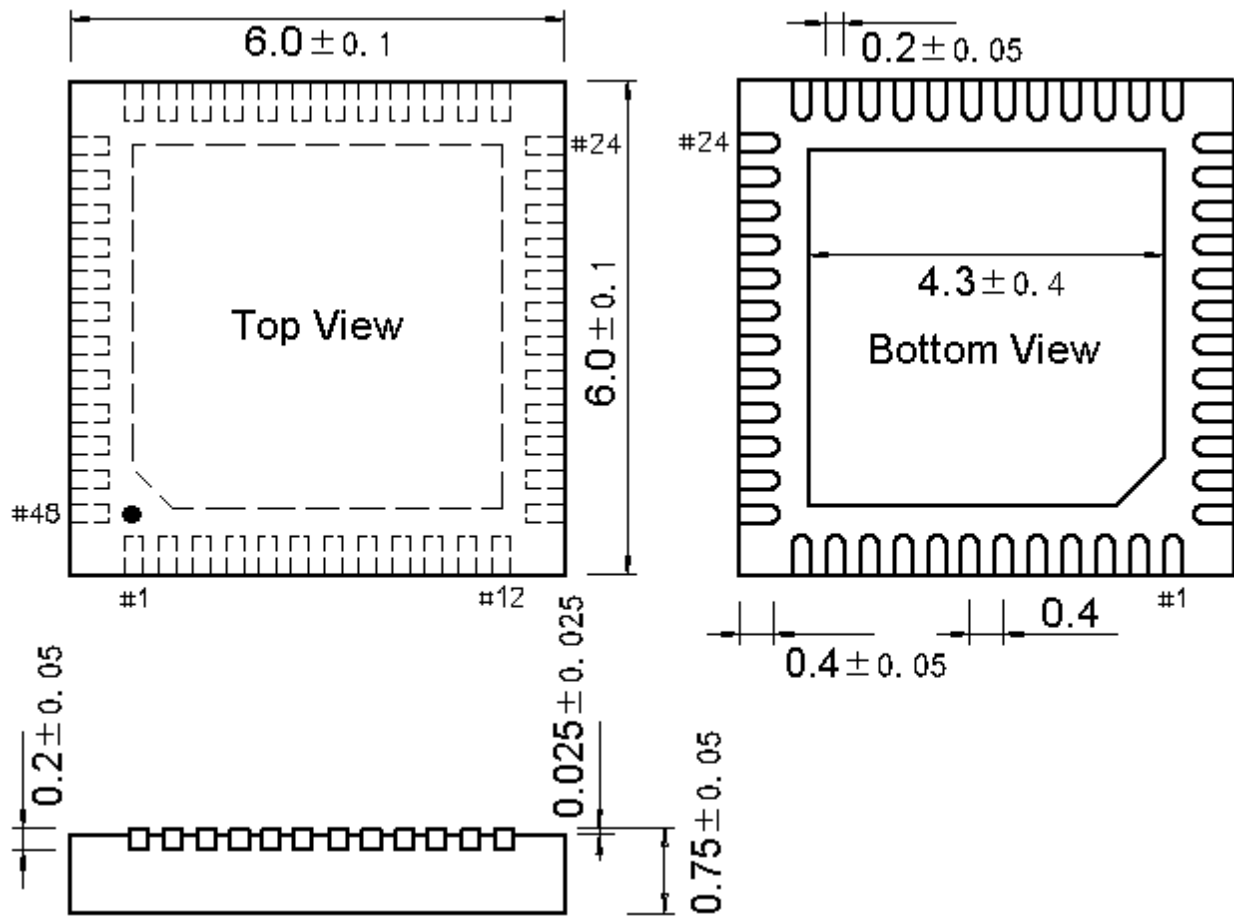
. QFN48 (QFN48-5*5*0.75-0.35)

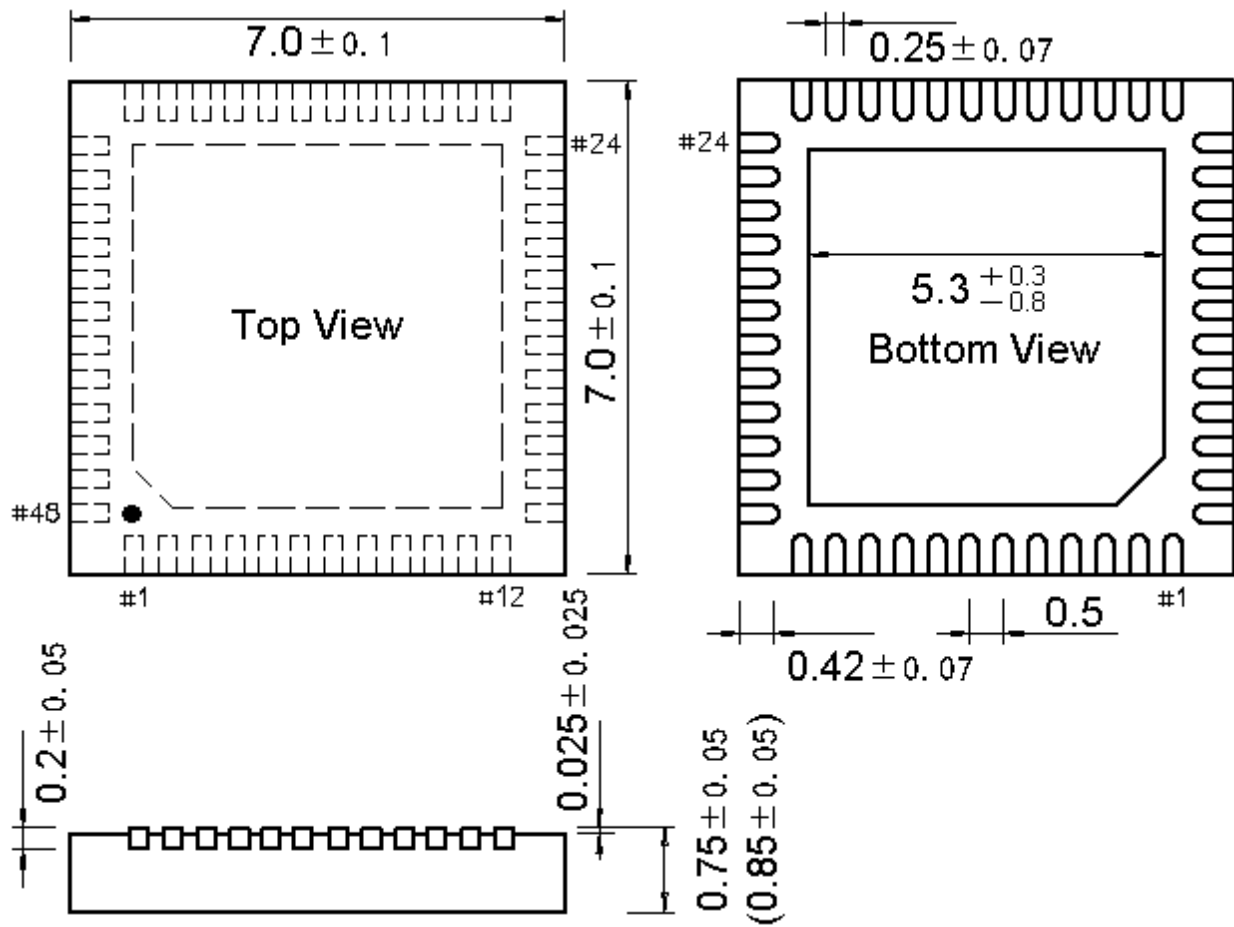


• QFN48-5*5*0.55-0.35

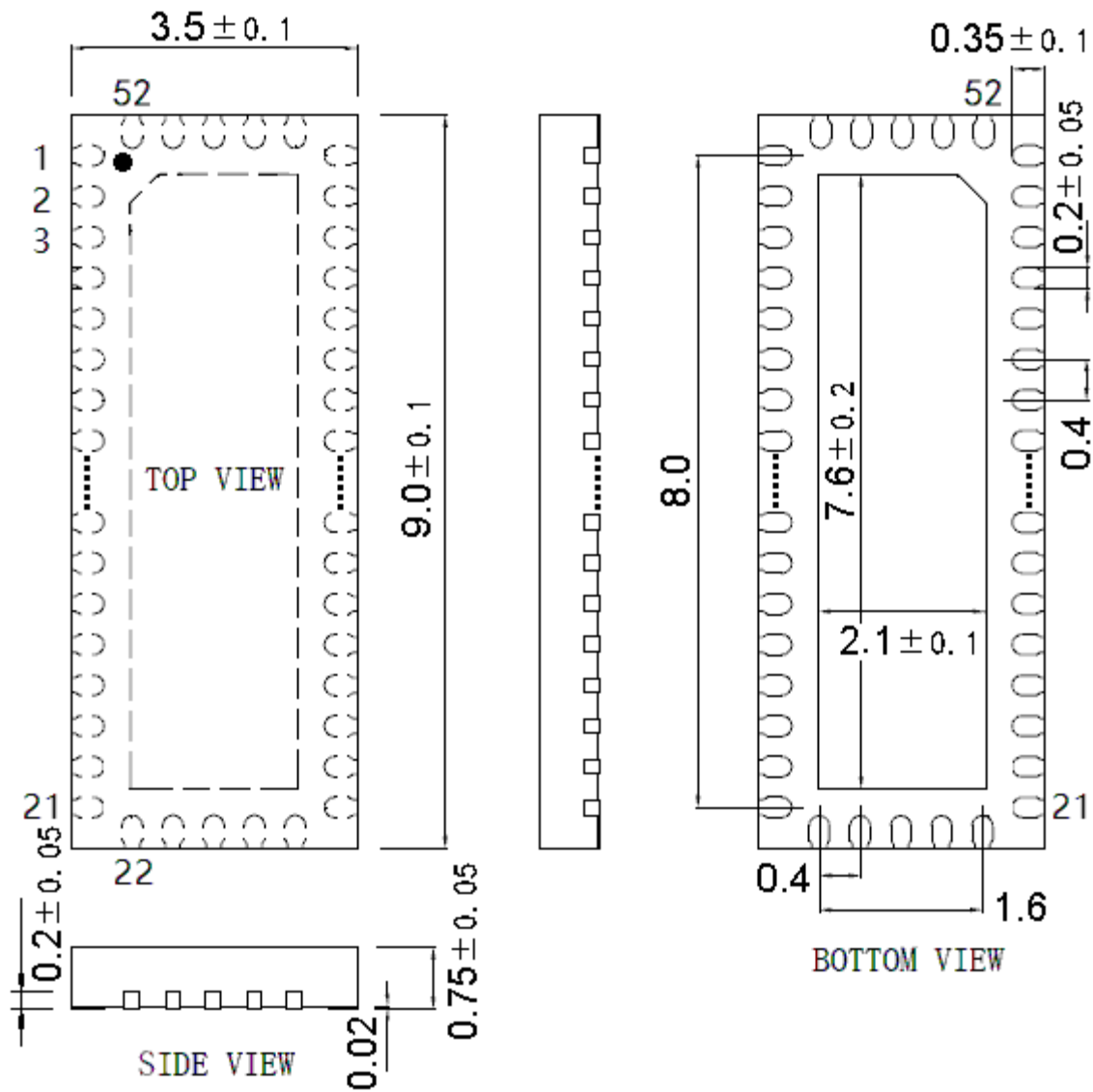


• QFN48X6 (QFN48-6*6)

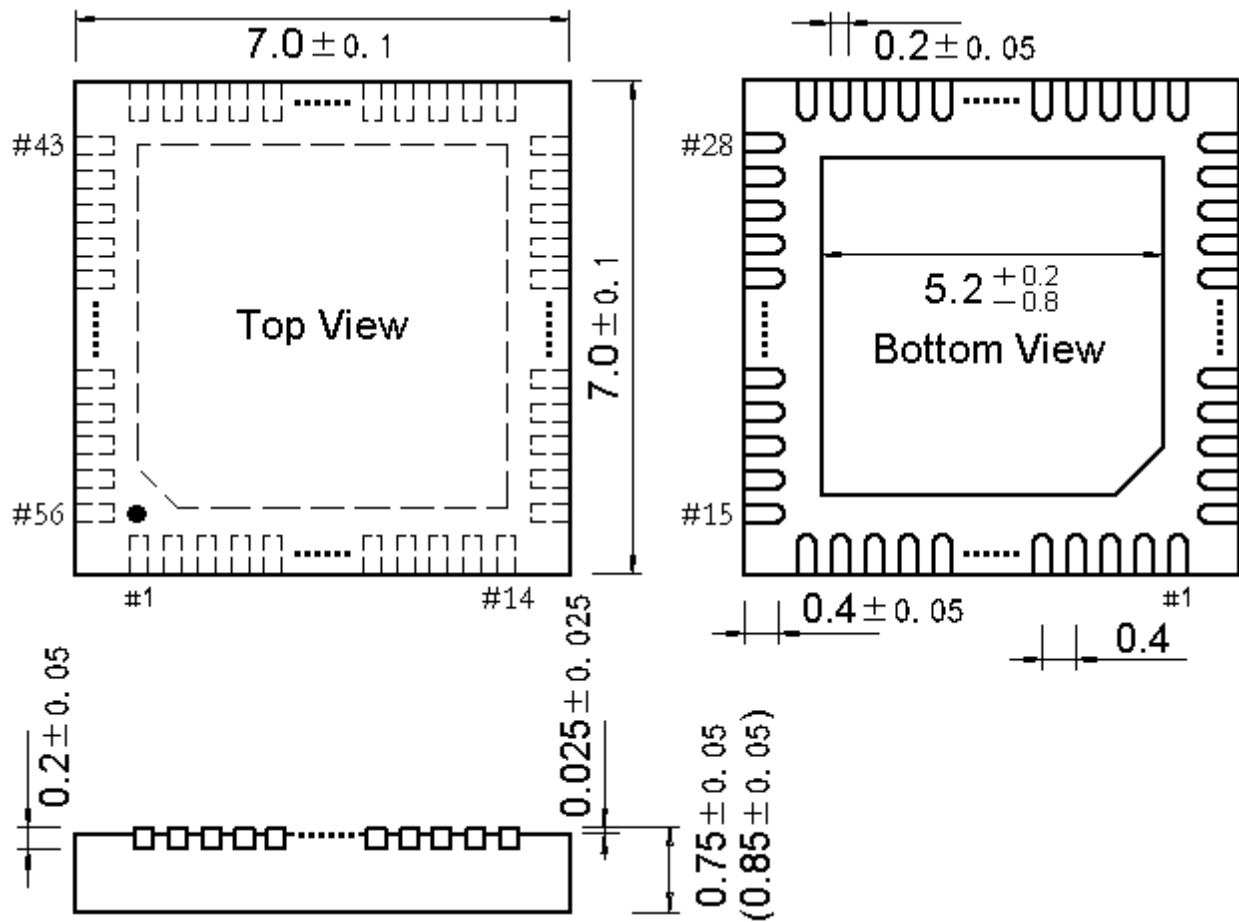


QFN48X7 (QFN48-7*7)

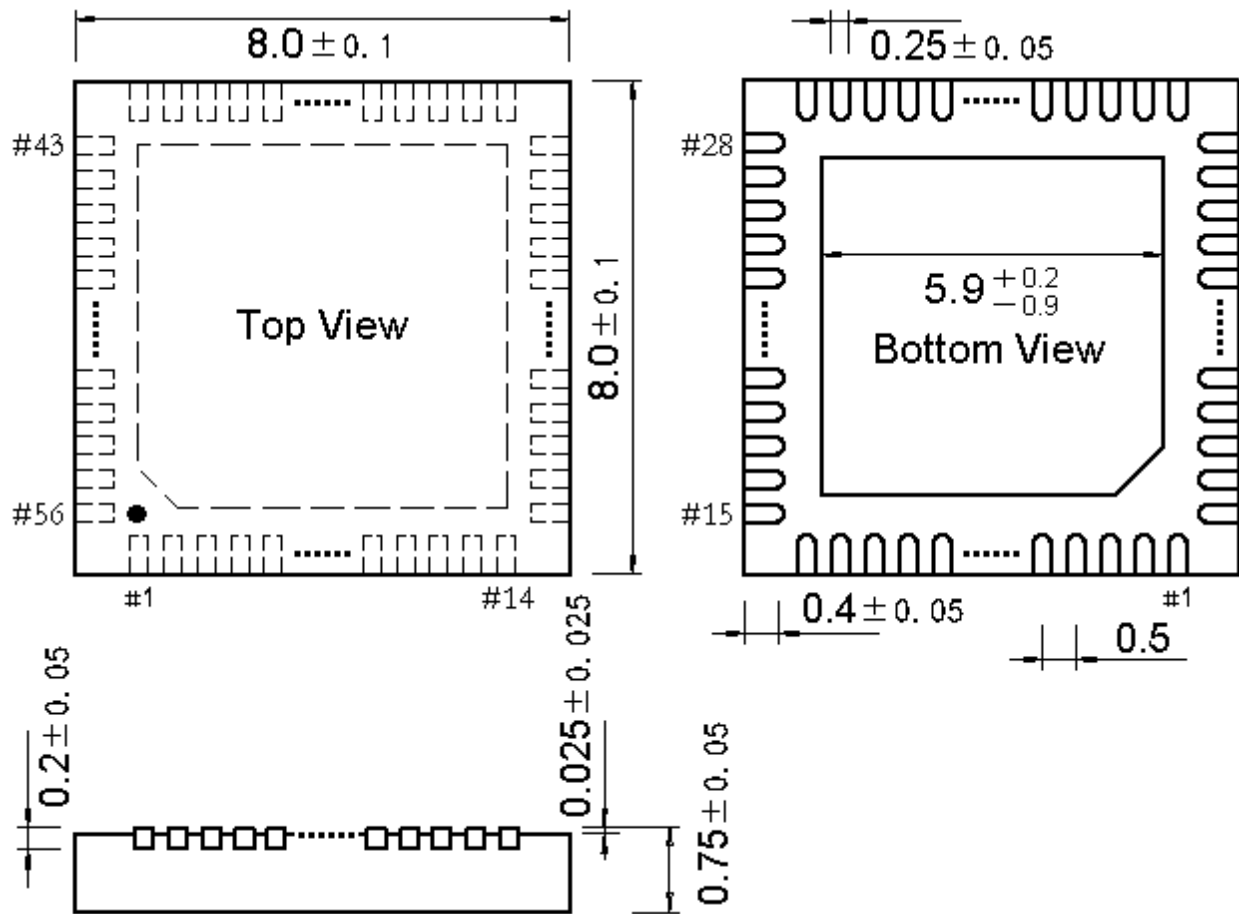
• QFN52X35X9 (QFN52-3.5*9*0.75-0.4)



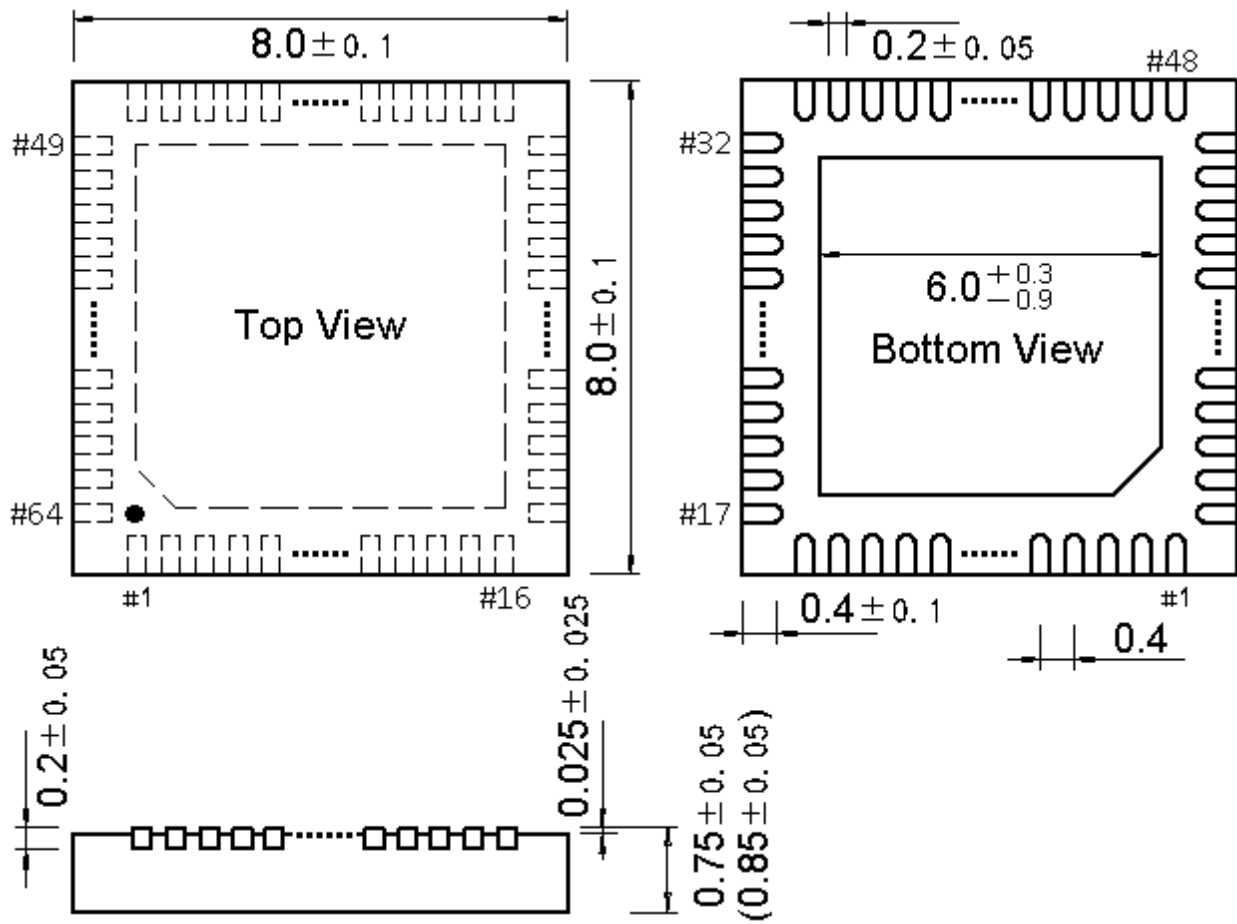
• QFN56 (QFN56-7*7)



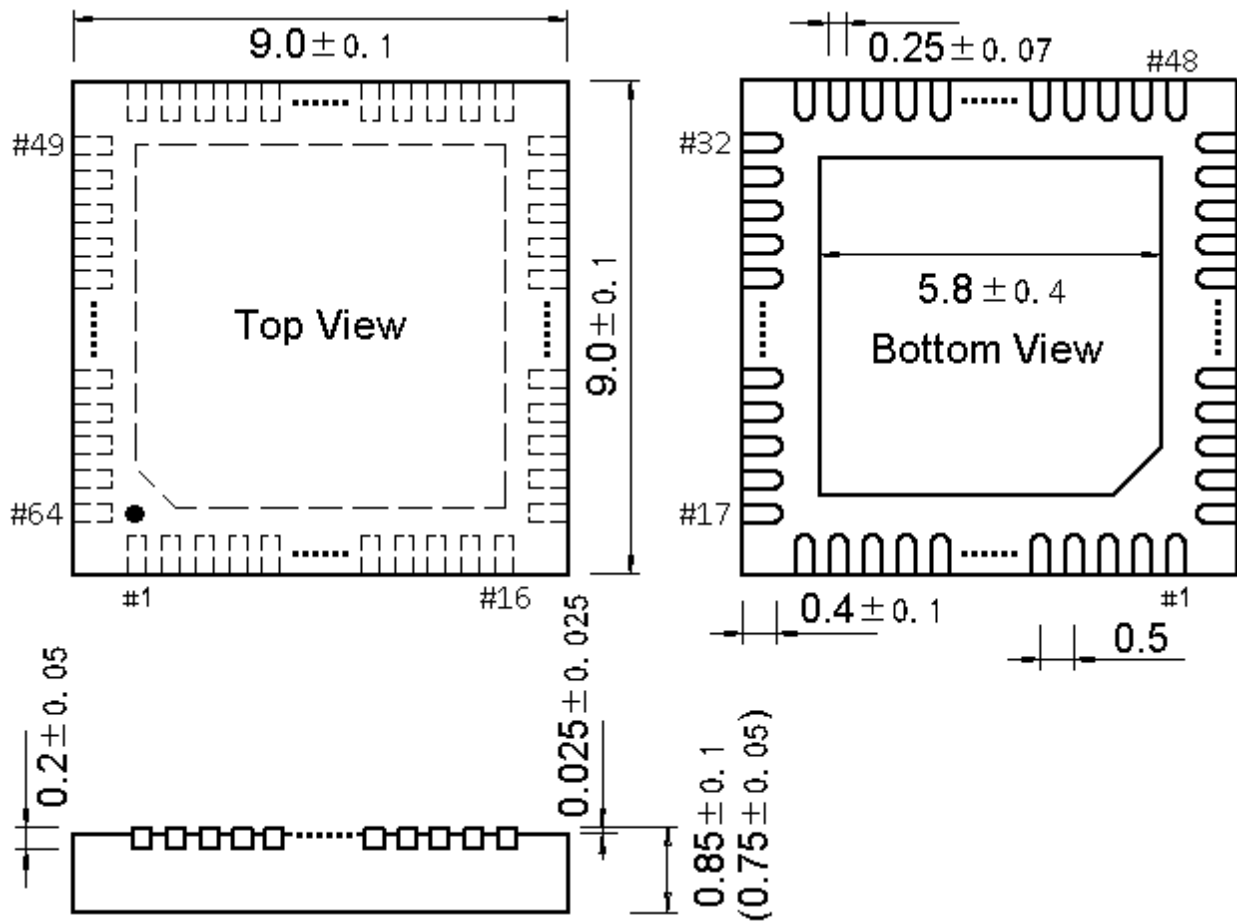
• QFN56X8 (QFN56-8*8)



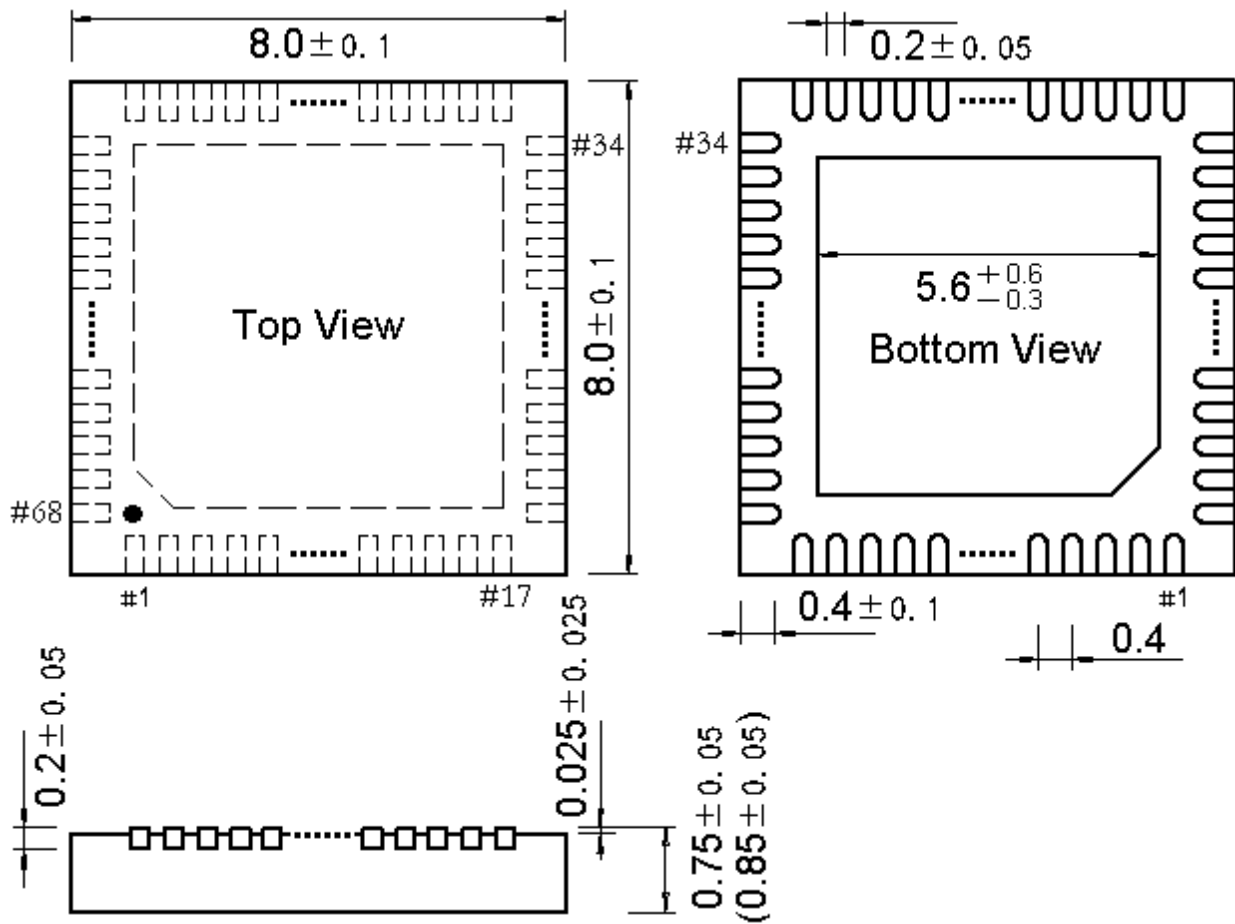
• QFN64 (QFN64-8*8)



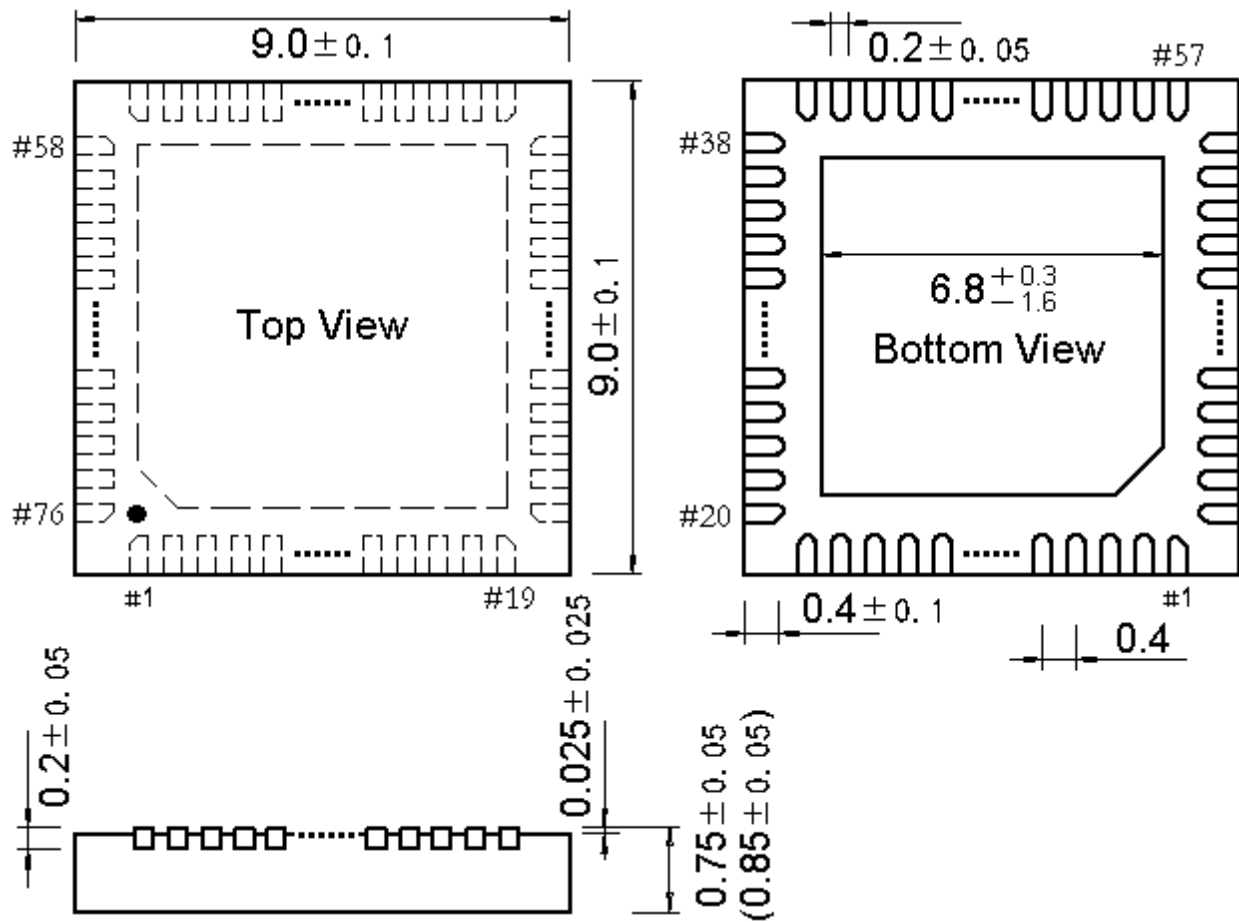
• QFN64X9 (QFN64-9*9)



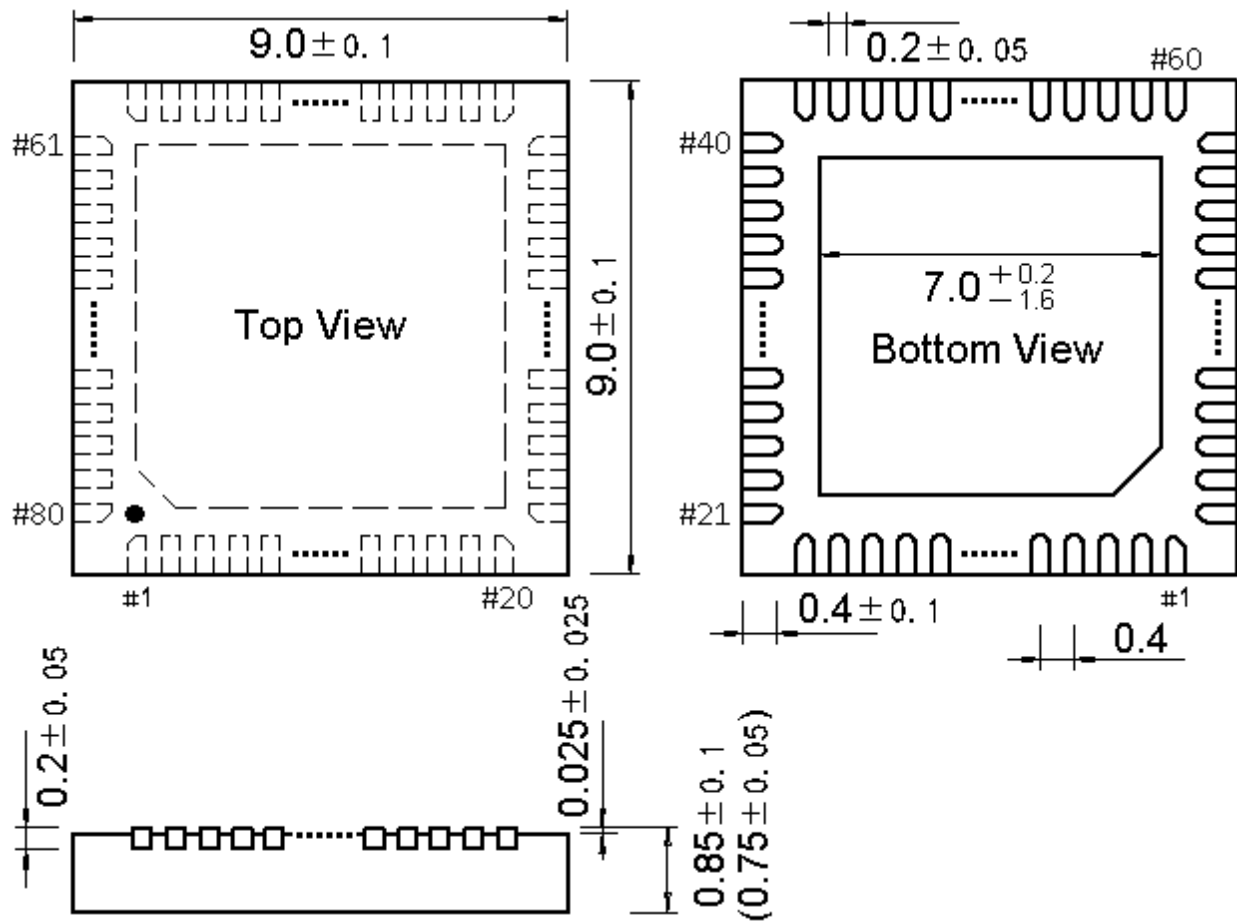
• QFN68 (QFN68-8*8)

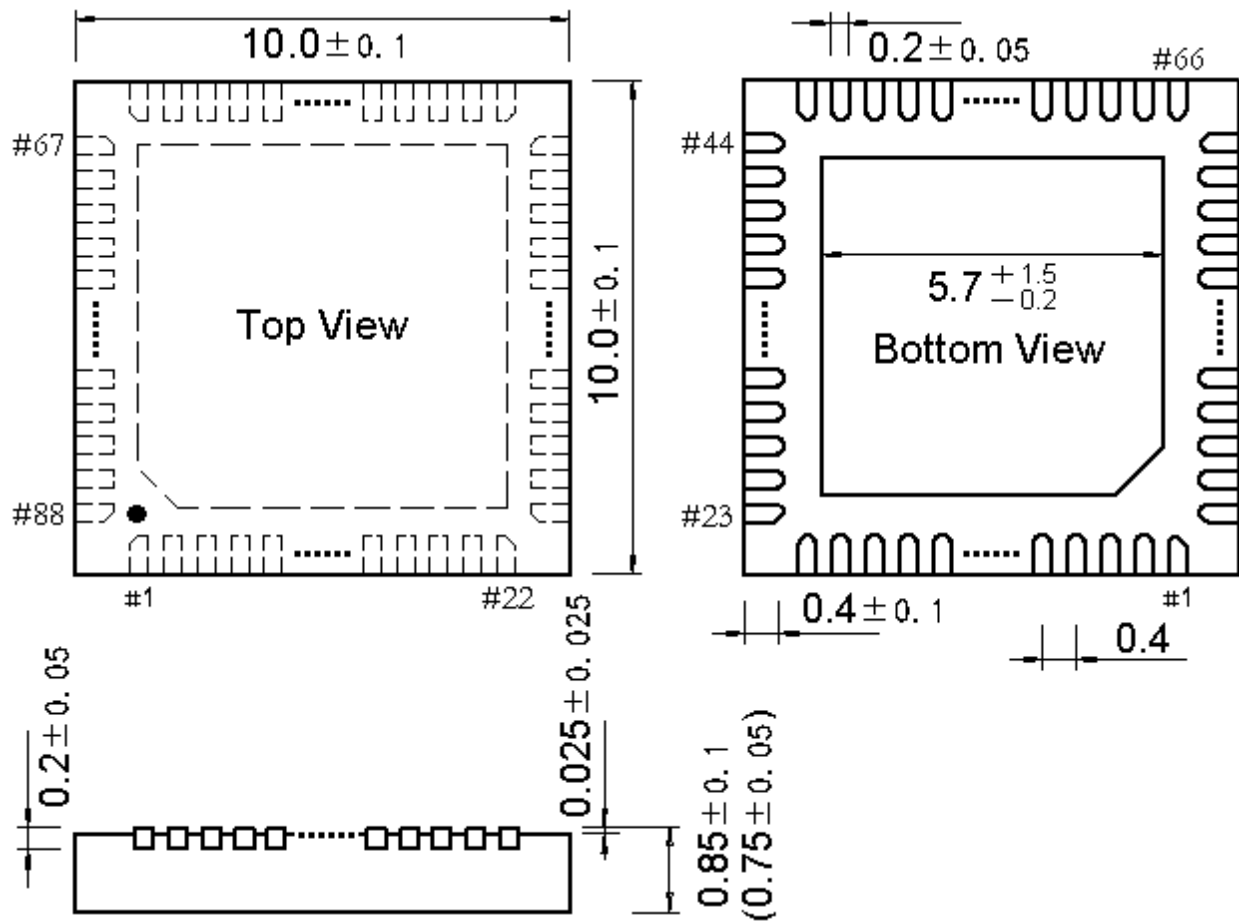


• QFN76 (QFN76-9*9)

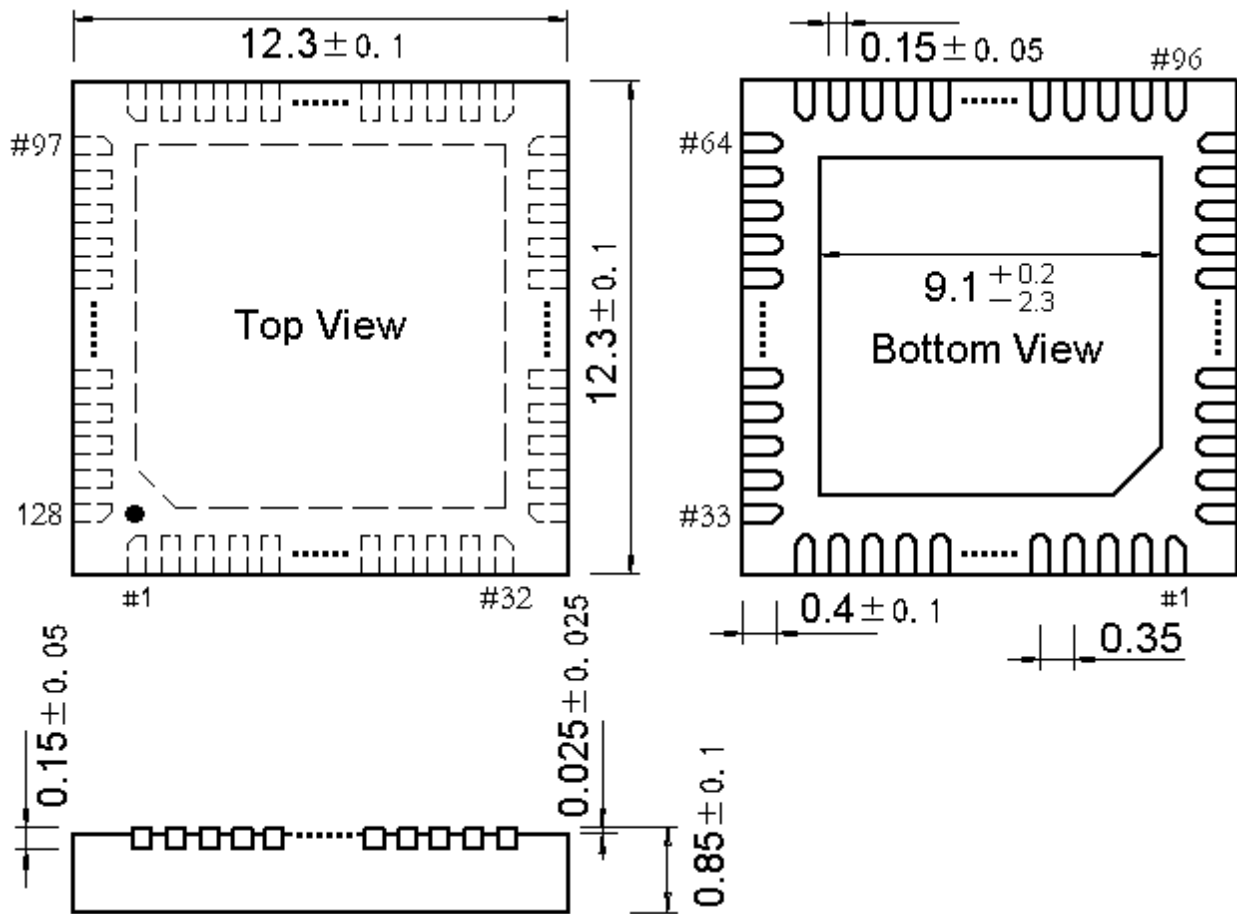


• QFN80 (QFN80-9*9)



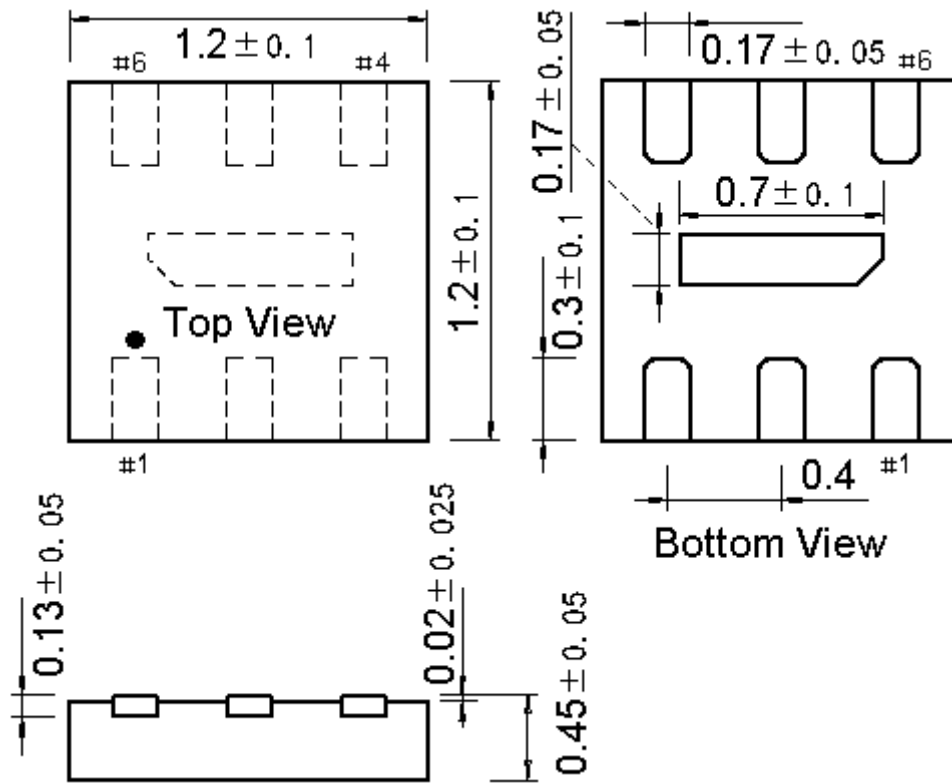
QFN88 (QFN88-10*10)

• QFN128 (QFN128-12.3*12.3)

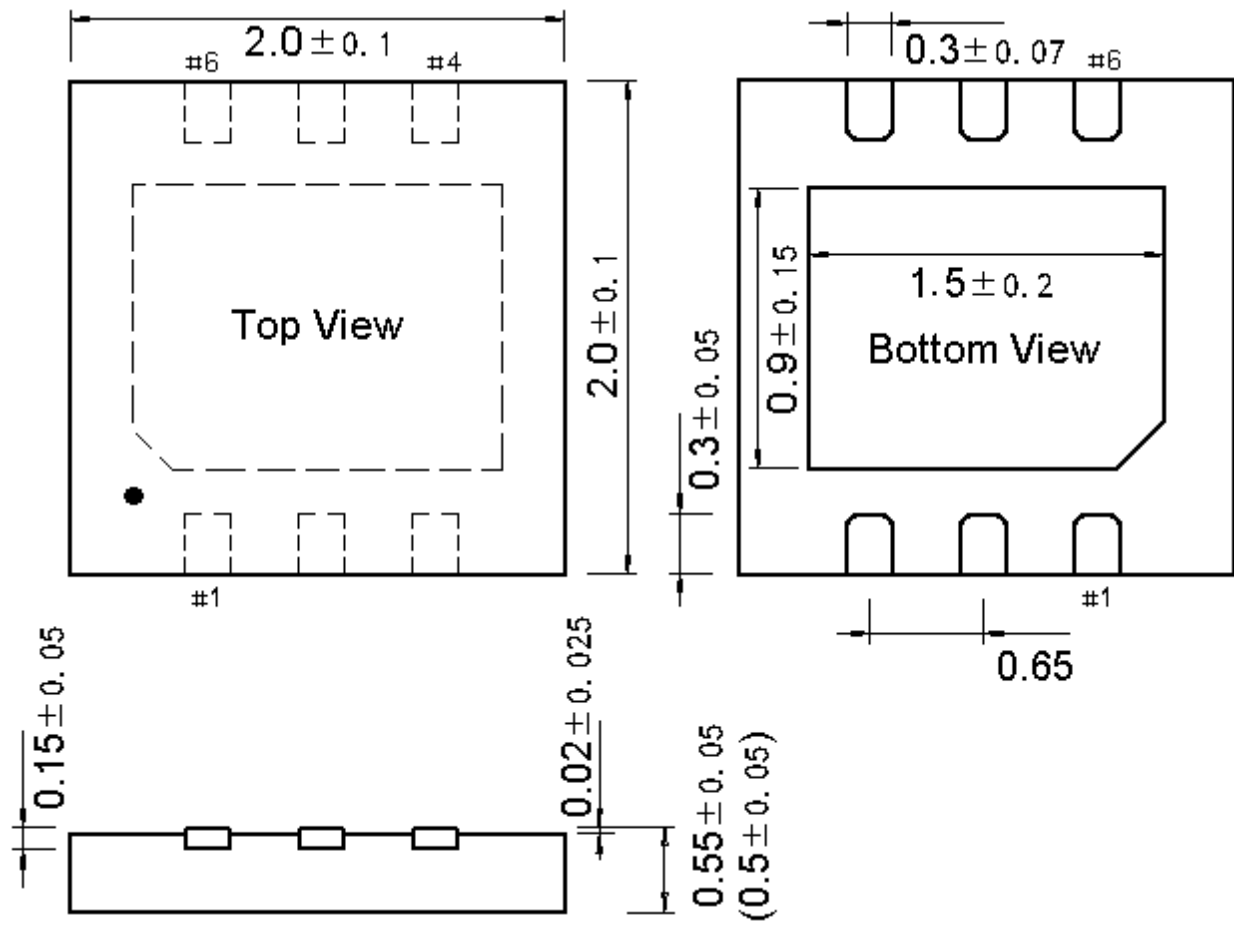


DFN Type

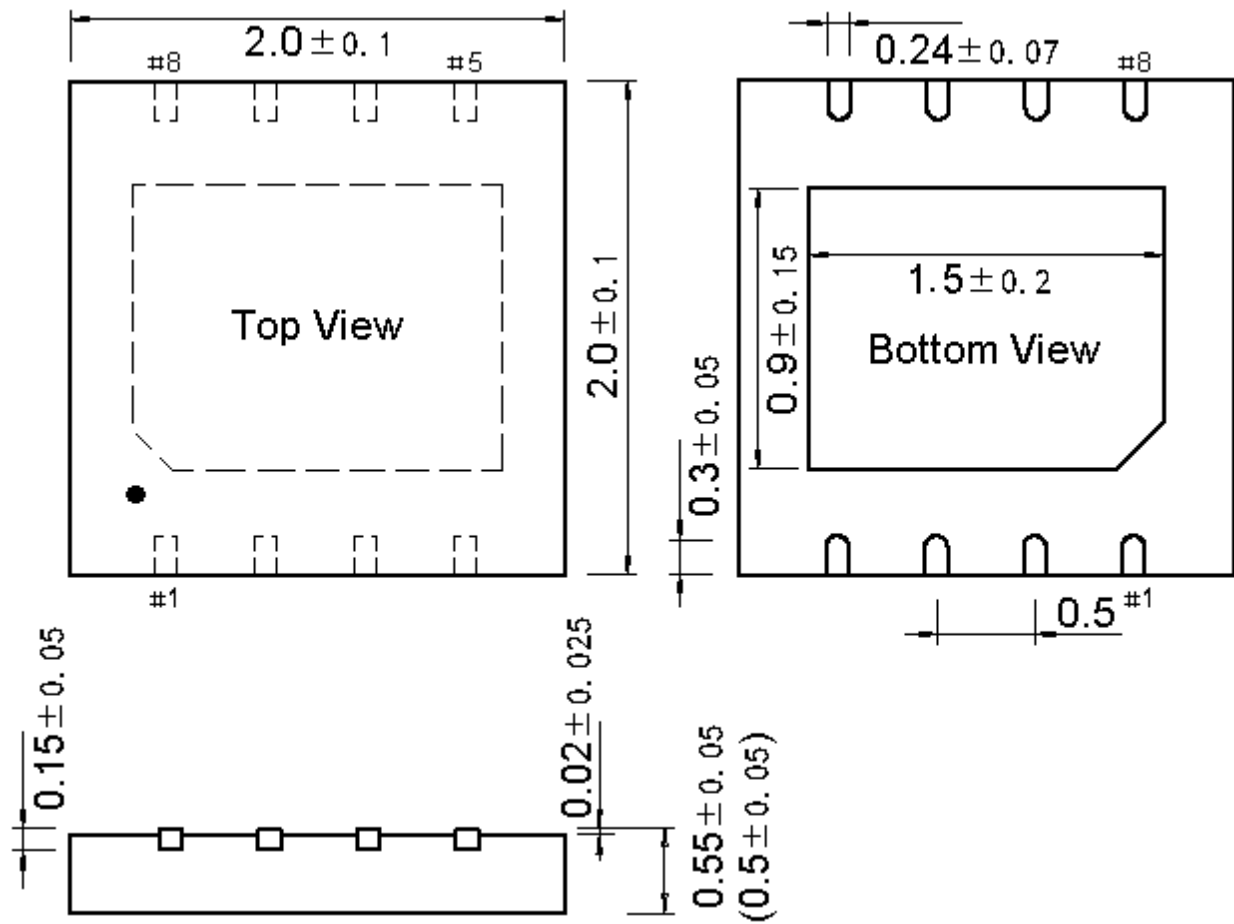
DFN6X12 (DFN6-1.2*1.2*0.45-0.4)



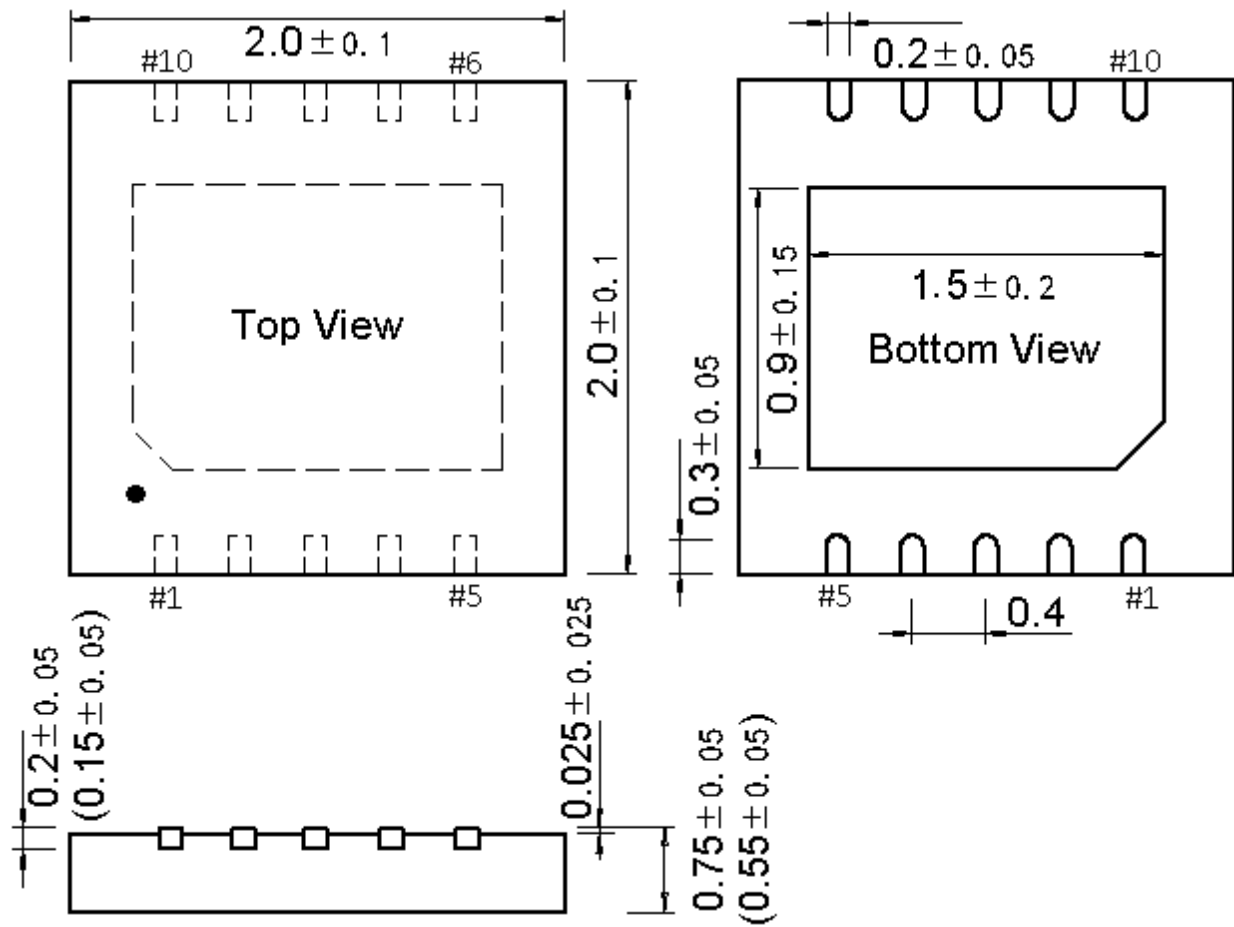
. DFN6 (DFN6-2*2)



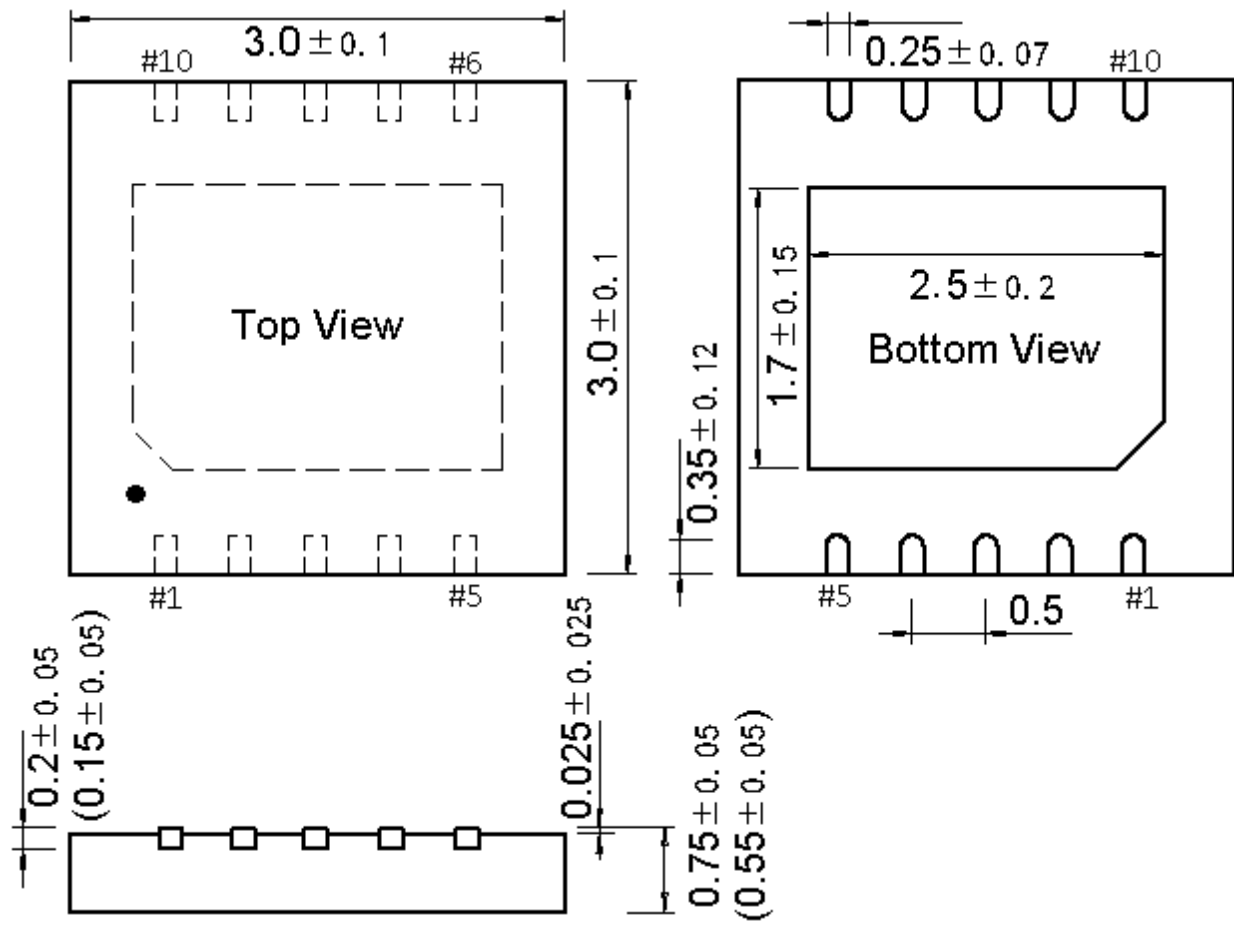
. DFN8 (DFN8-2*2)



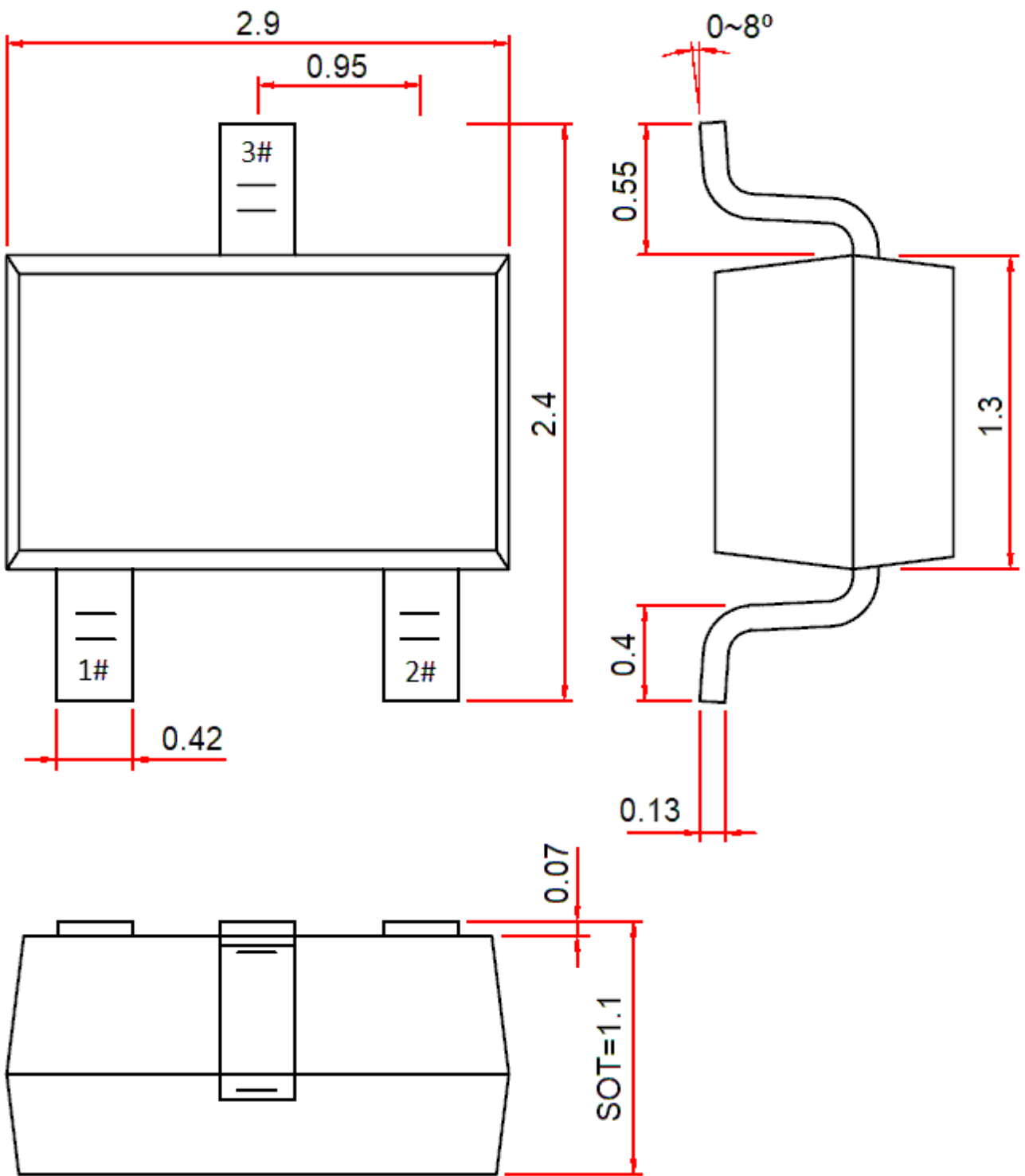
• **DFN10 (DFN10-2*2)**



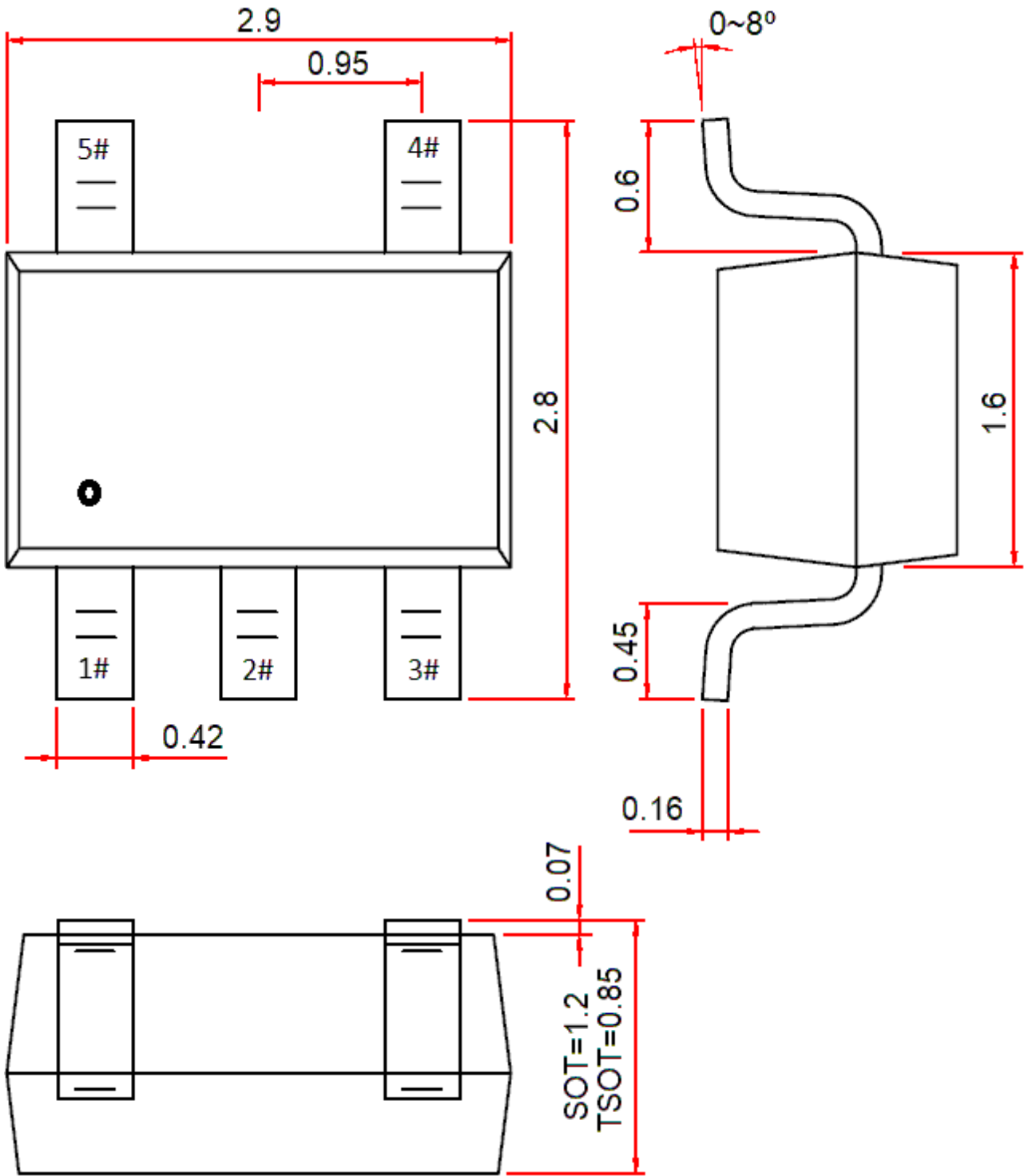
• **DFN10X3 (DFN10-3*3)**



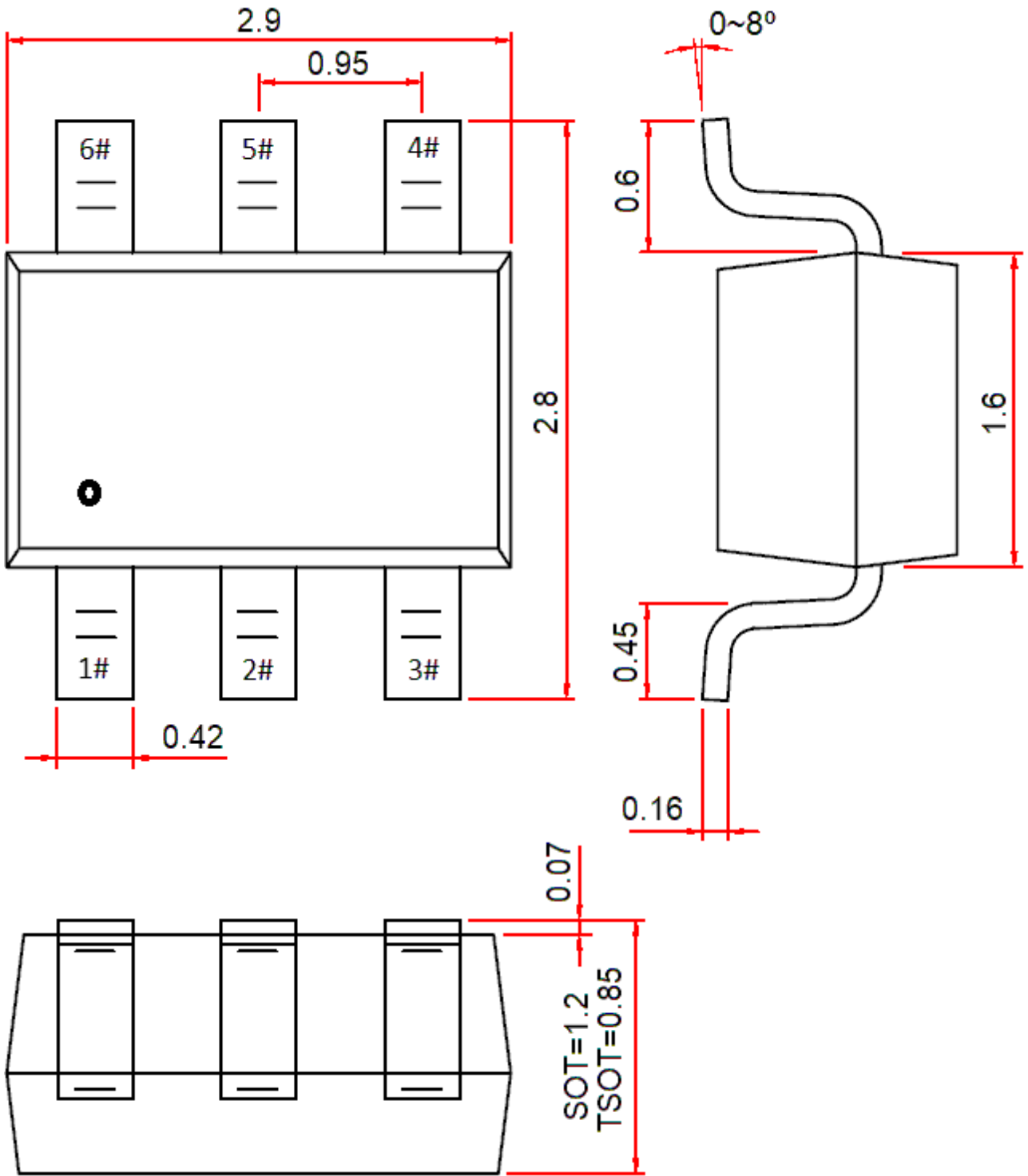
SOT Type
· SOT23-3



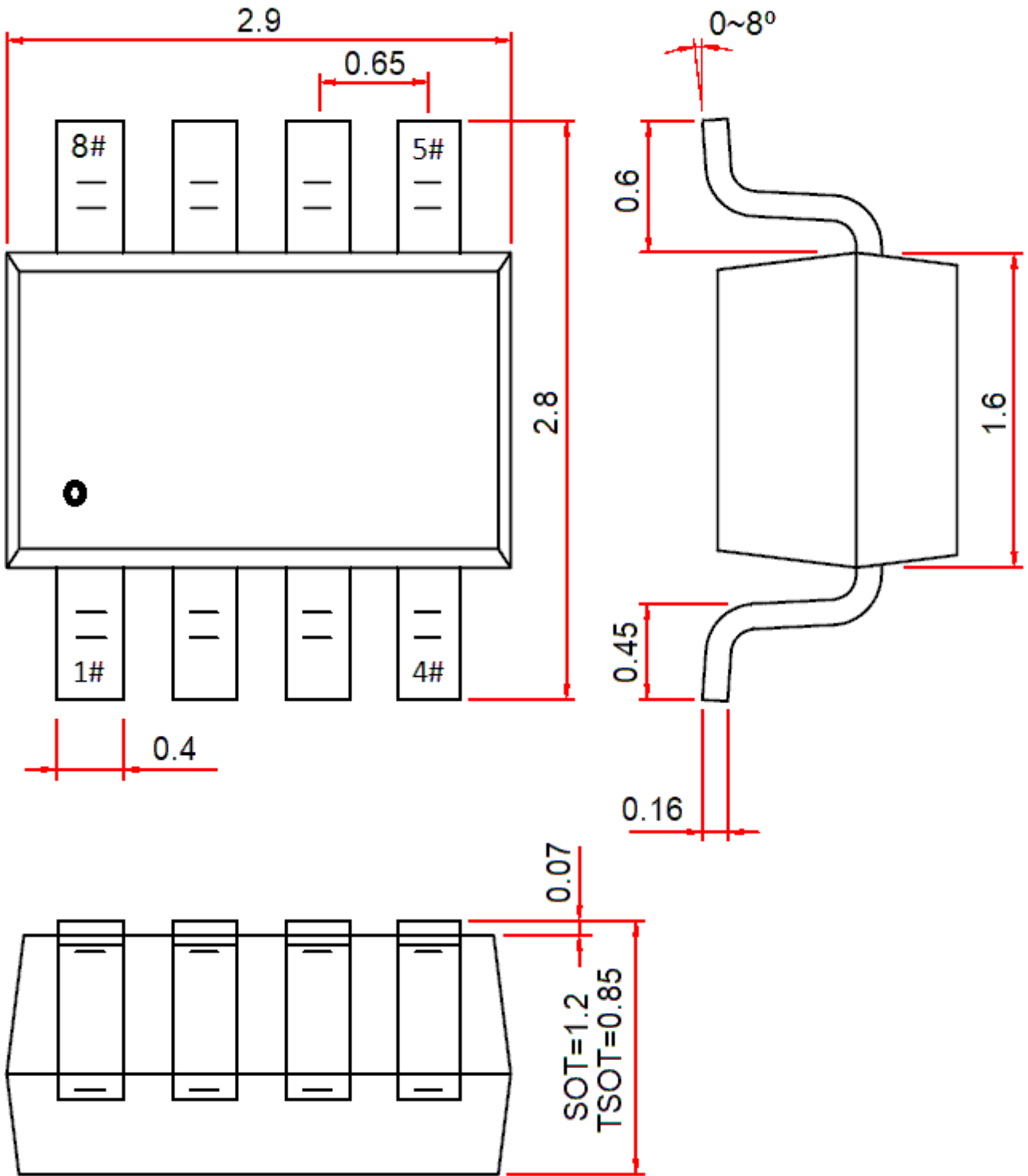
• SOT23-5, TSOT23-5L



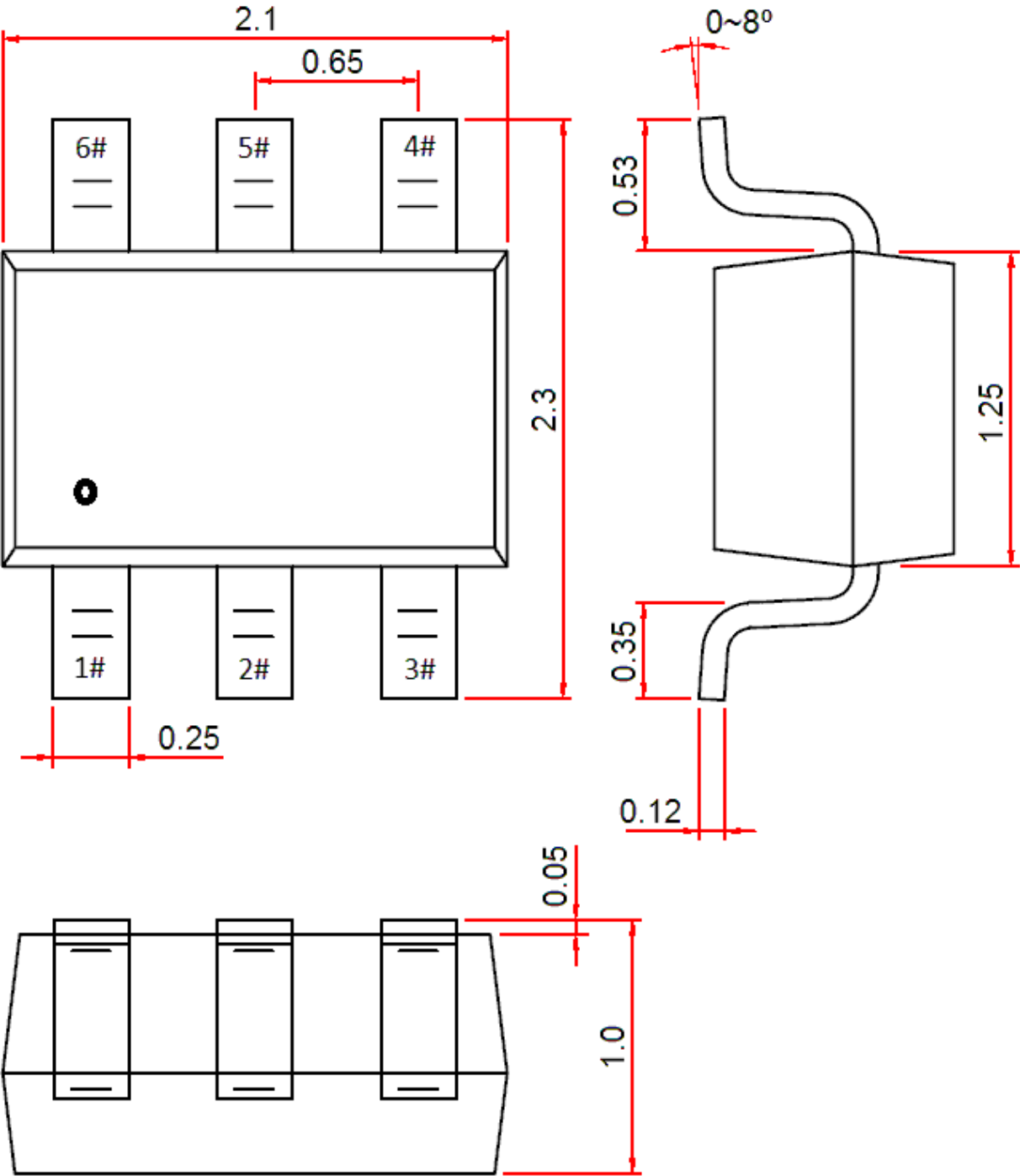
• SOT23-6, TSOT23-6L



· SOT23-8, TSOT23-8L



• SOT363 (SC70-6L)



• SOT353 (SC70-5L)

