

Common Package Dimensions for CH Series ICs

Version: 3F

<https://wch-ic.com>

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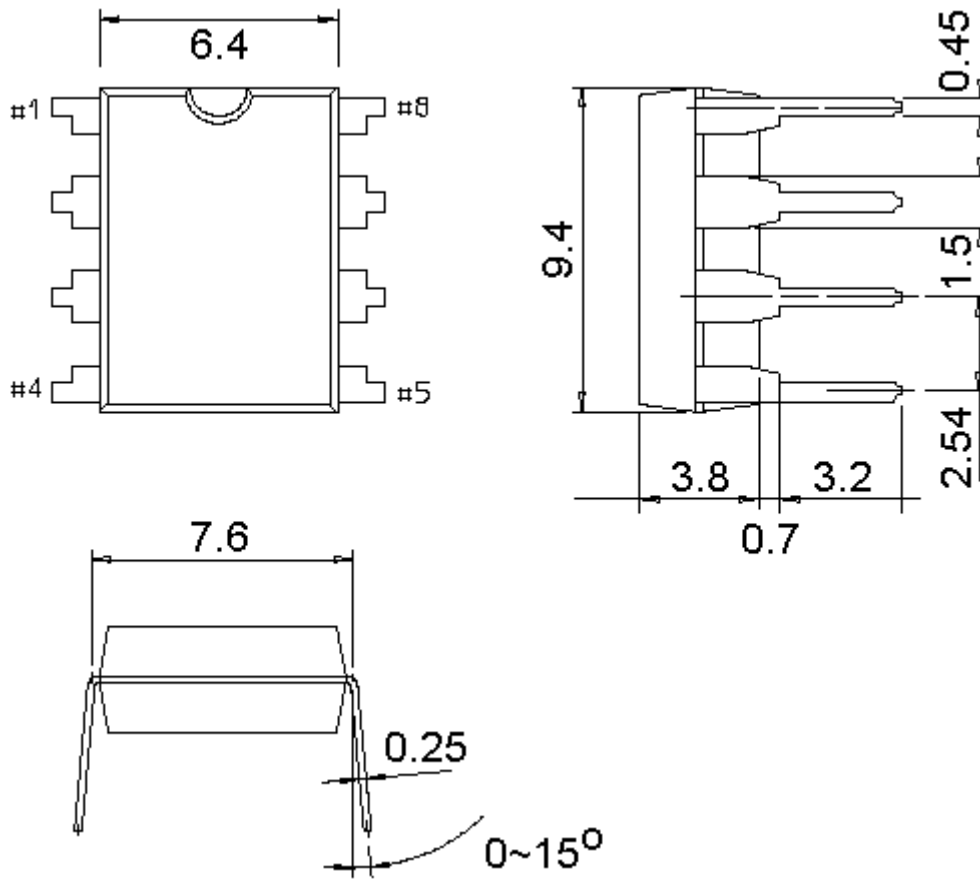
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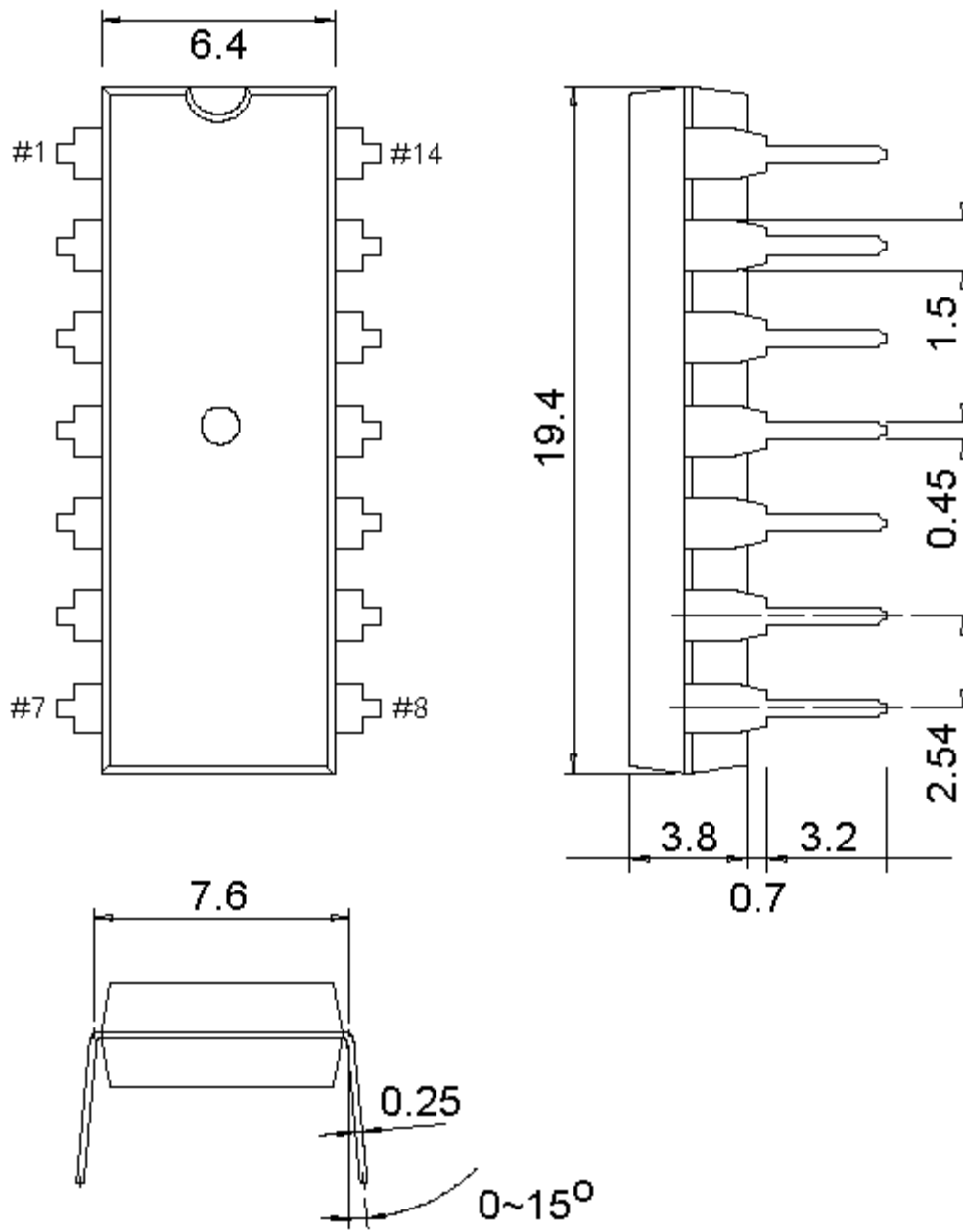
*Note: All dimensions are in mm (millimeters),
and the lead center spacing is always a nominal value, with no error;
other than that, the dimensional error is not greater than $\pm 0.2\text{mm}$ or $\pm 10\%$, whichever is greater.*

DIP Type (PDIP)

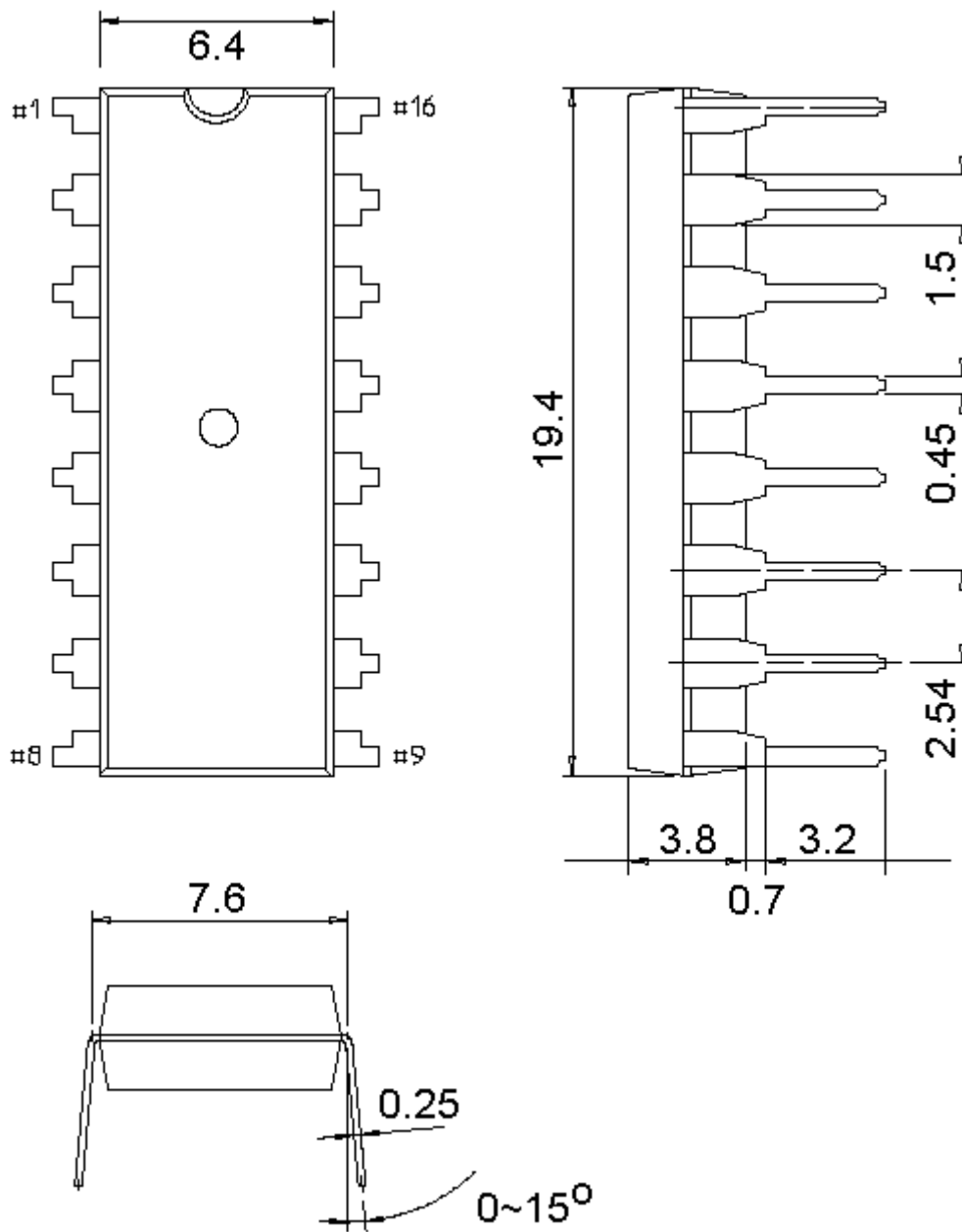
DIP8



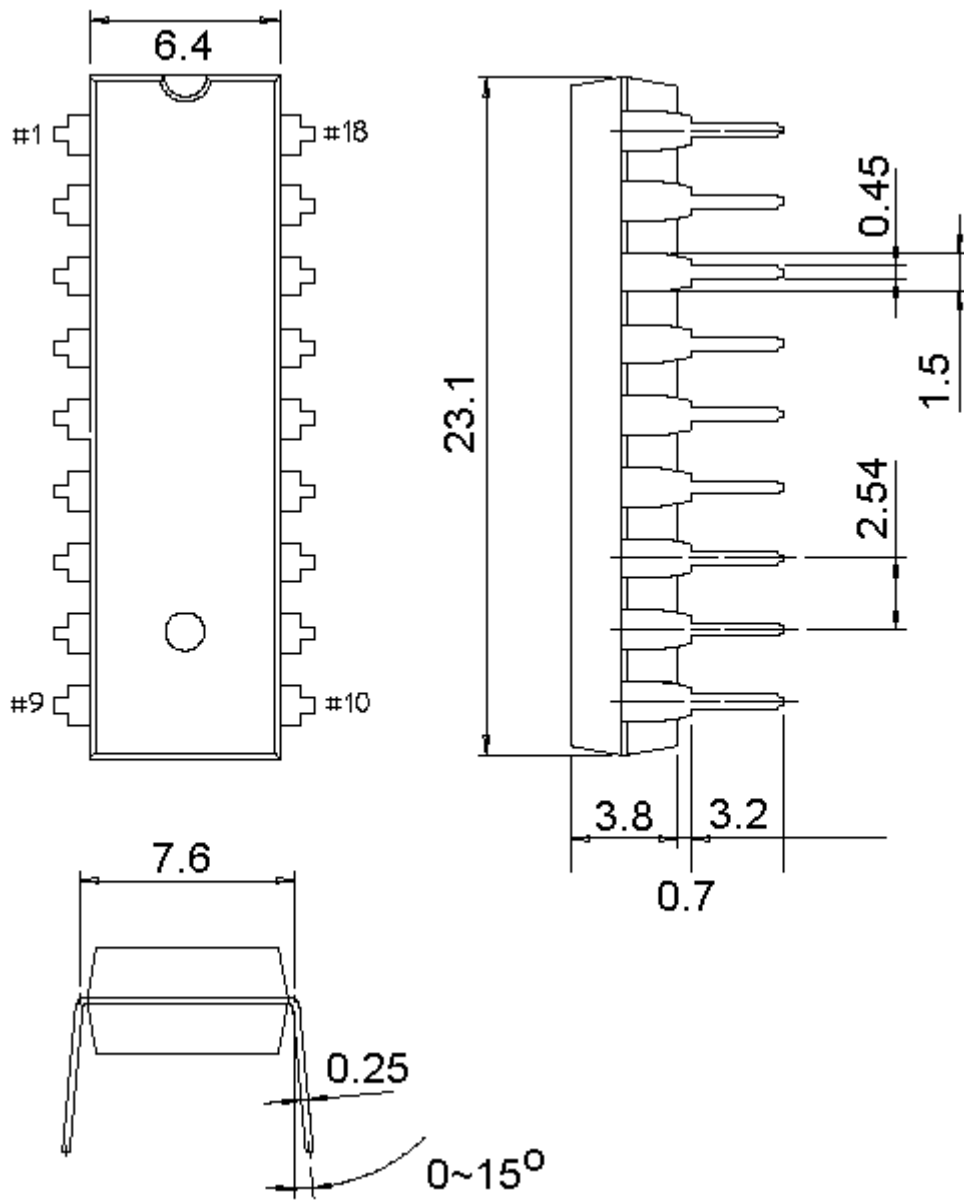
DIP14



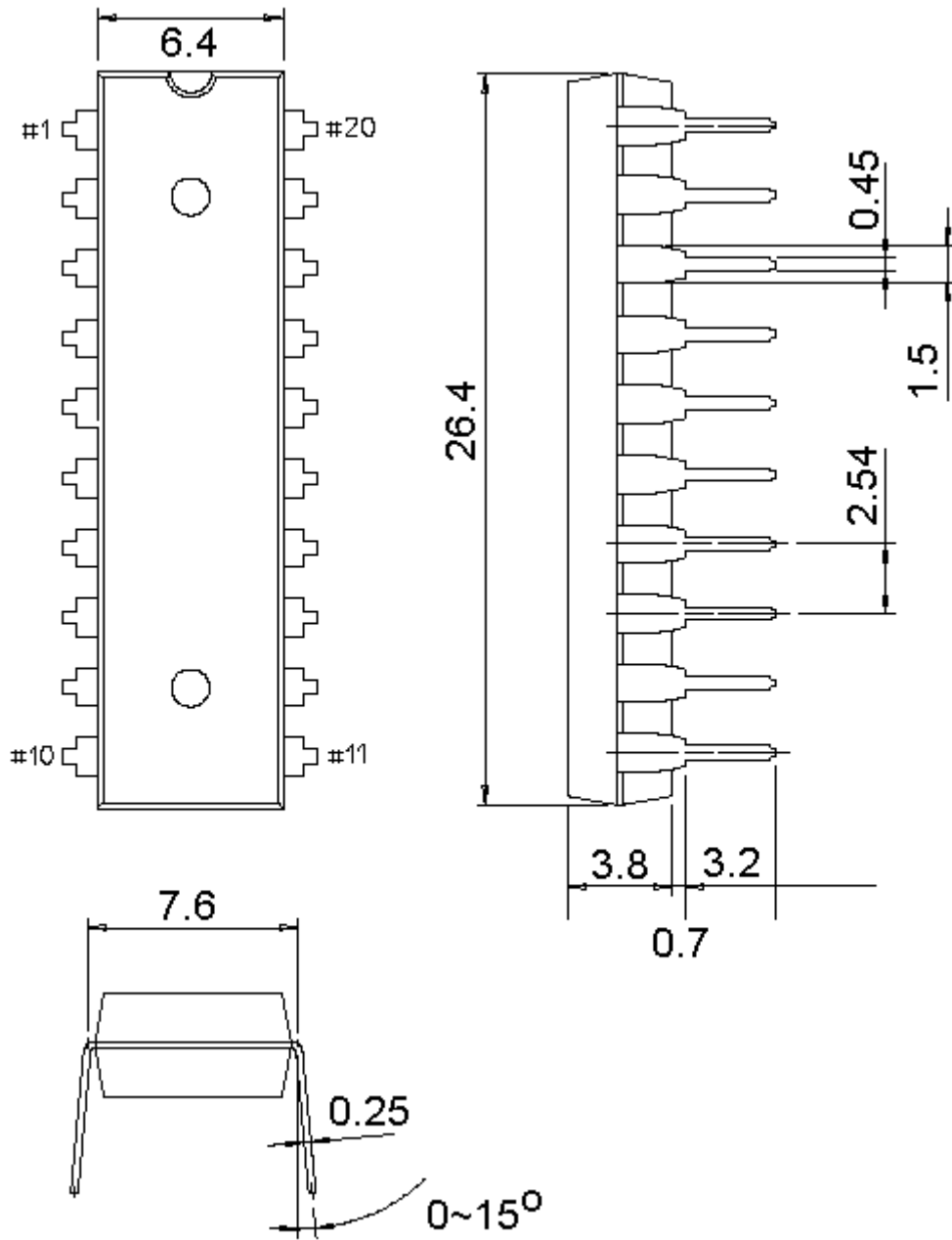
DIP16



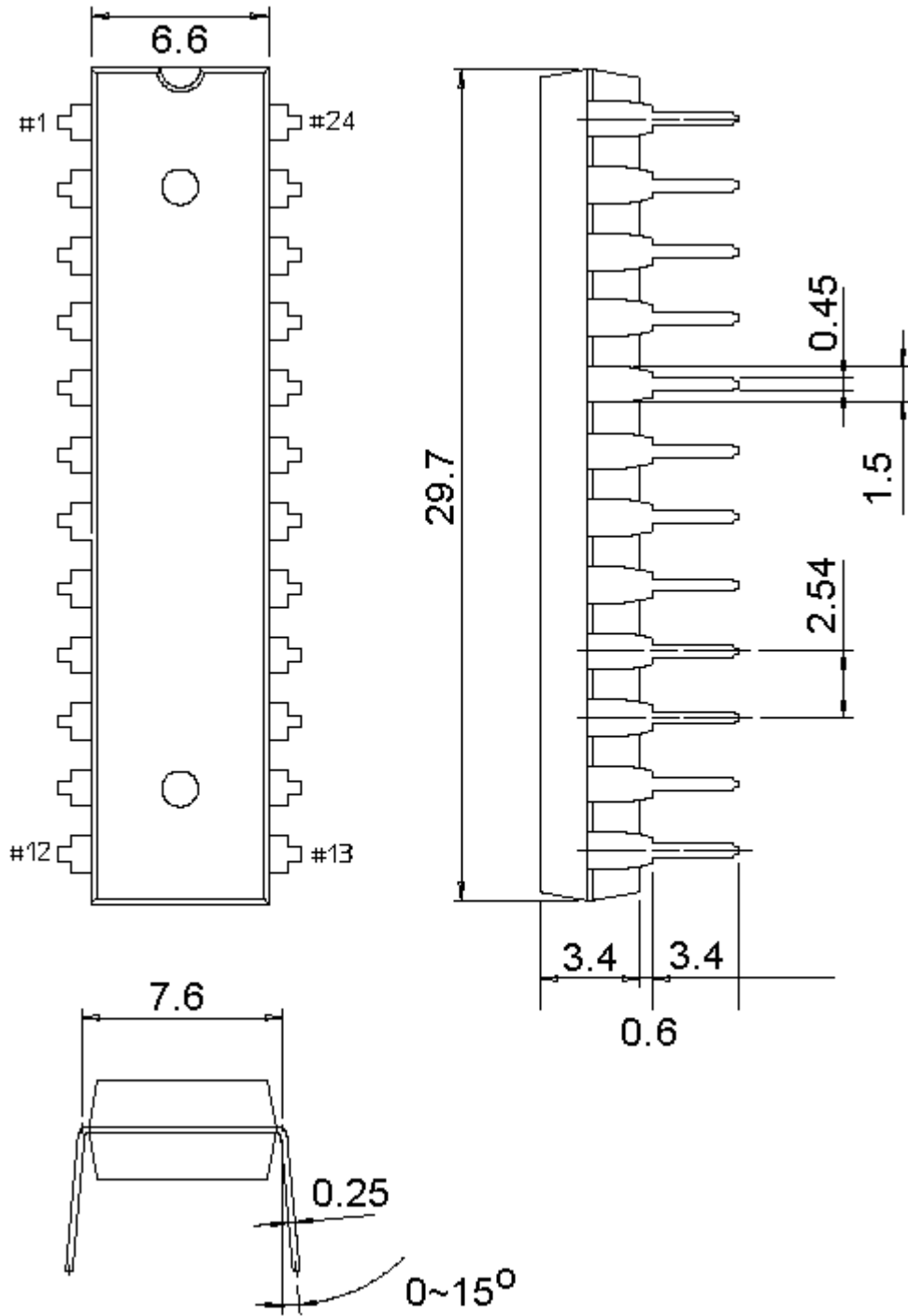
DIP18



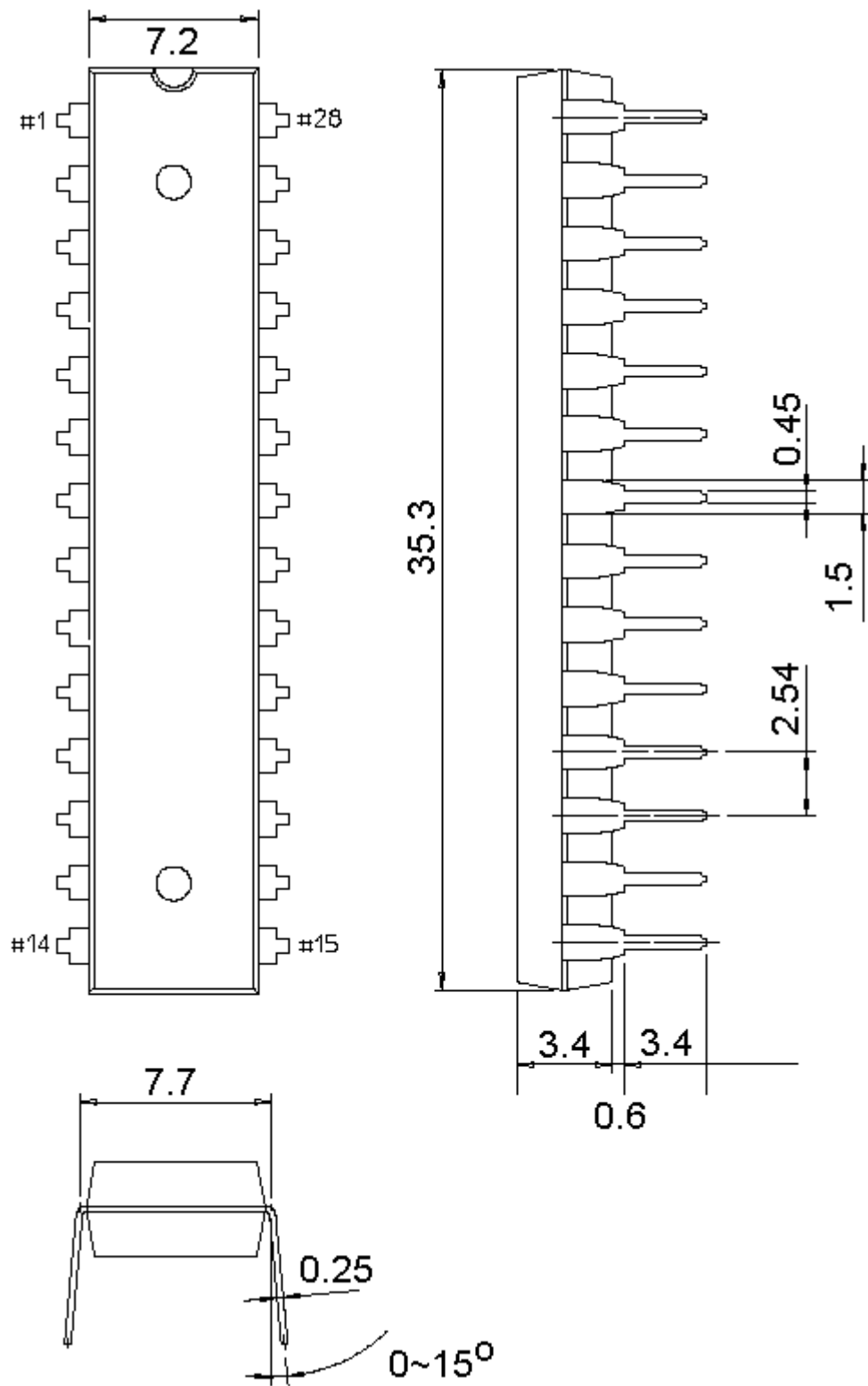
DIP20



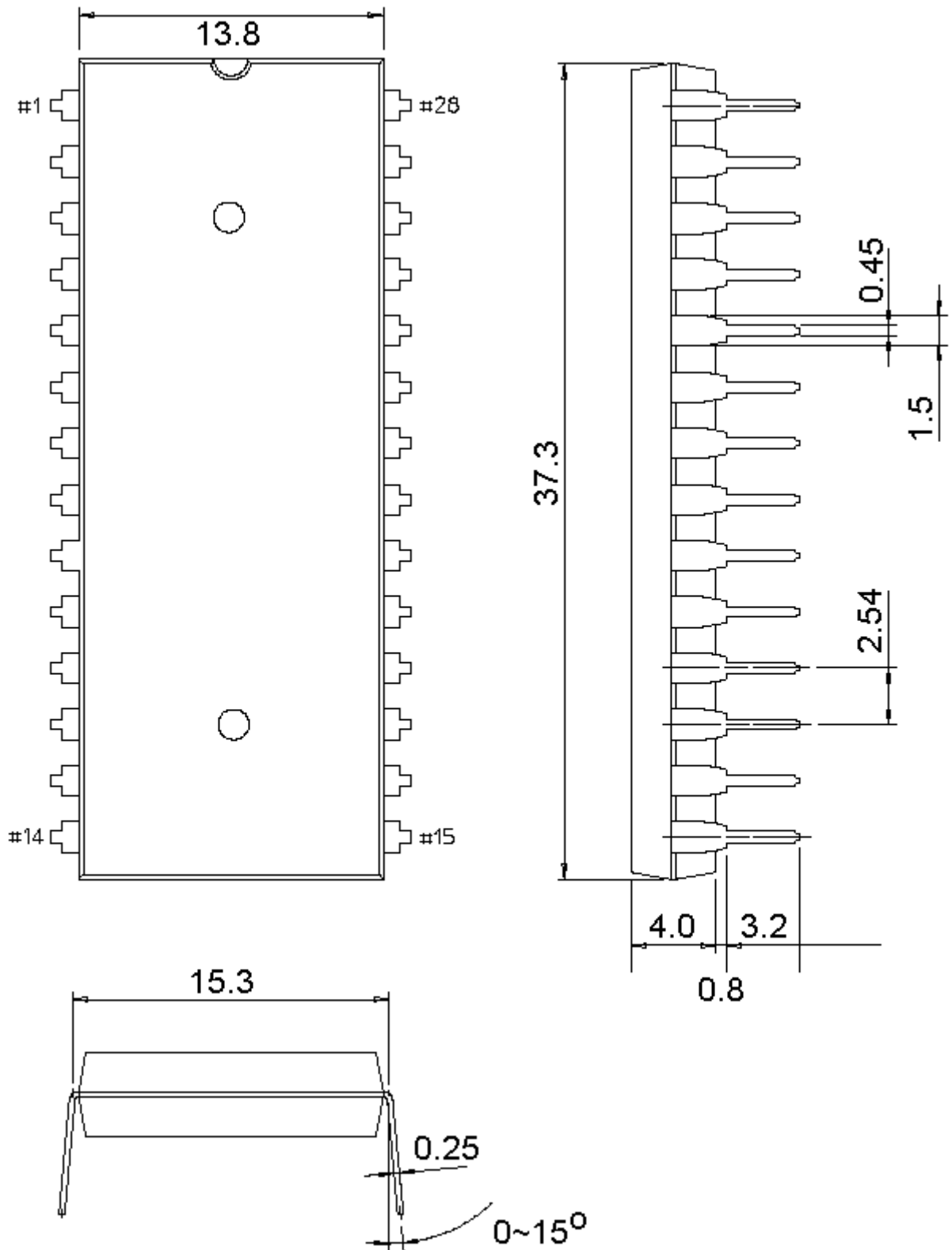
DIP24S (SKDIP24, DIP24-300mil)



DIP28S (SKDIP28, DIP28-300mil)

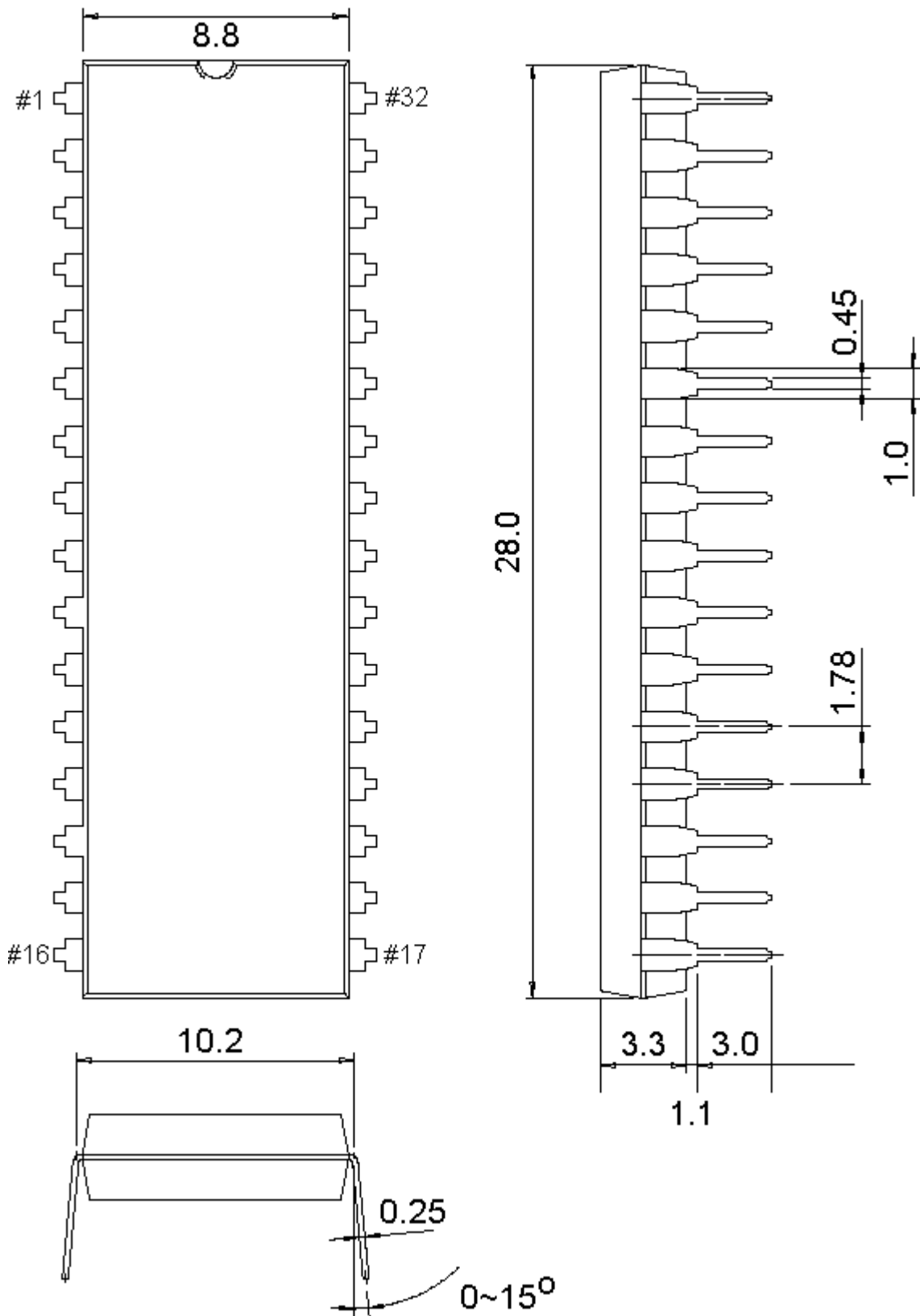


DIP28 (DIP28W, DIP28-600mil)



SDIP28 (SDIP28-400mil)

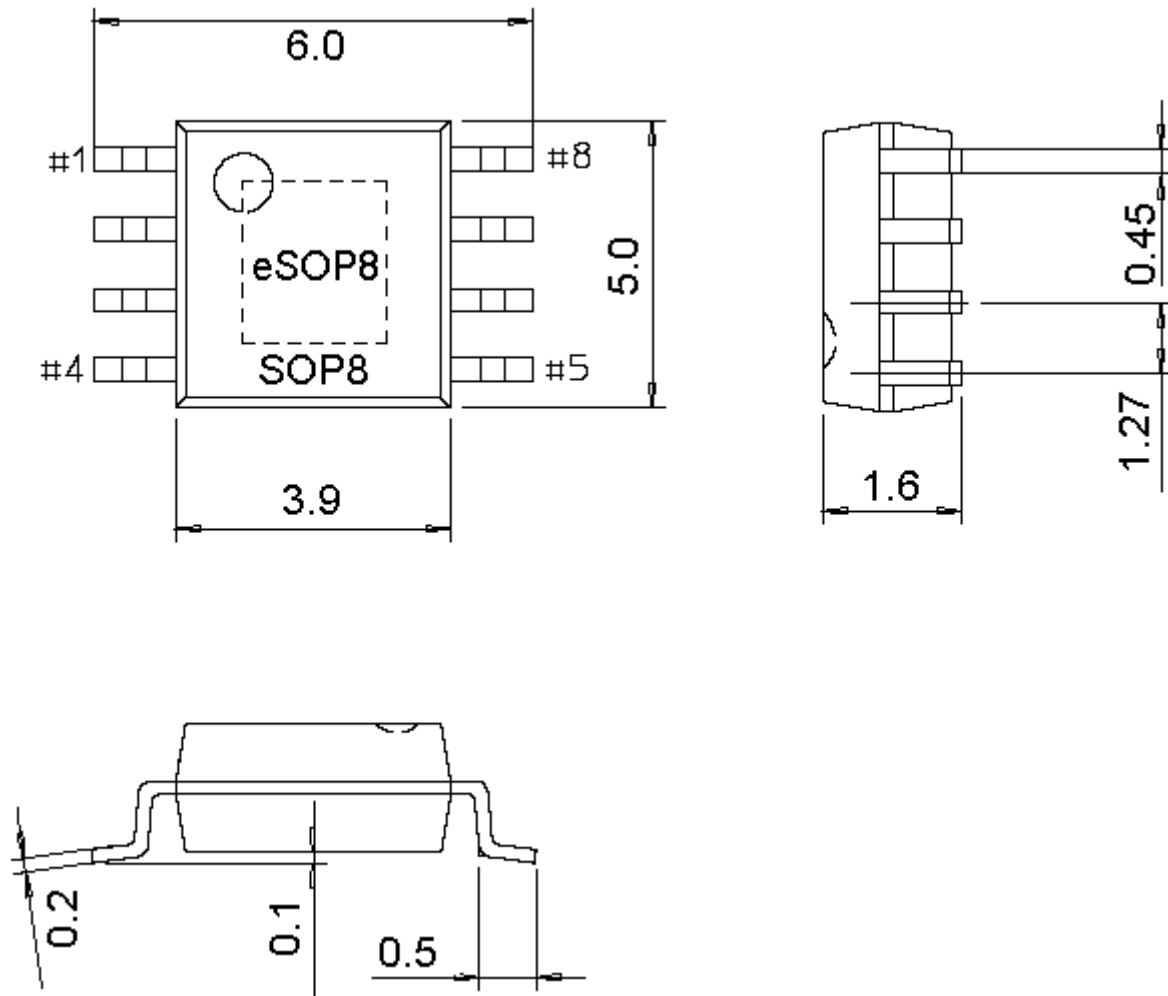
SDIP32 (SDIP32-400mil)



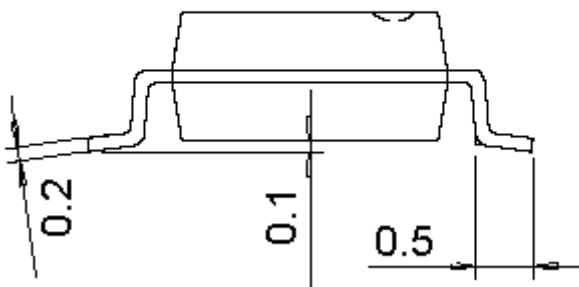
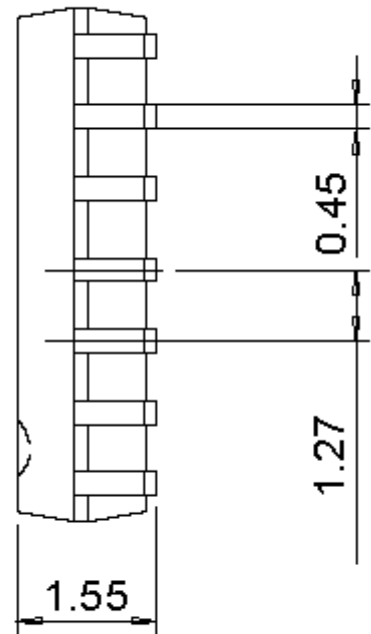
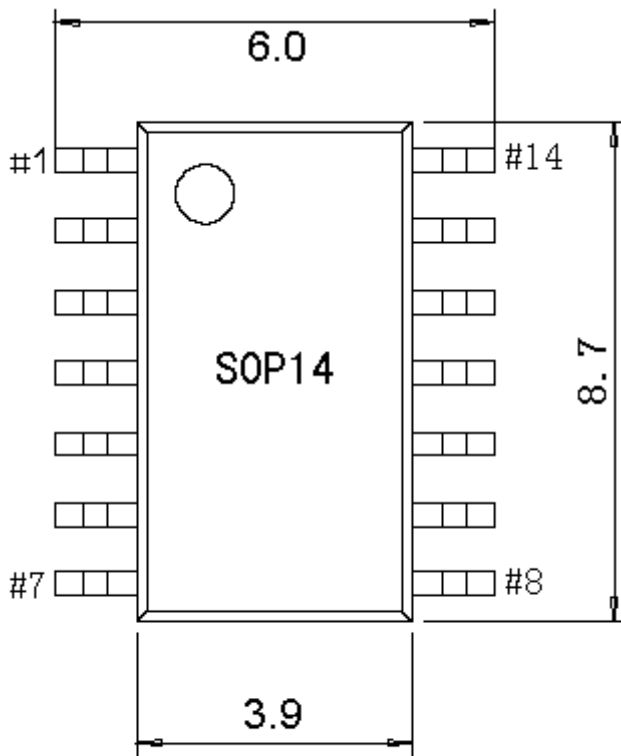
SOP Type (SOIC)

SOP8, eSOP8

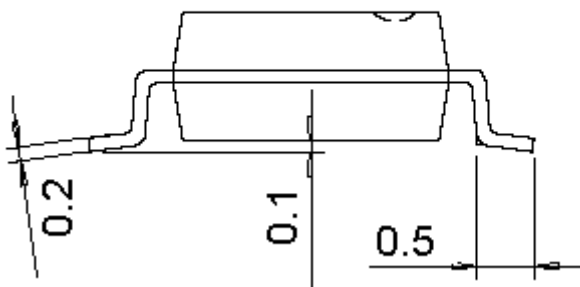
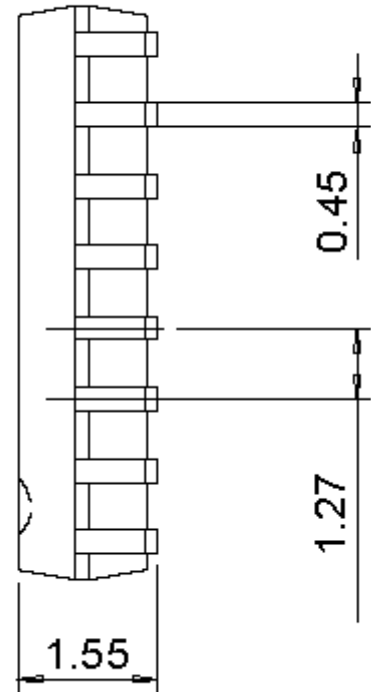
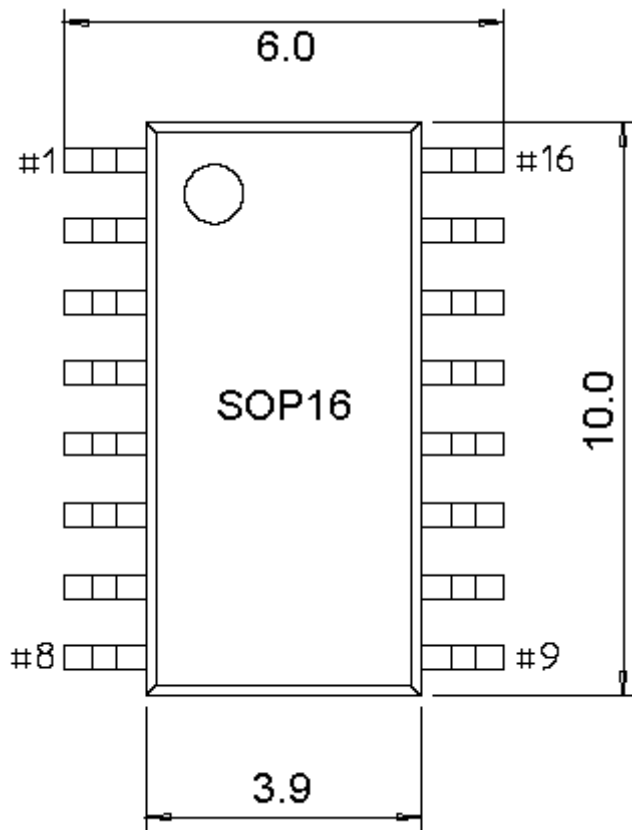
eSOP8 Exposed Pad: 2.1*3.3, 2.1*2.1



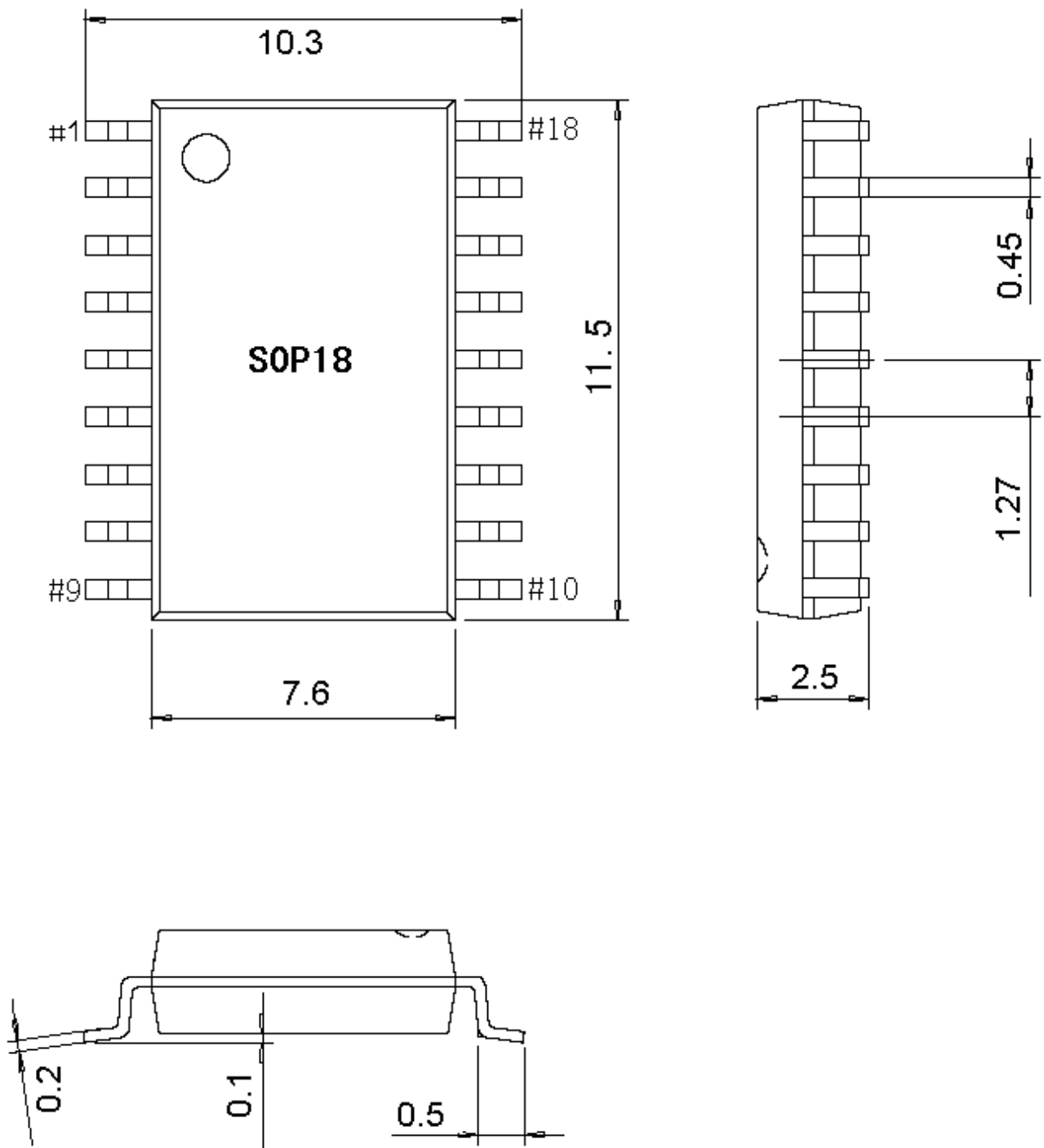
SOP14



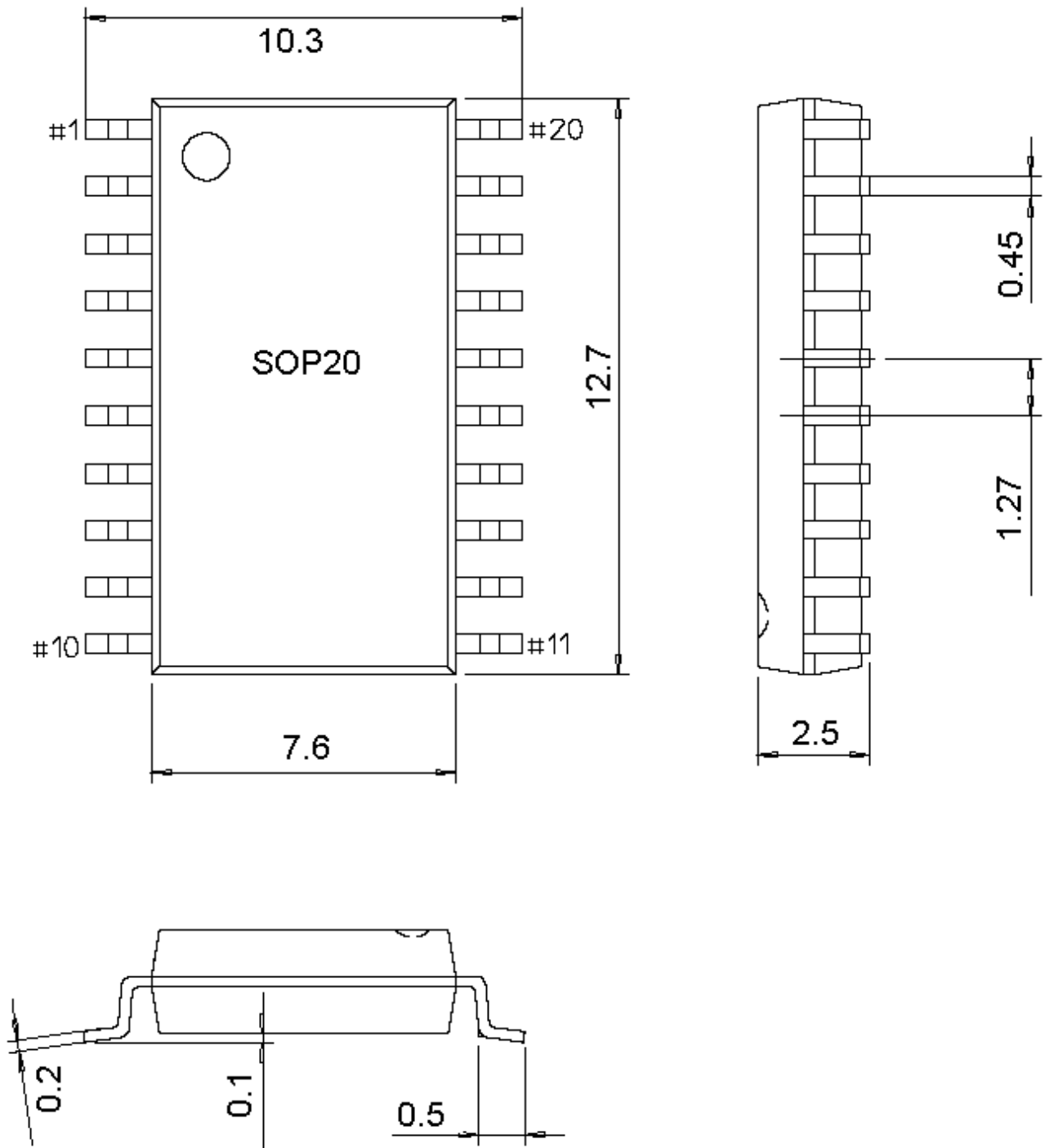
SOP16 (SOP16-150mil)



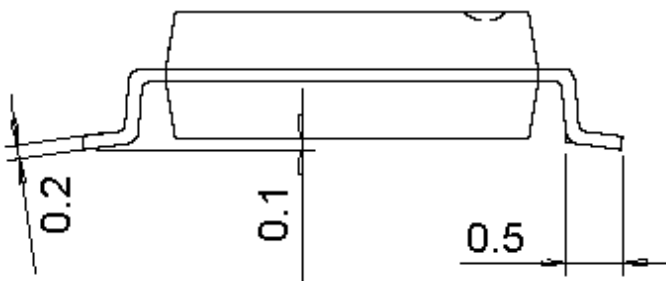
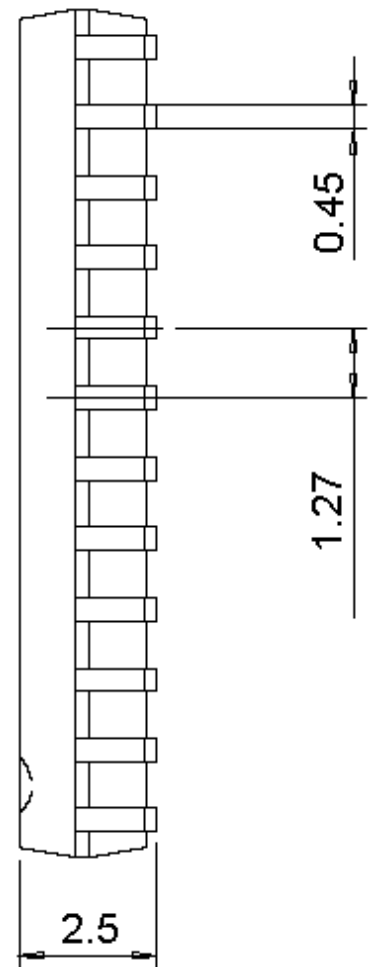
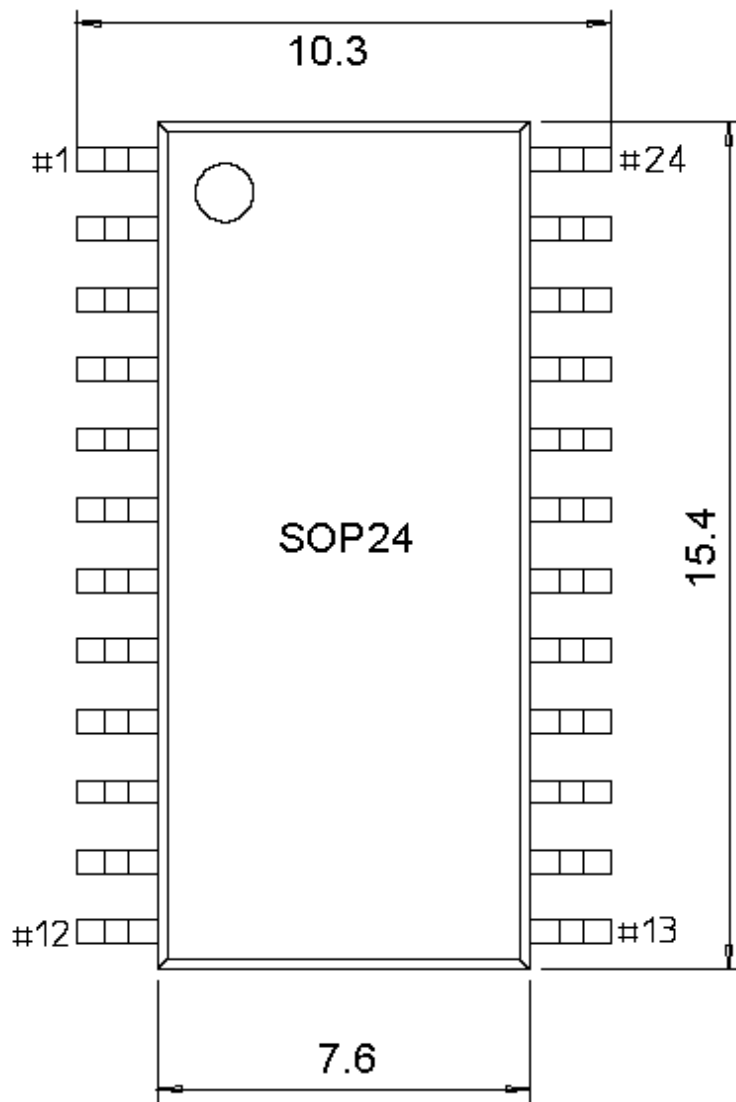
SOP18



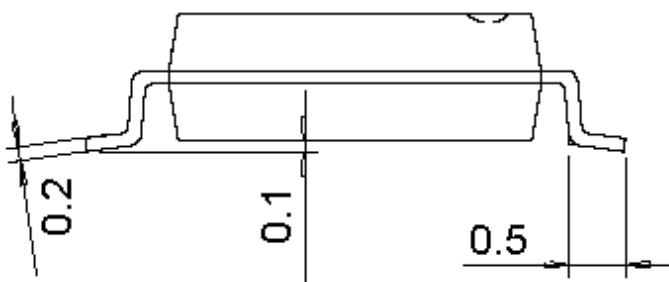
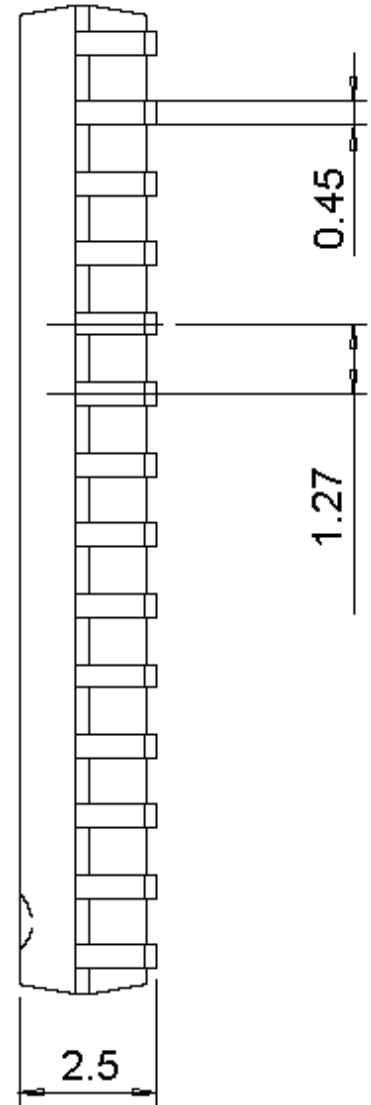
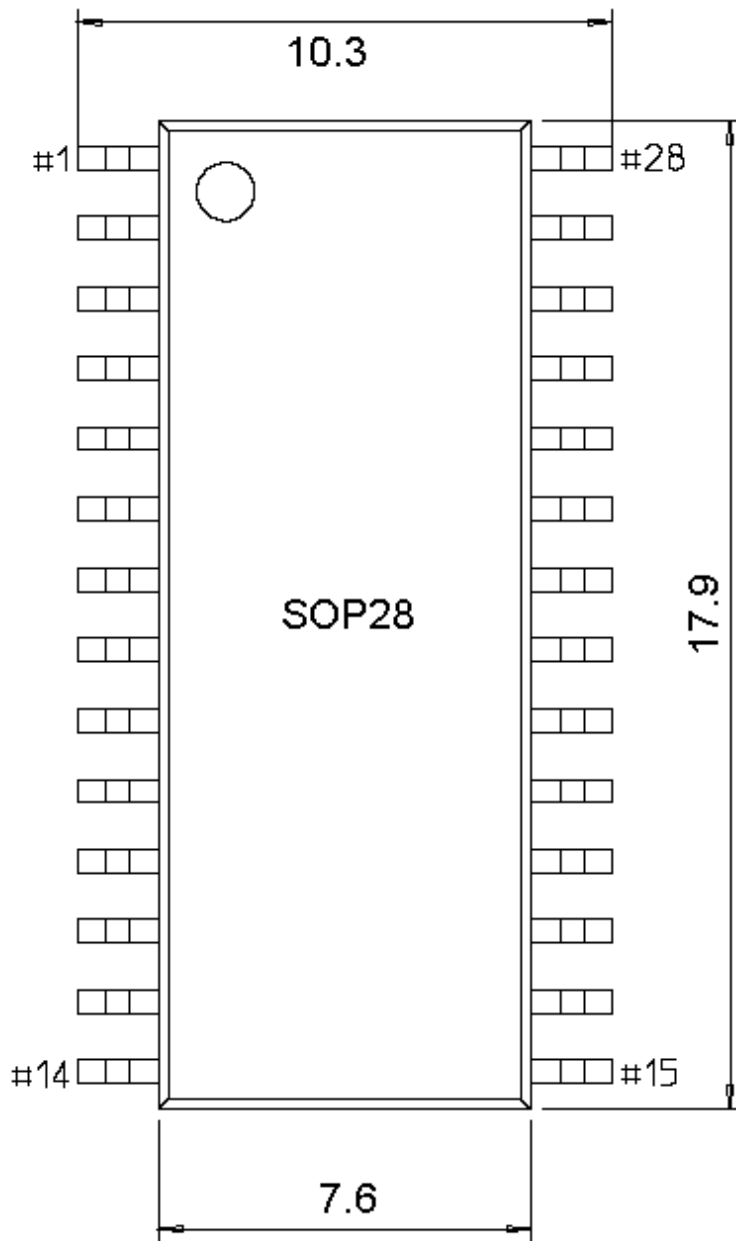
SOP20



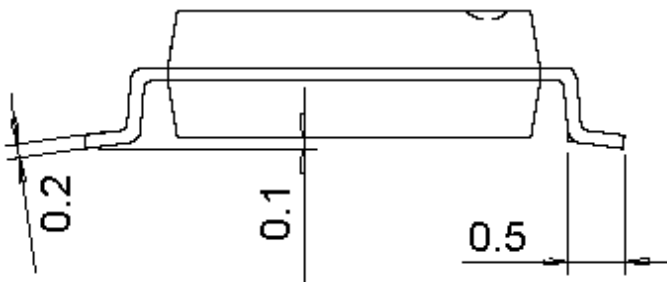
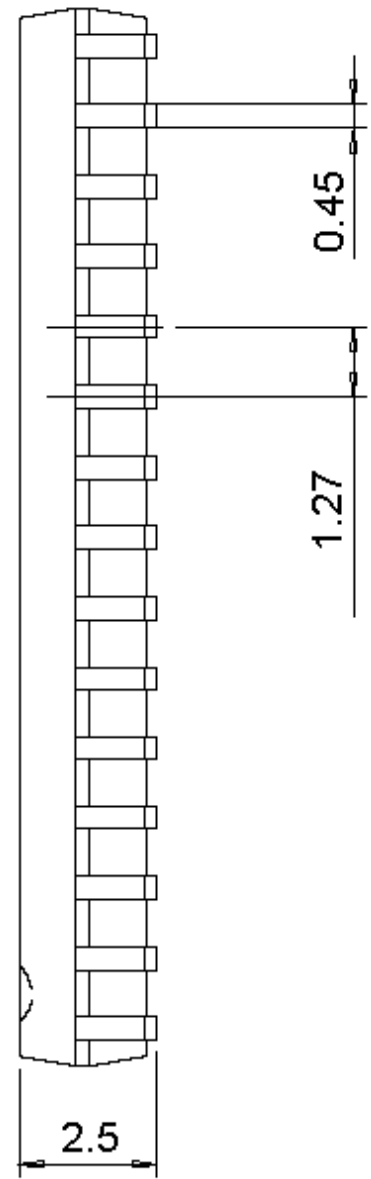
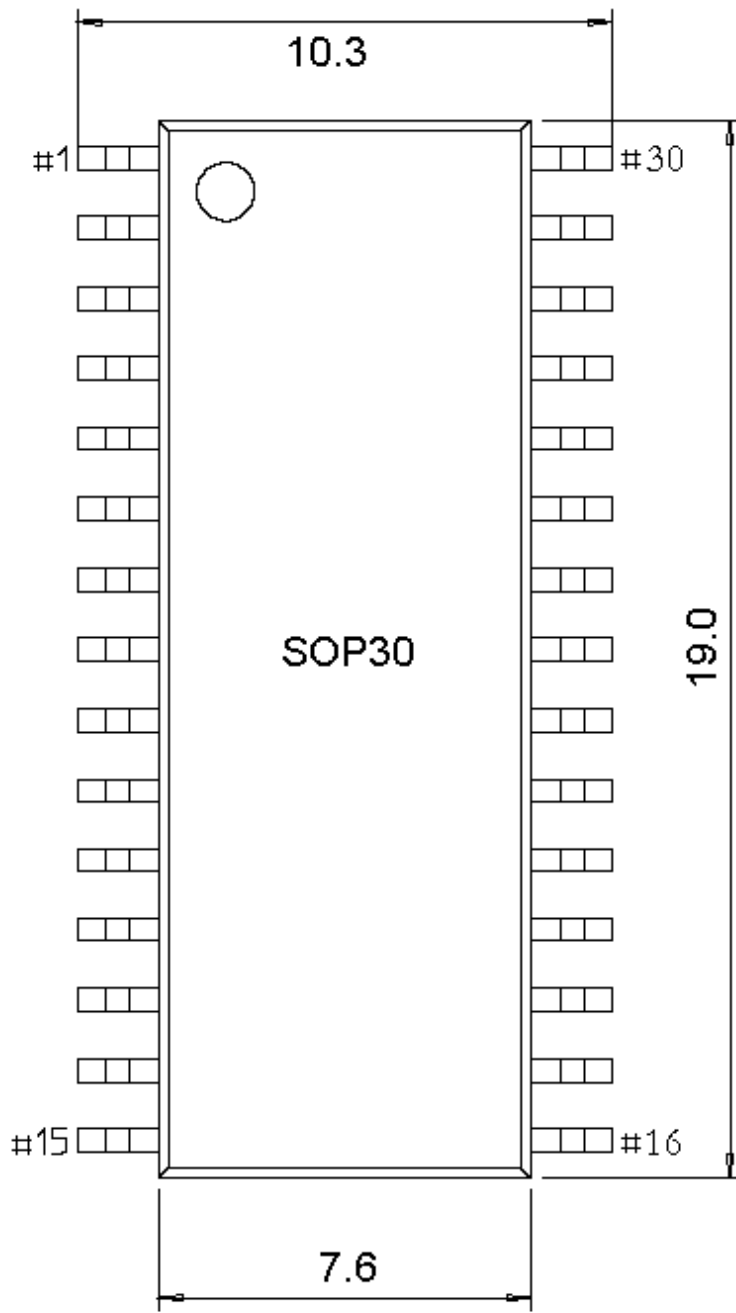
SOP24



SOP28



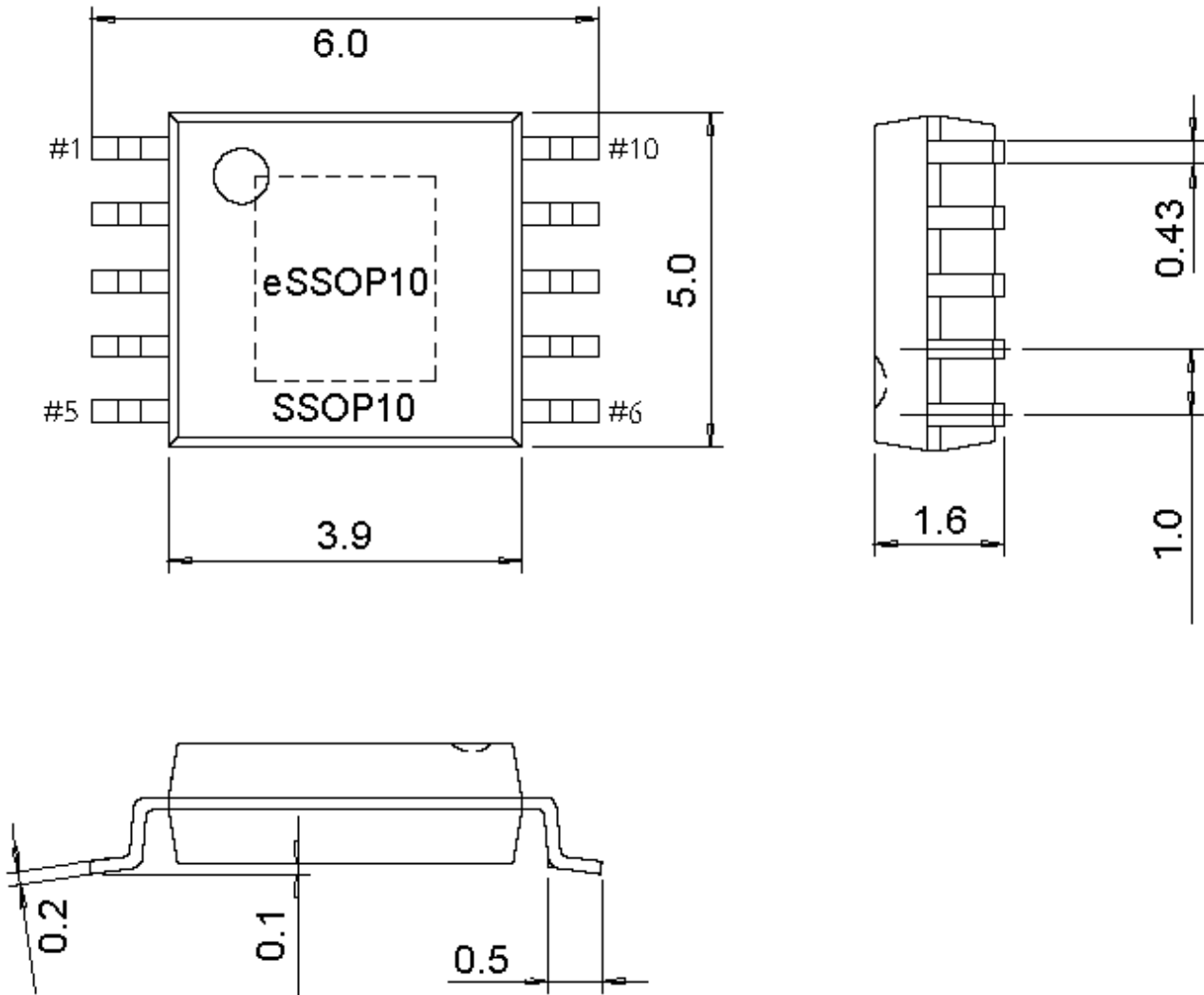
SOP30



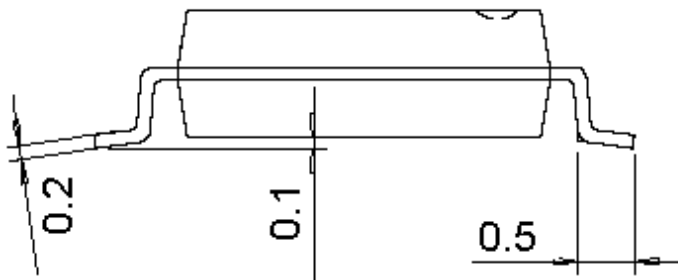
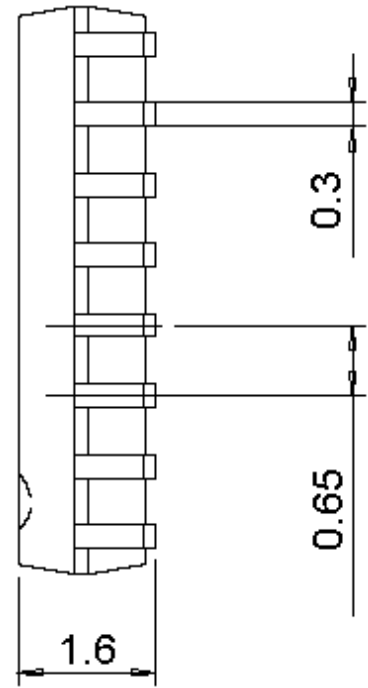
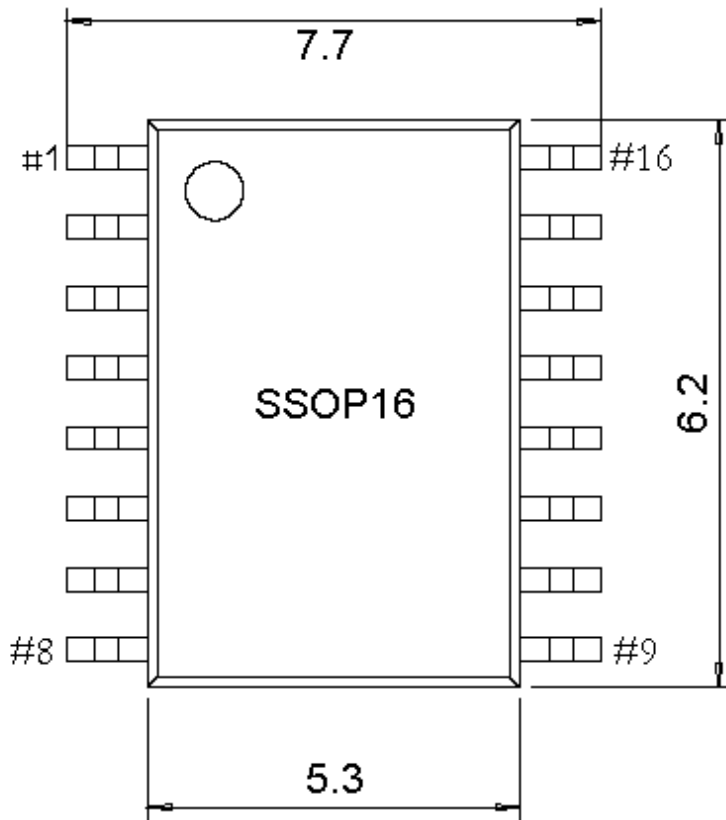
SSOP Type

SSOP10 (SSOP10-150mil-1.00), eSSOP10

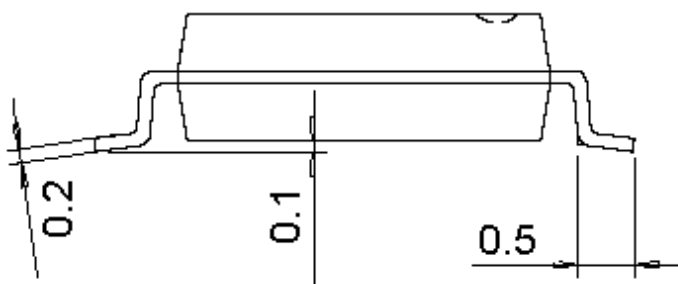
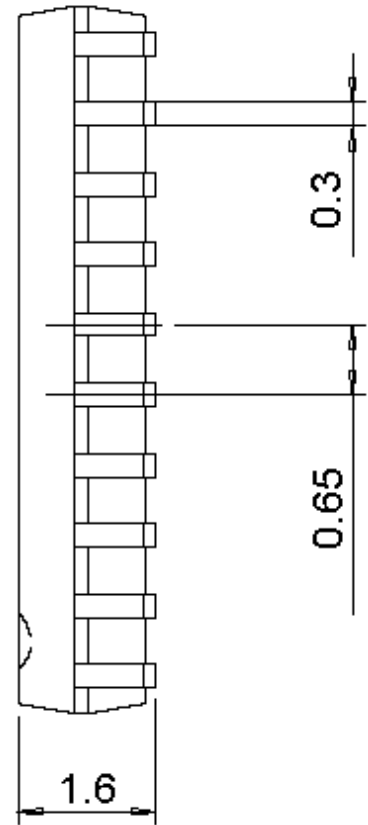
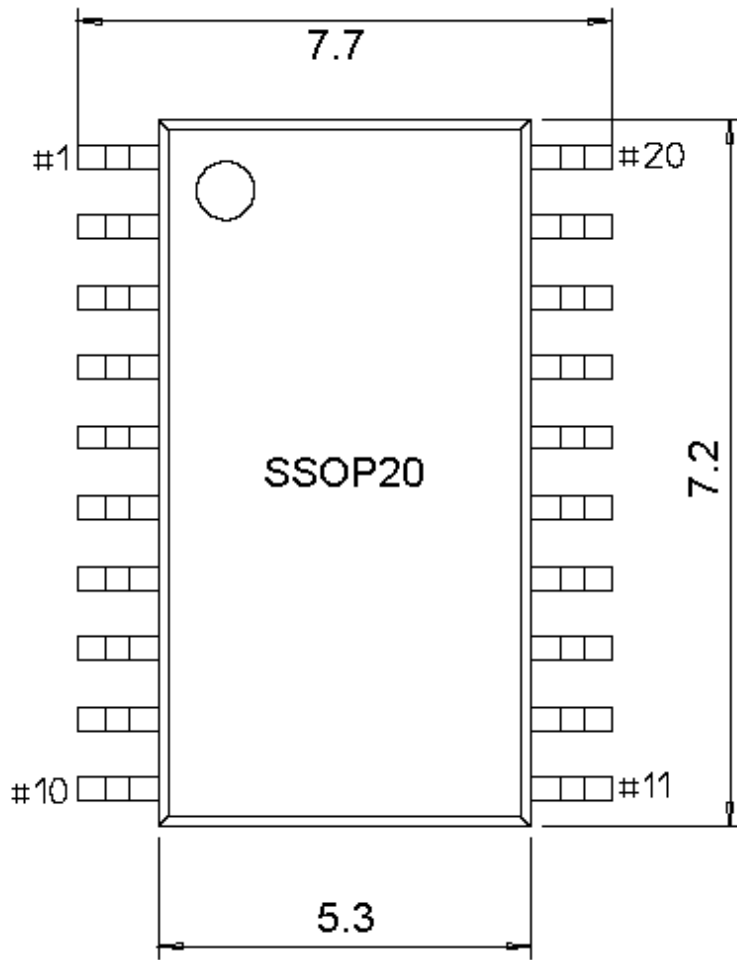
eSSOP10 Exposed Pad: 2.1*3.3



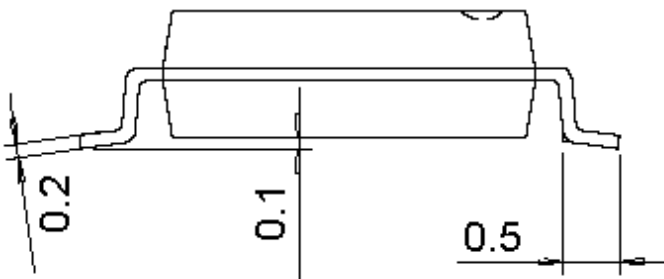
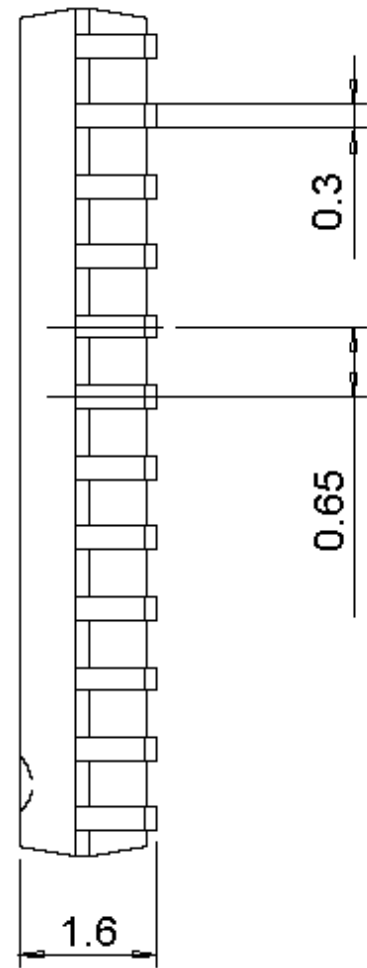
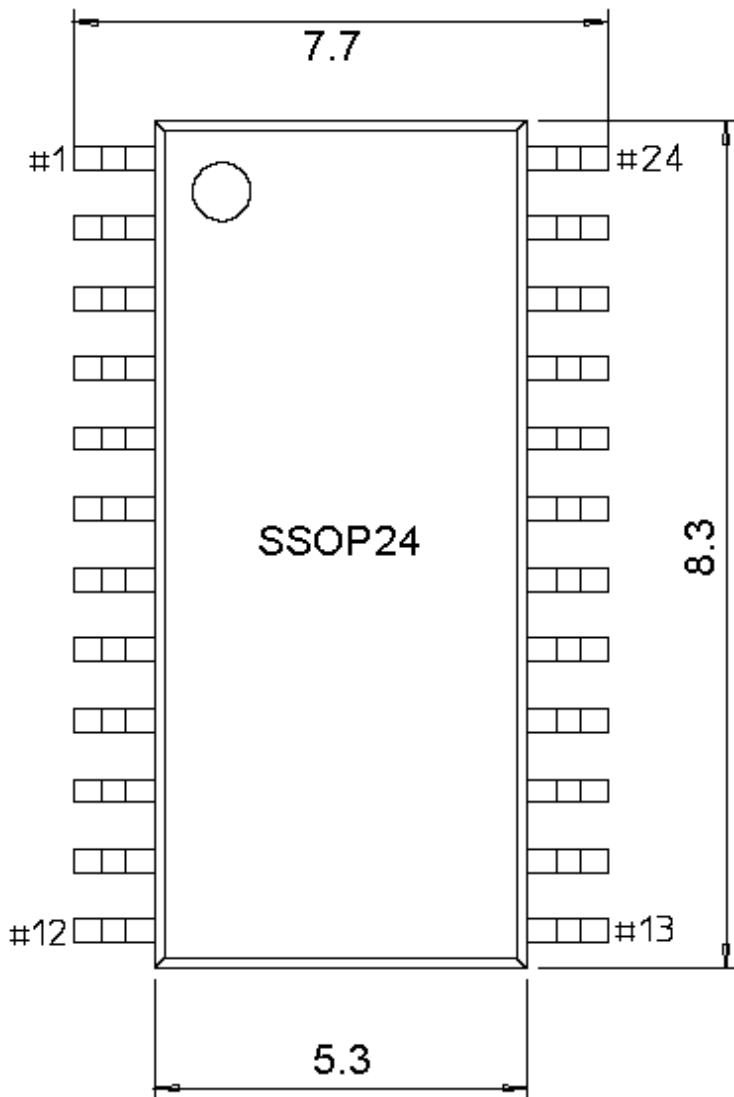
SSOP16 (SSOP16-209mil-0.65)



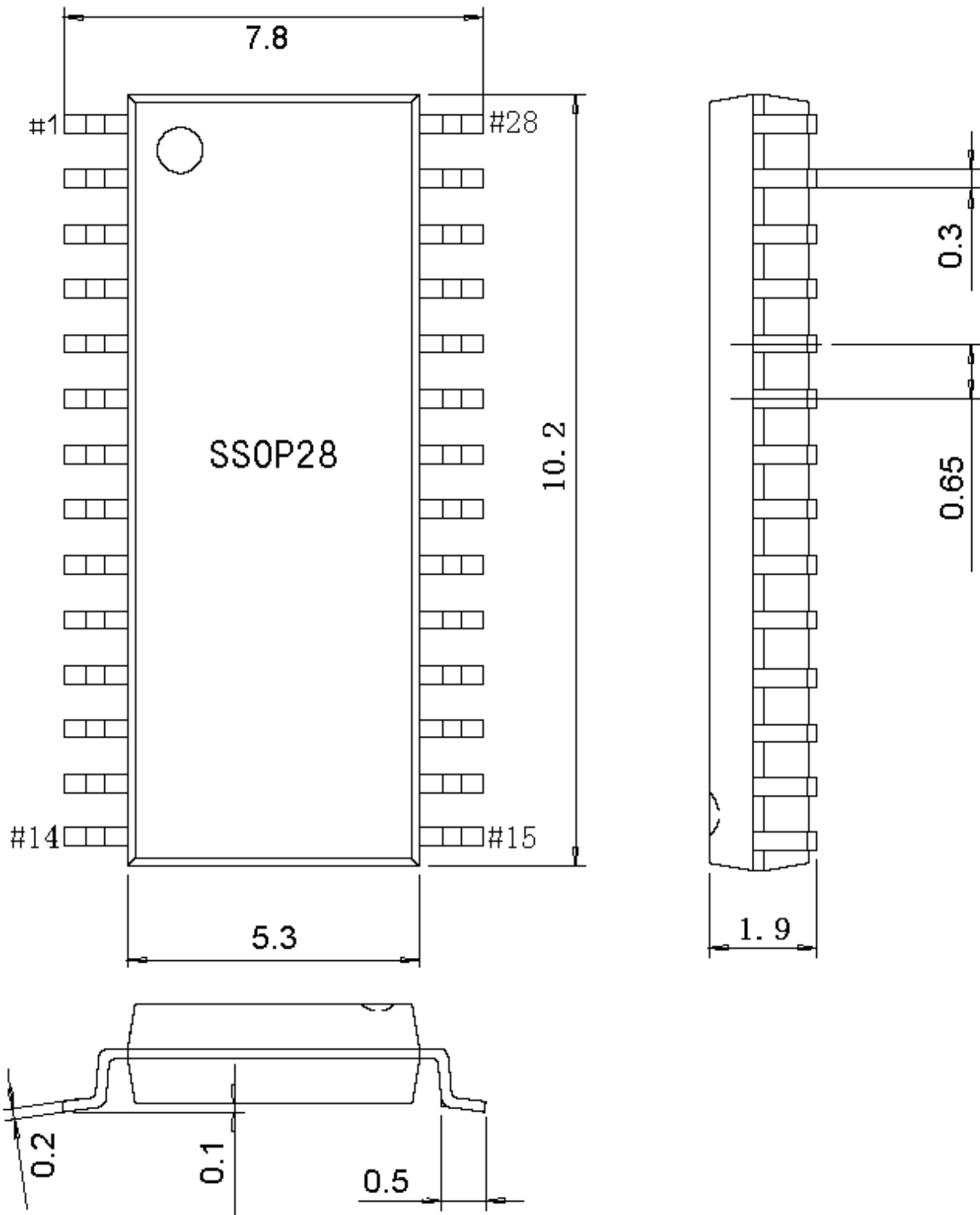
SSOP20 (SSOP20-209mil-0.65)



SSOP24 (SSOP24-209mil-0.65)

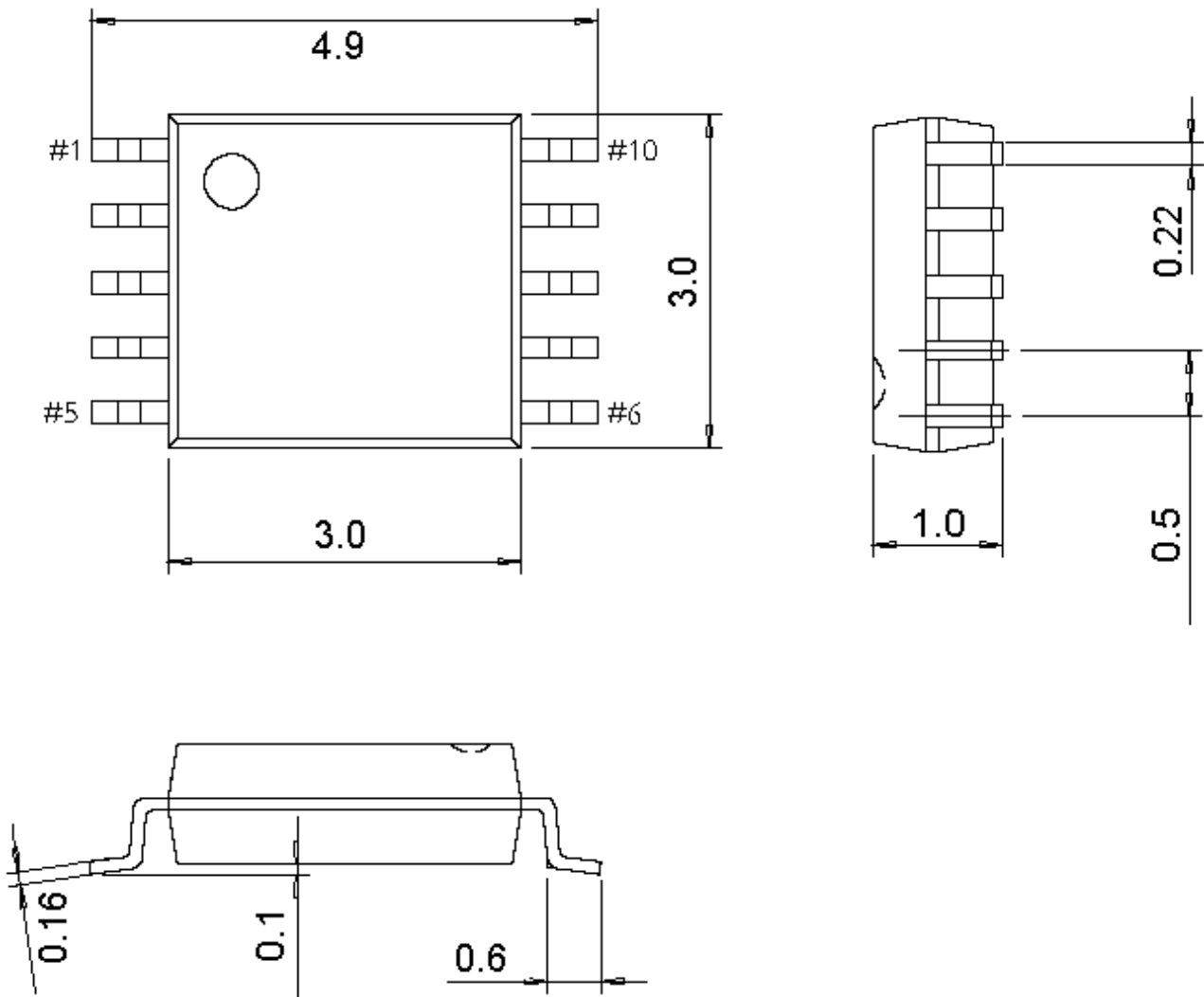


SSOP28 (SSOP28-209mil-0.65)



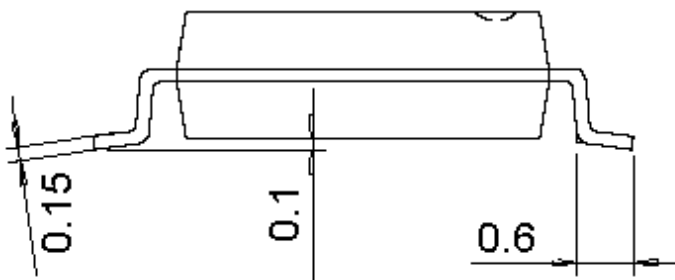
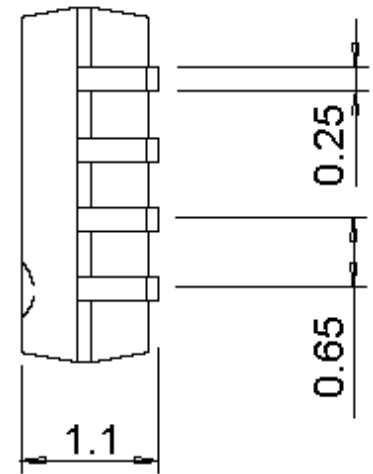
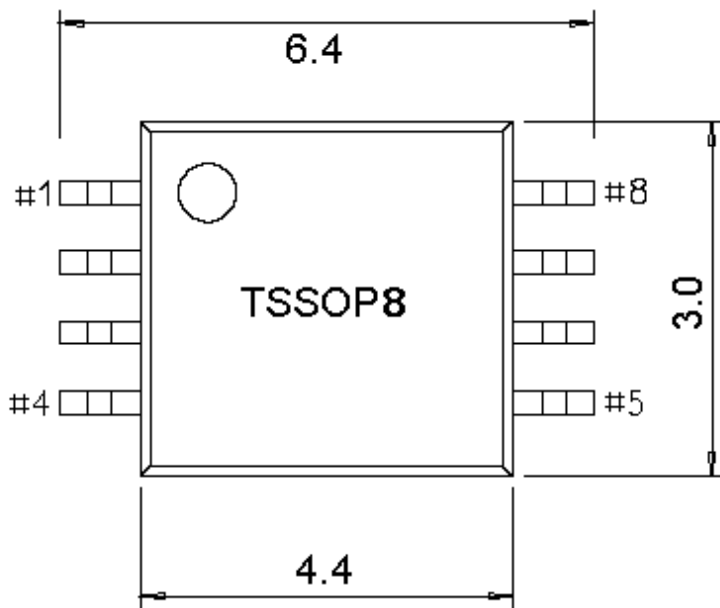
MSOP Type

MSOP10



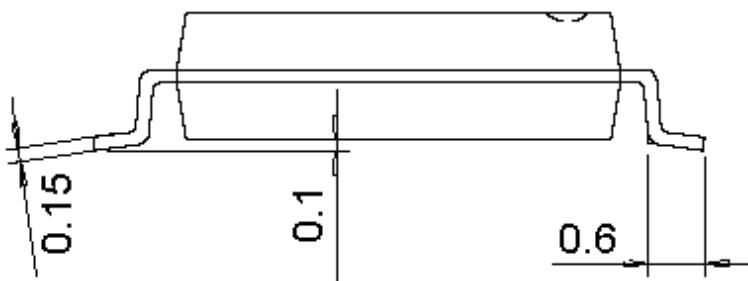
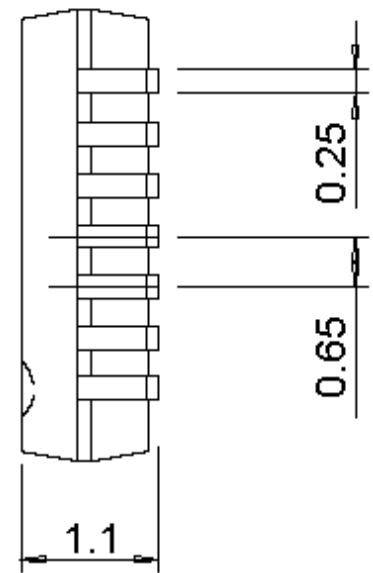
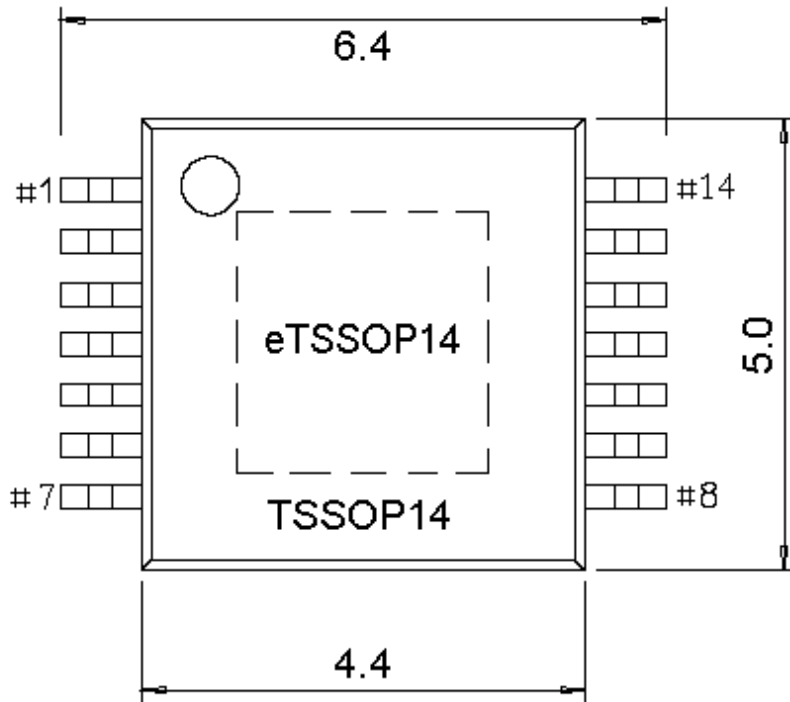
TSSOP Type (4.4mm, 173mil)

TSSOP8



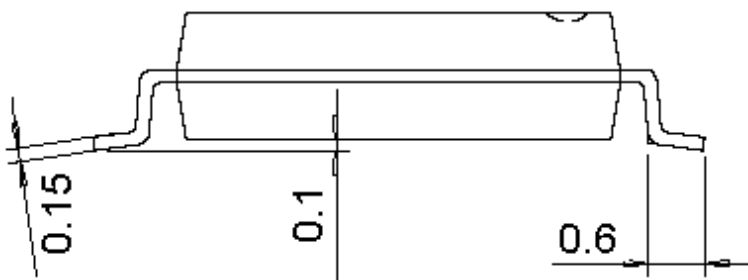
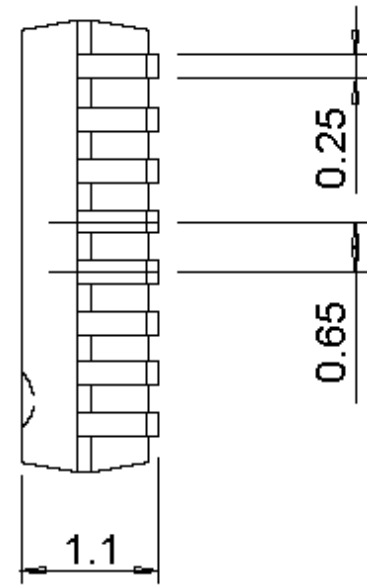
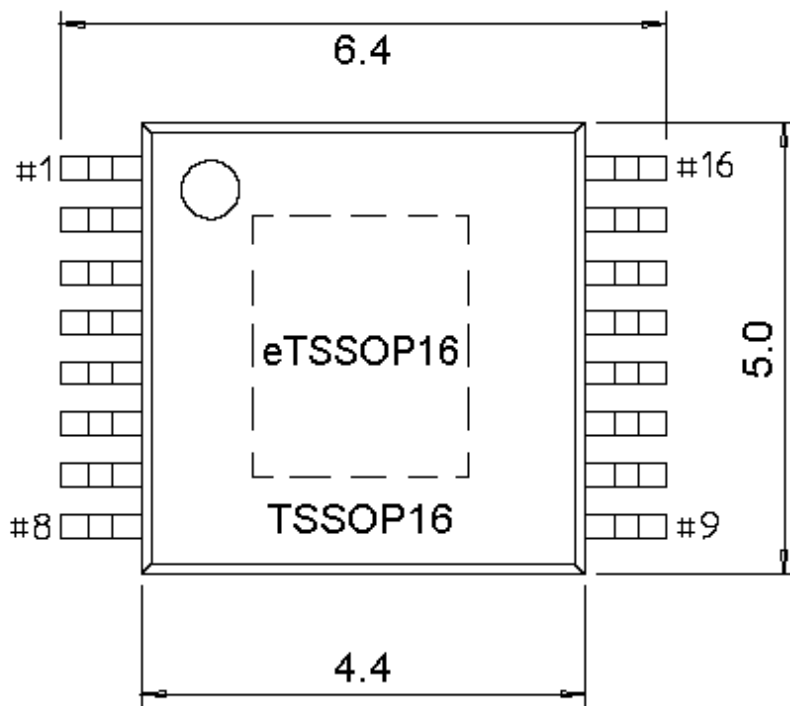
TSSOP14, eTSSOP14

eTSSOP14 Exposed Pad: 3.0*3.0



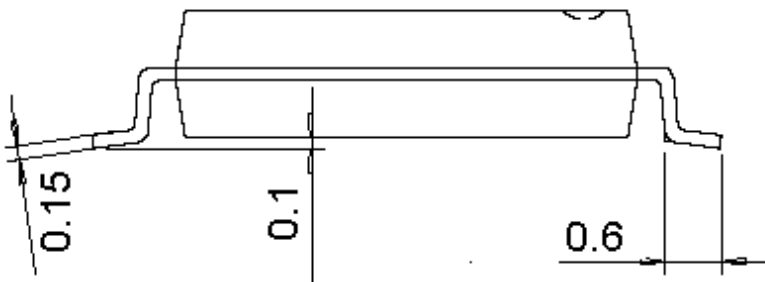
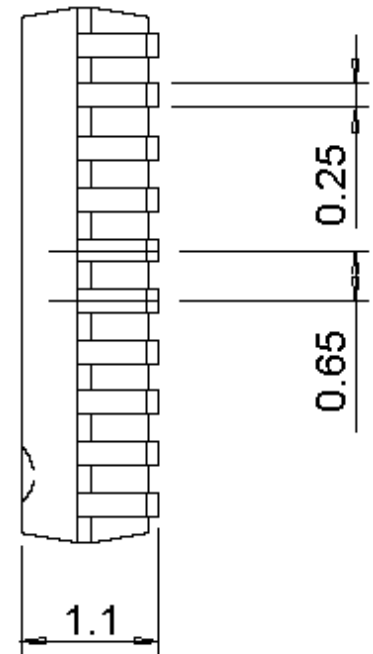
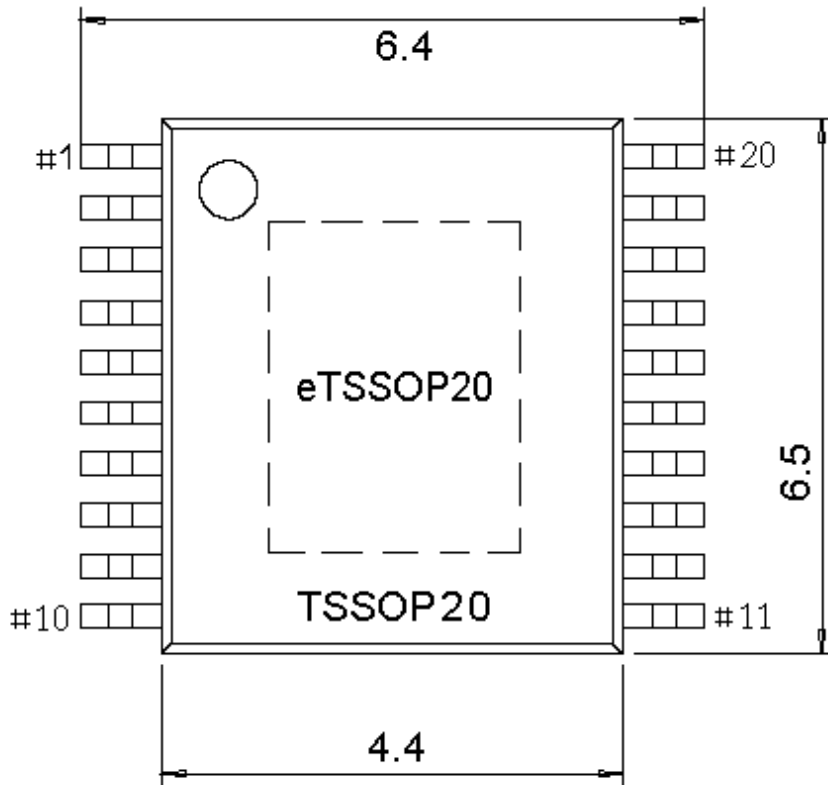
TSSOP16、eTSSOP16

eTSSOP16 Exposed Pad: 2.8*3.0

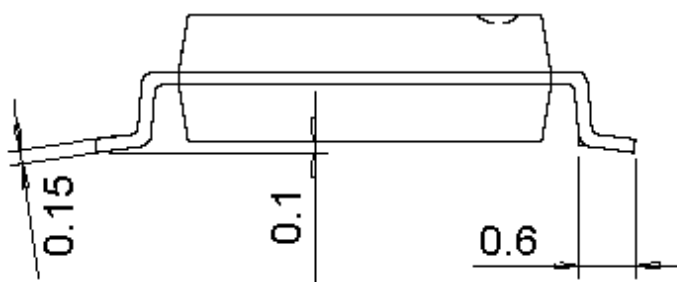
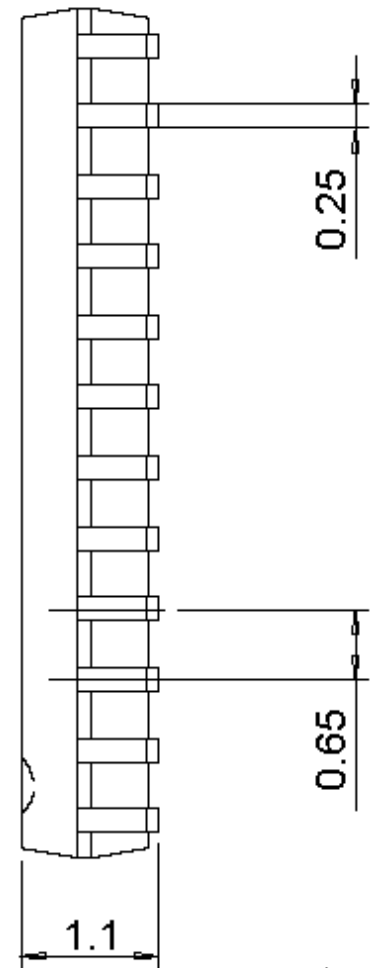
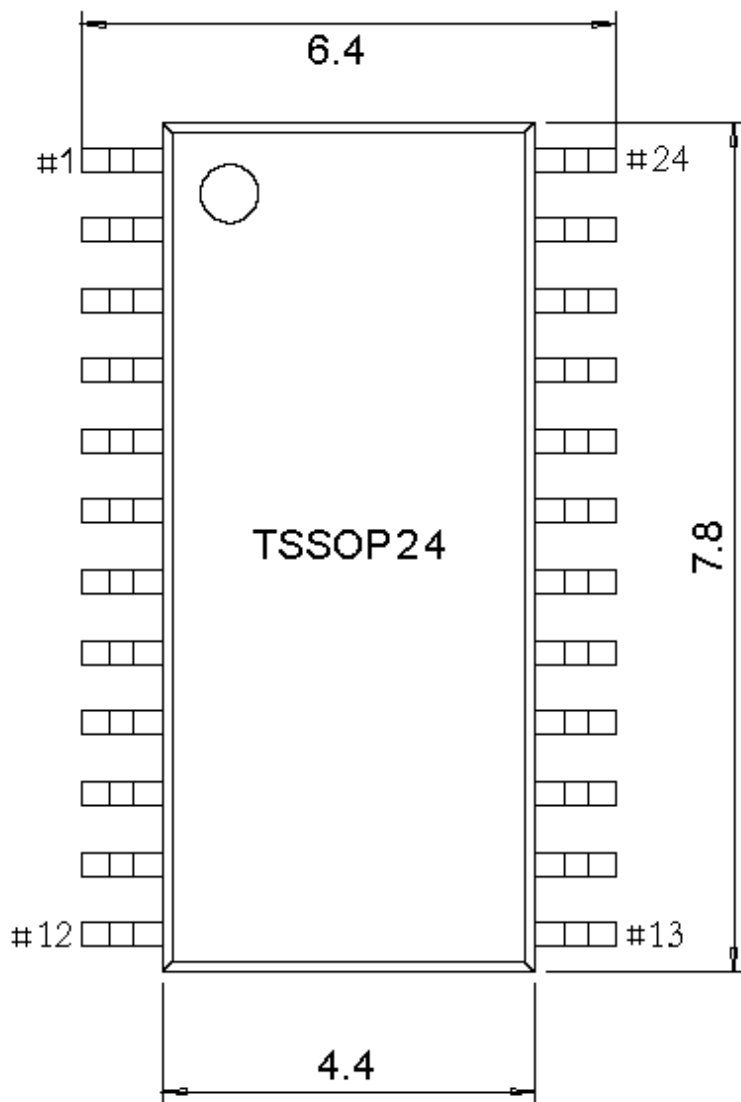


TSSOP20, eTSSOP20

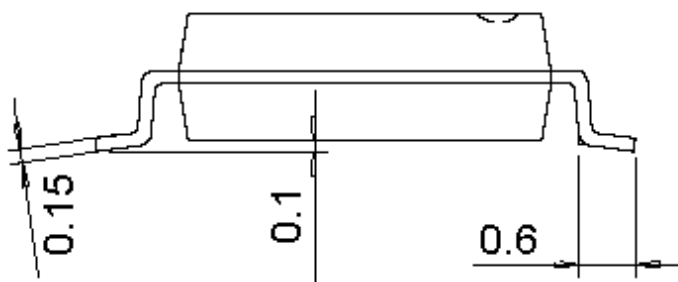
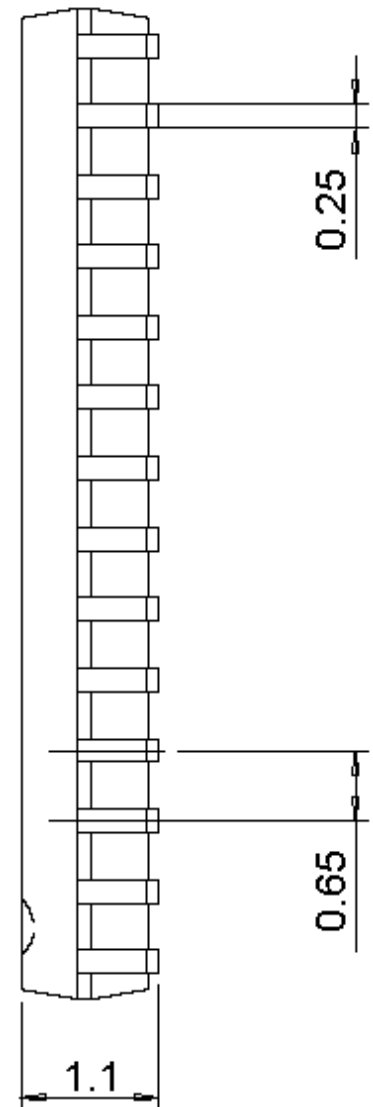
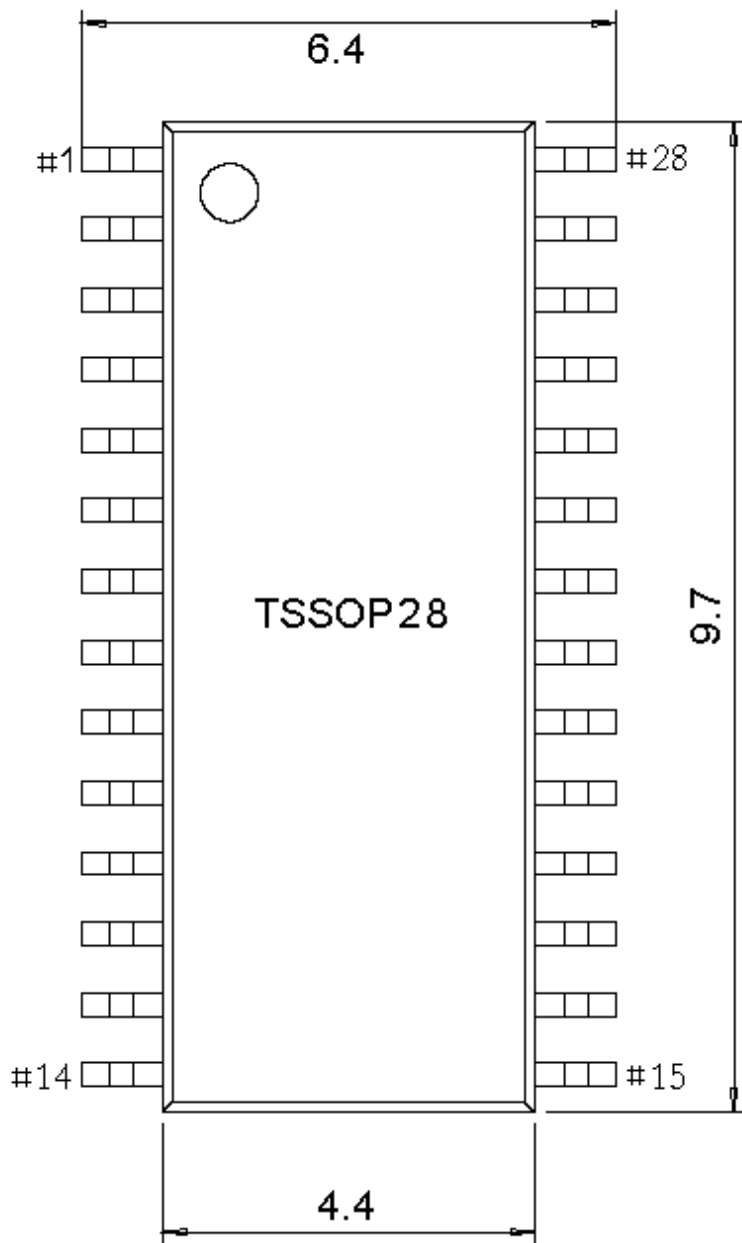
eTSSOP20 Exposed Pad: 3.0*4.2



TSSOP24

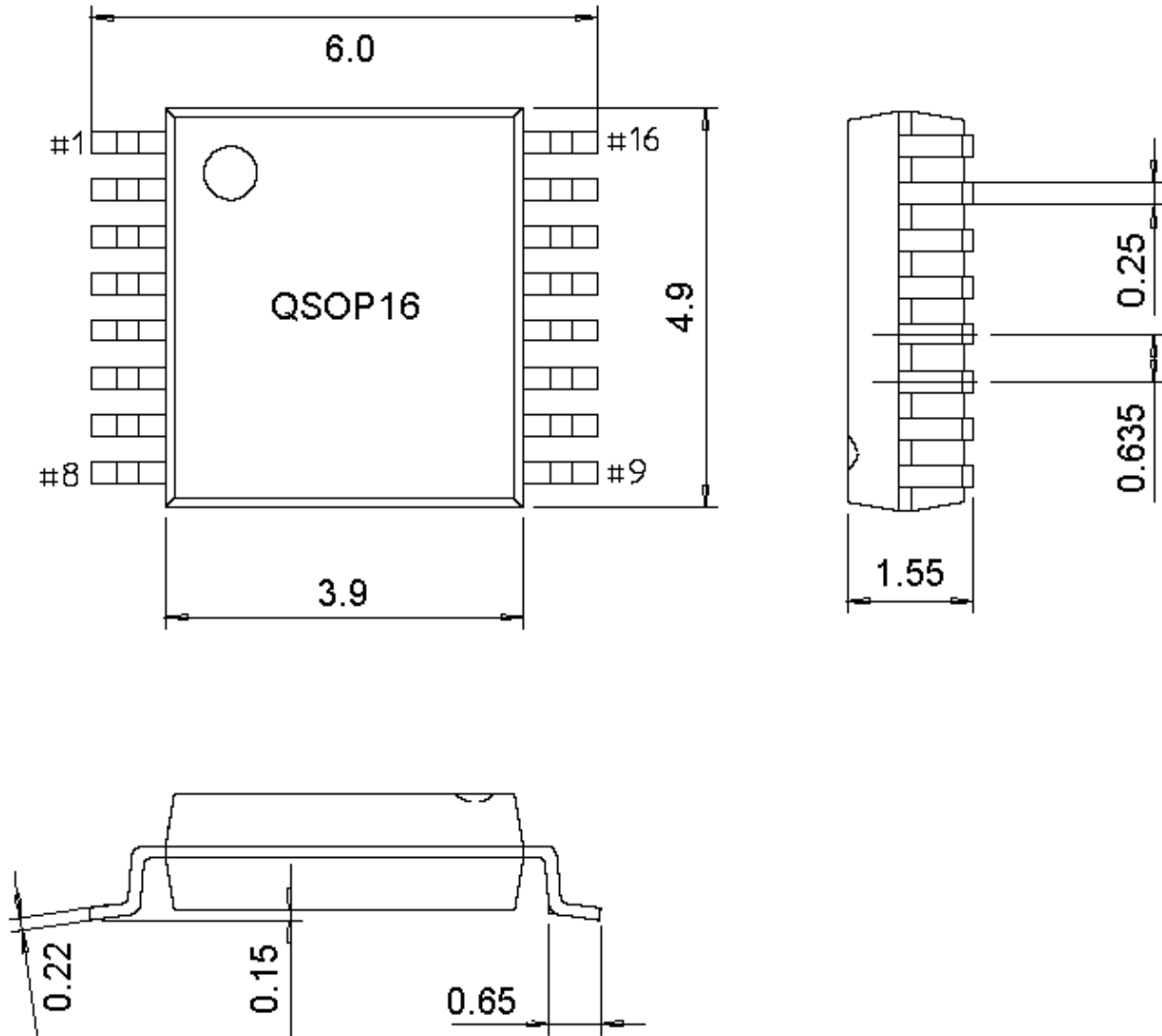


TSSOP28

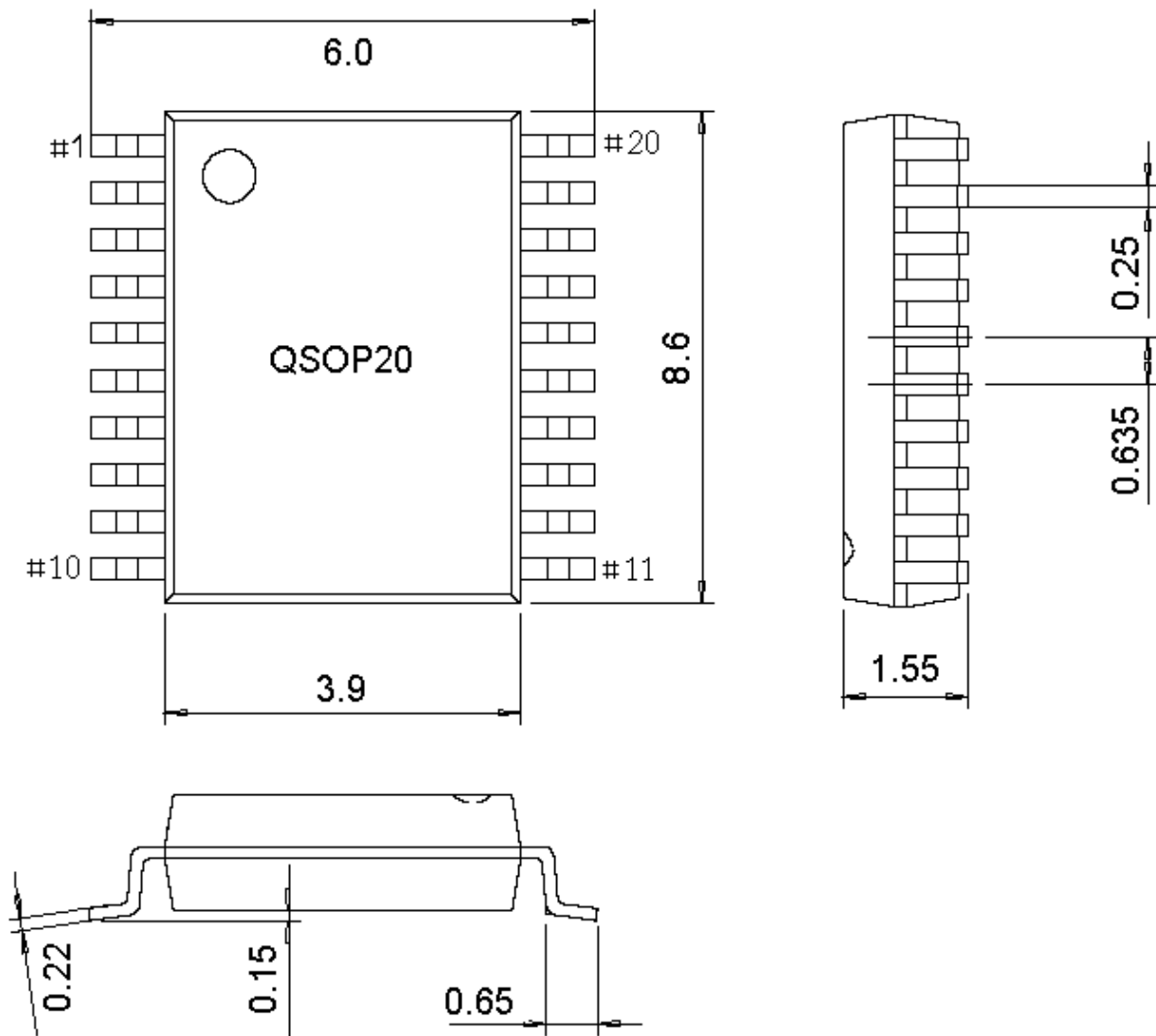


QSOP Type (3.9mm, 150mil)

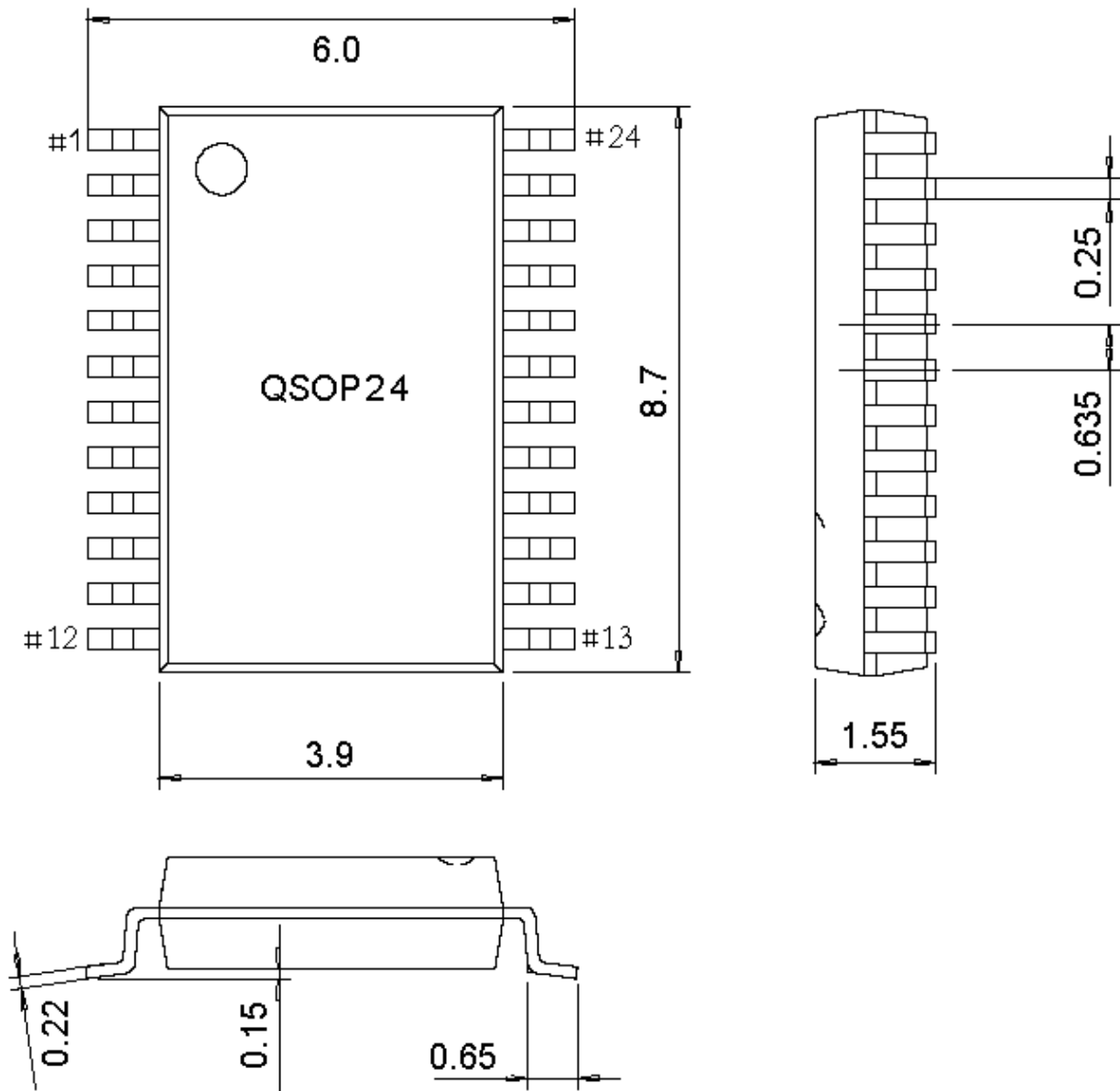
QSOP16 (SSOP16-150mil-0.635)



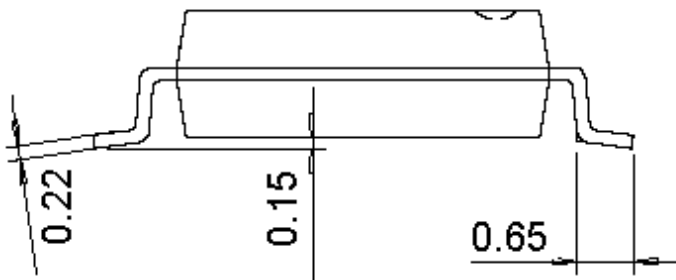
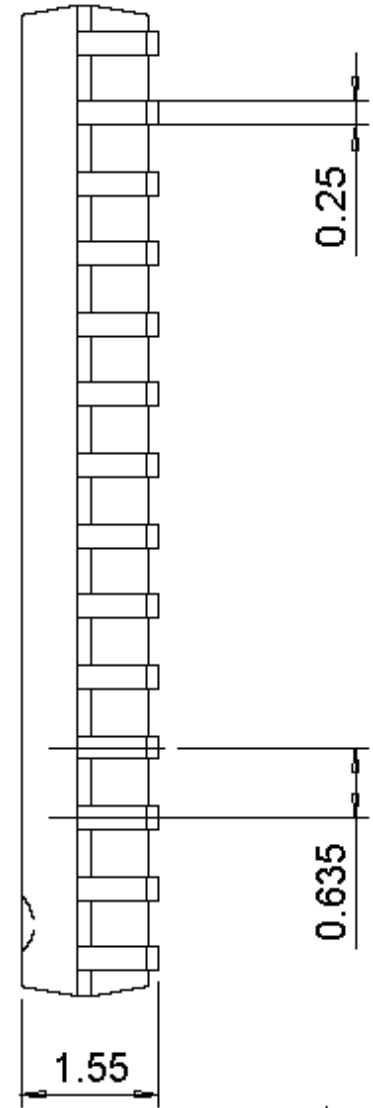
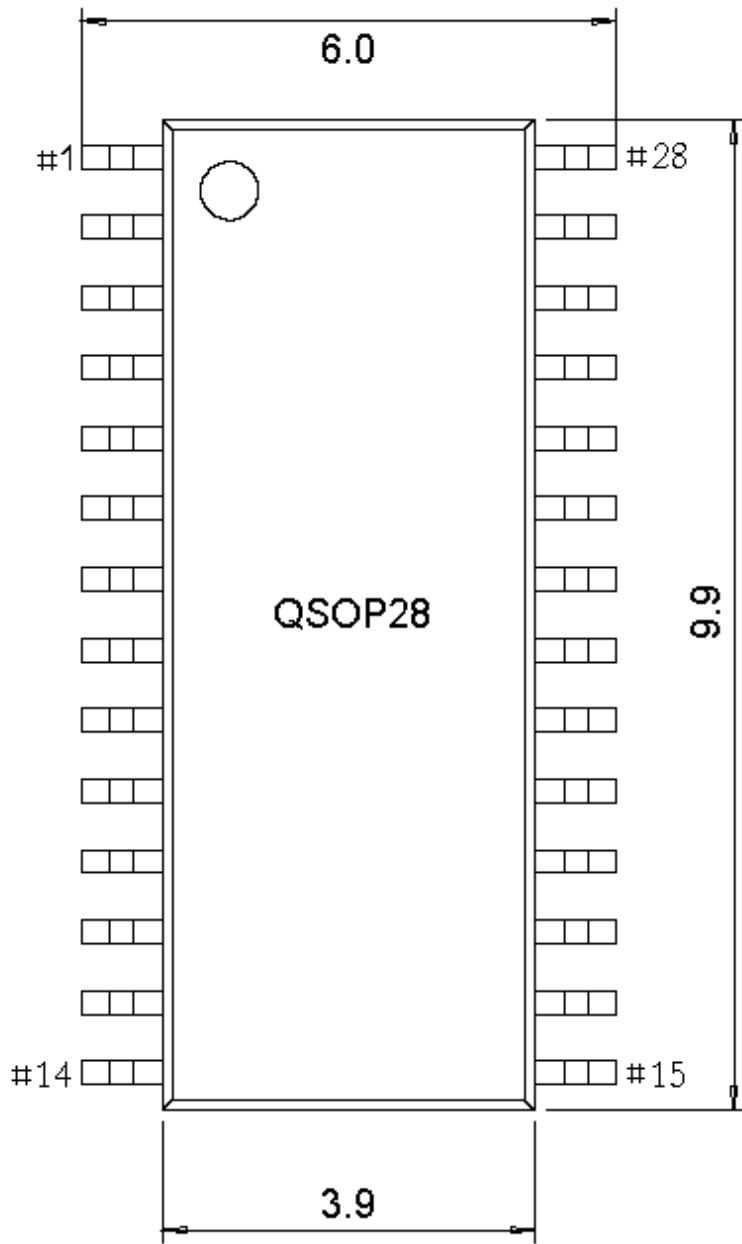
QSOP20 (SSOP20-150mil-0.635)



QSOP24 (SSOP24-150mil-0.635)

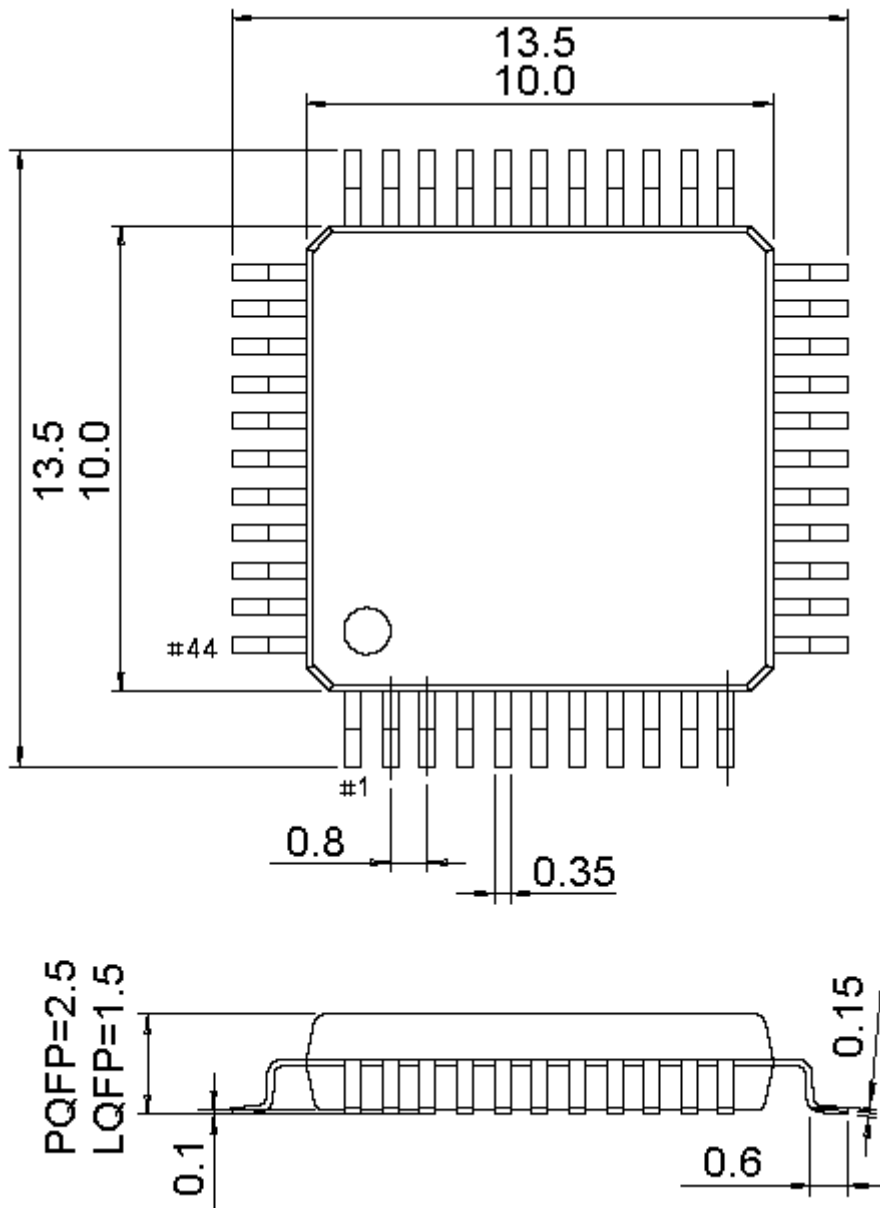


QSOP28 (SSOP28-150mil-0.635)

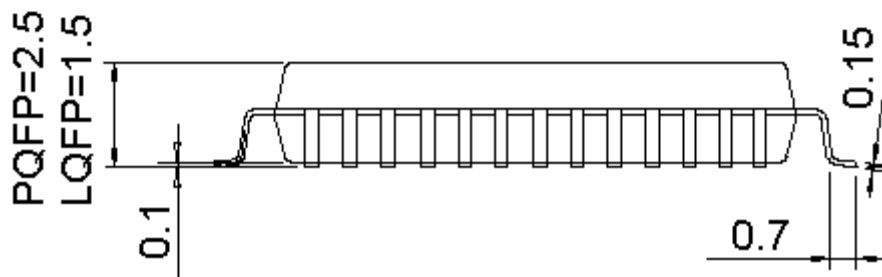
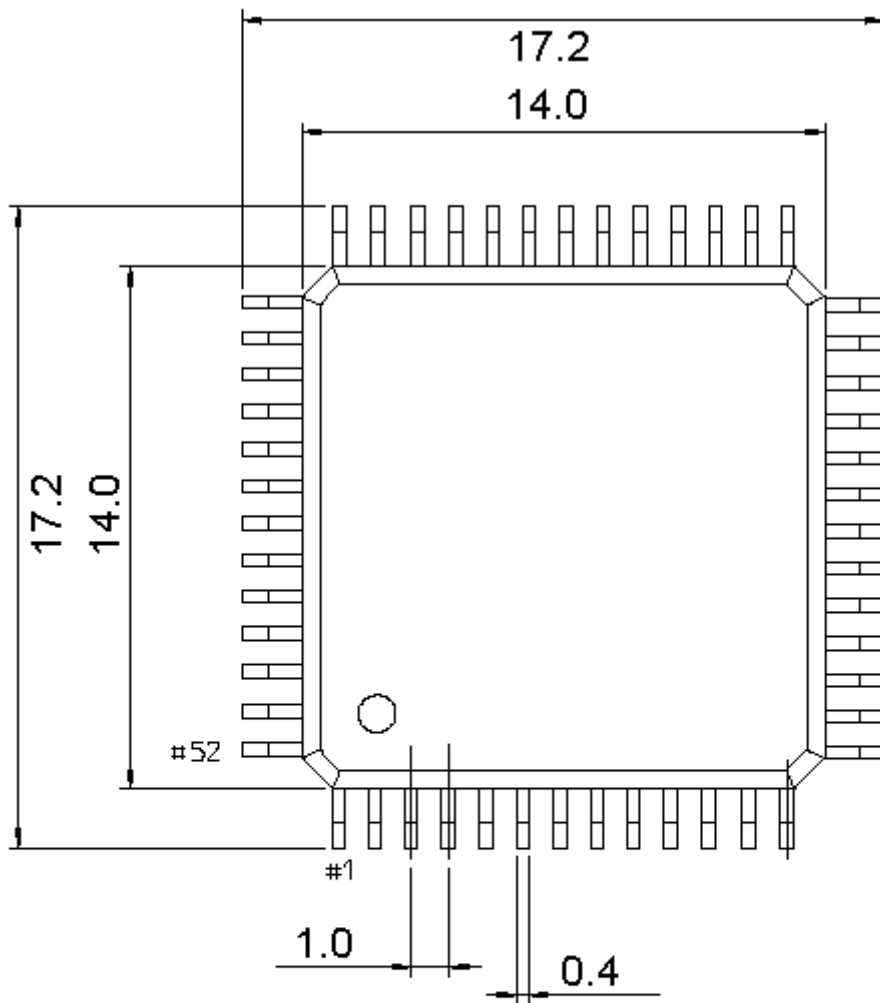


QFP Type (PQFP, LQFP, TQFP)

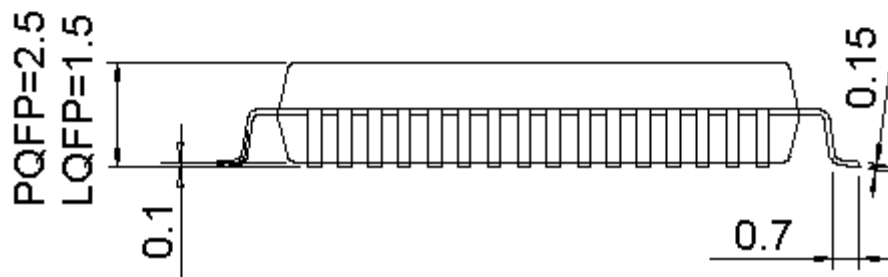
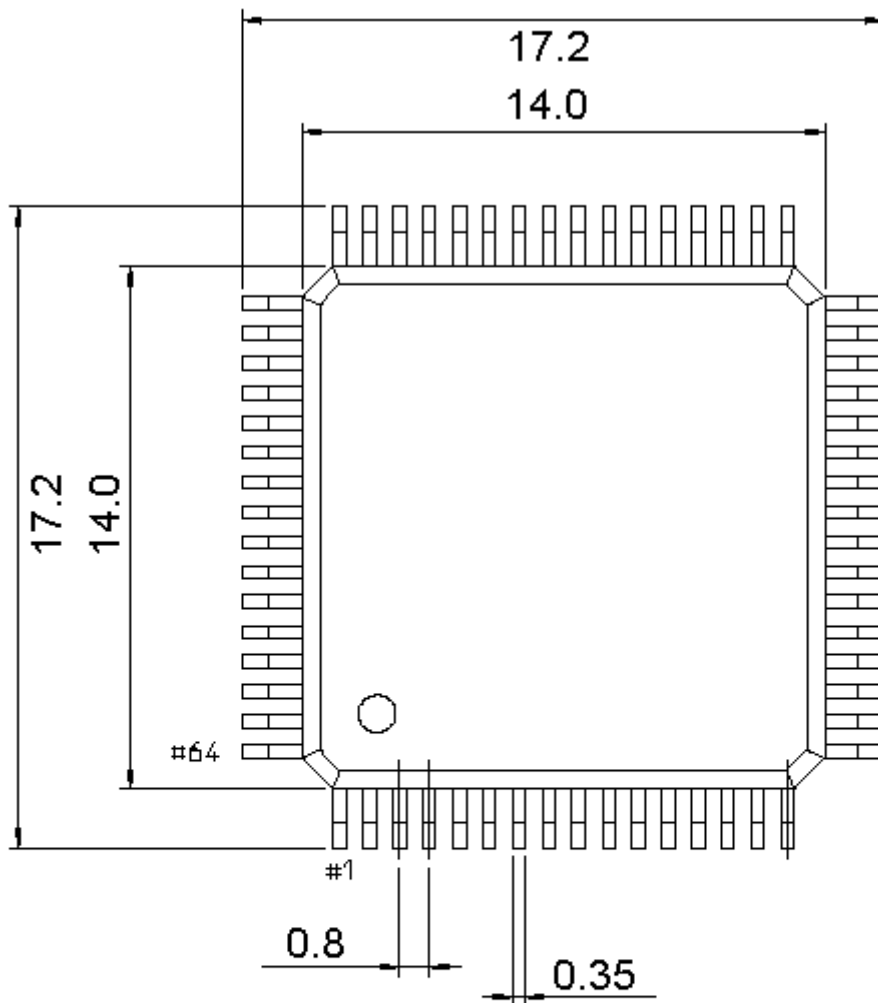
PQFP44 (QFP44)



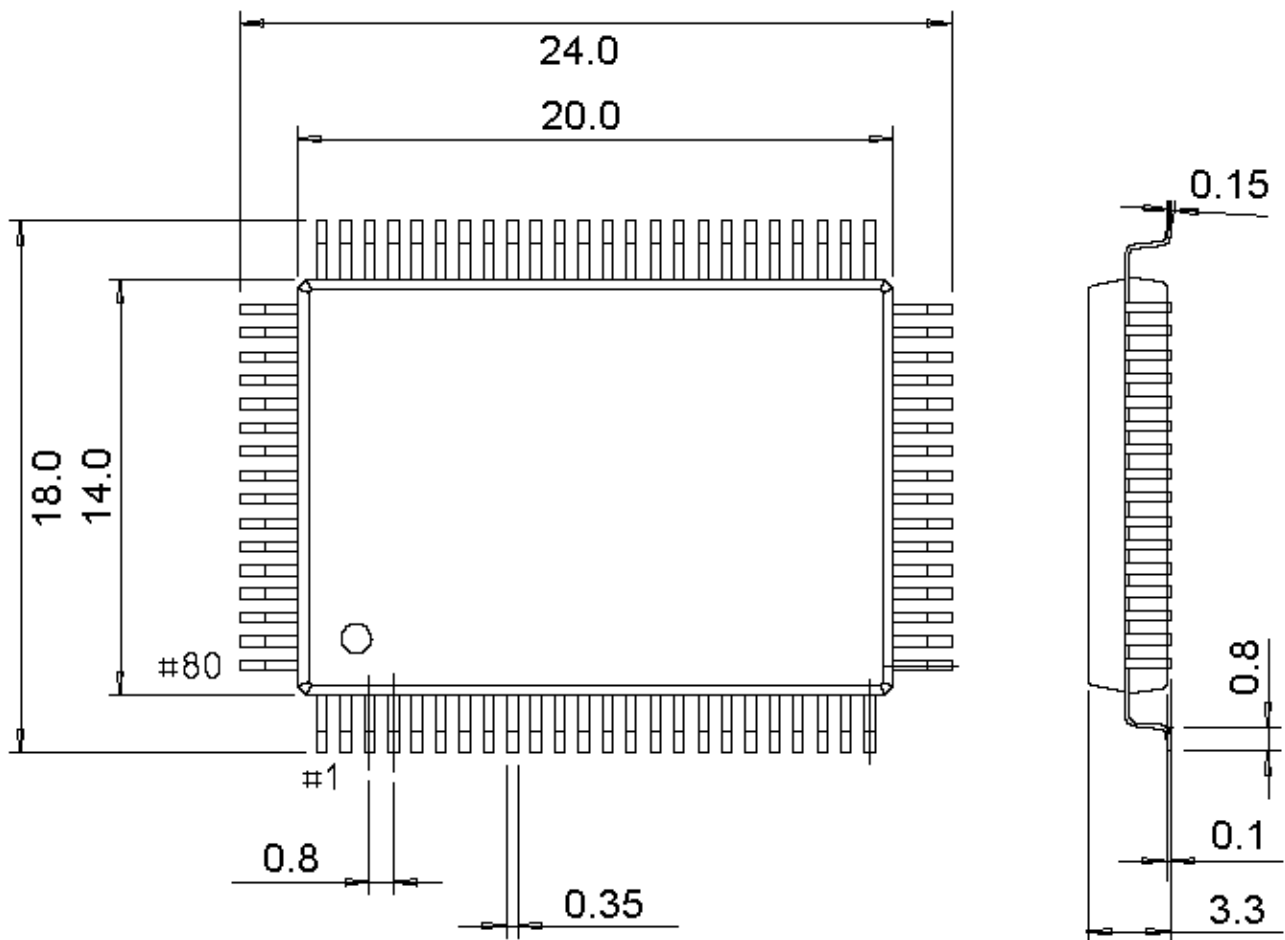
PQFP52 (QFP52)



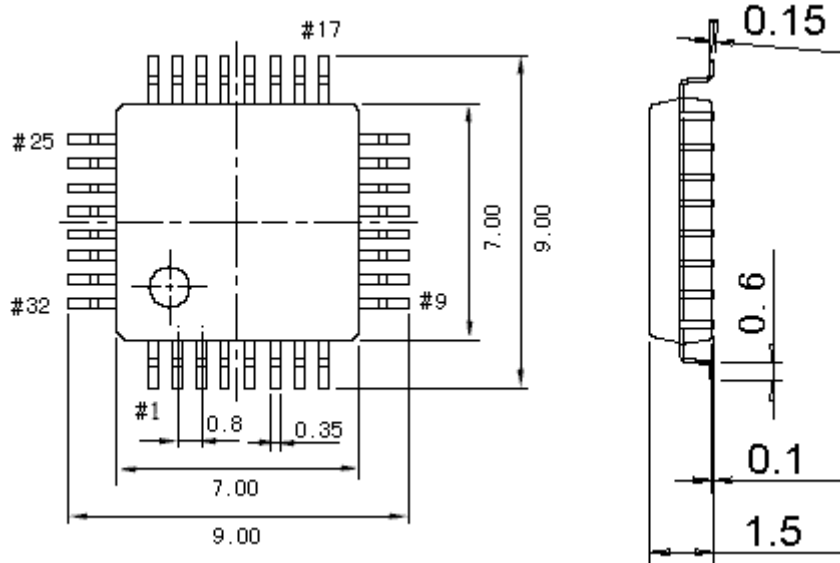
PQFP64 (QFP64), LQFP64-14*14



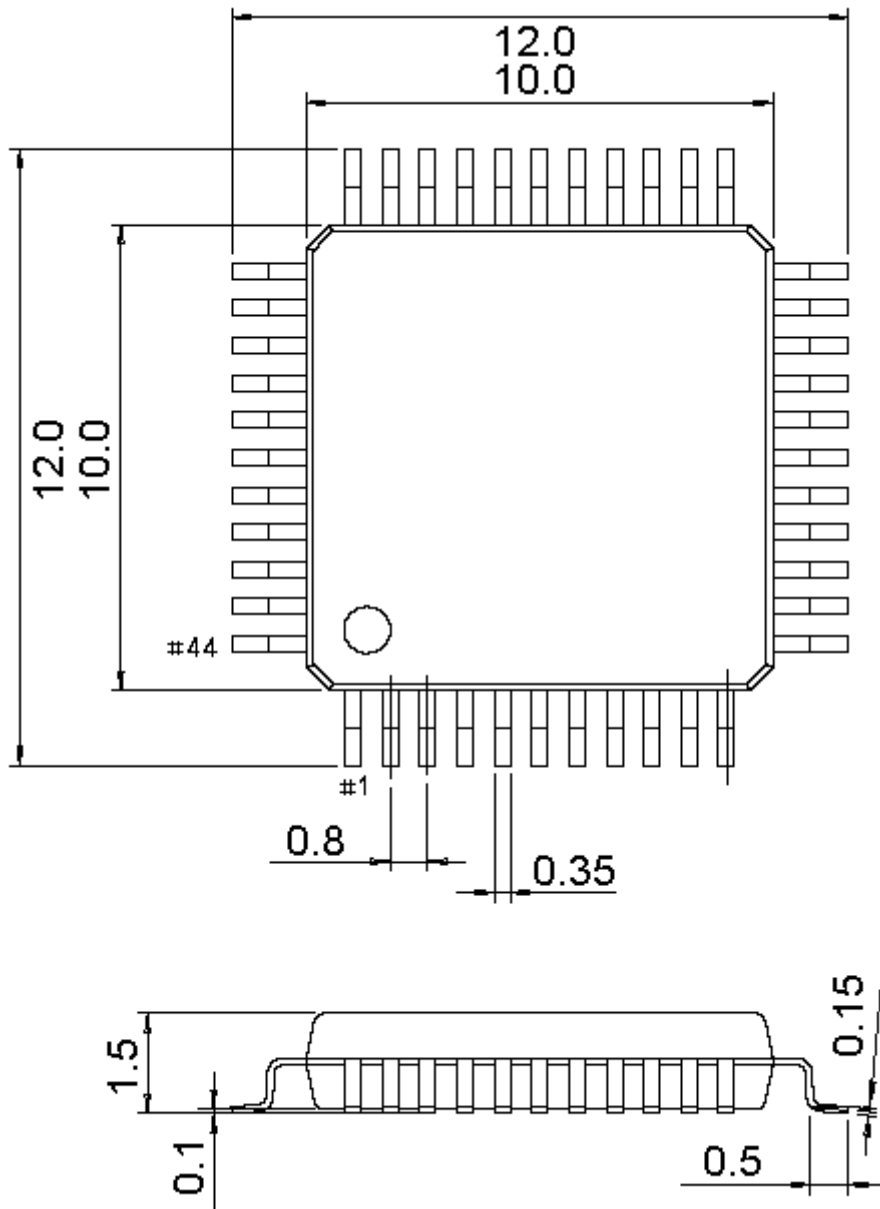
PQFP80 (QFP80)



LQFP32 (LQFP32-7*7)

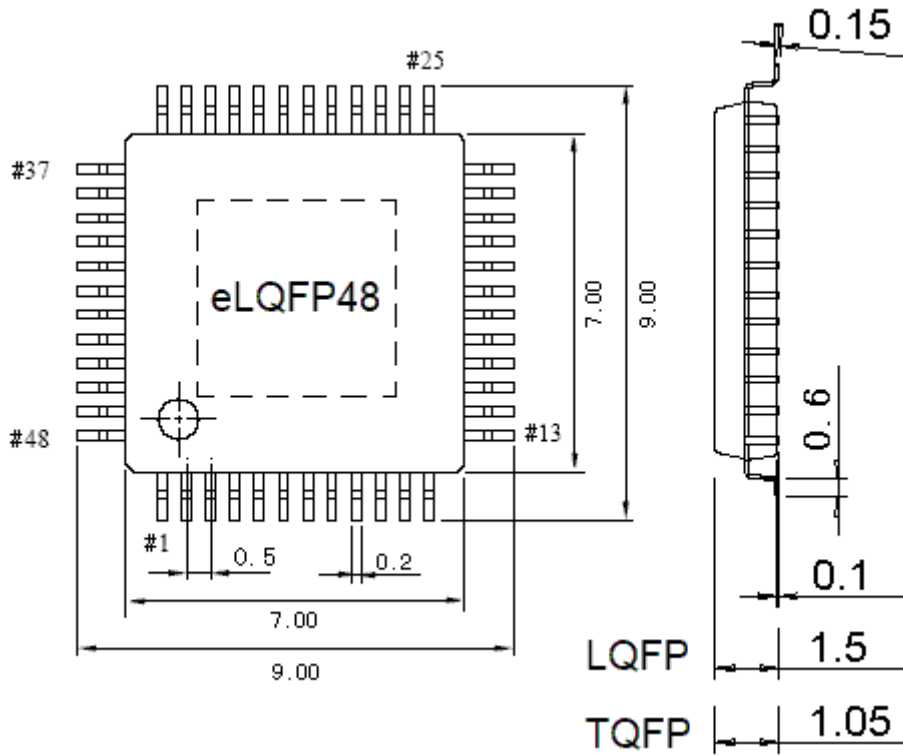


LQFP44 (LQFP44-10*10)



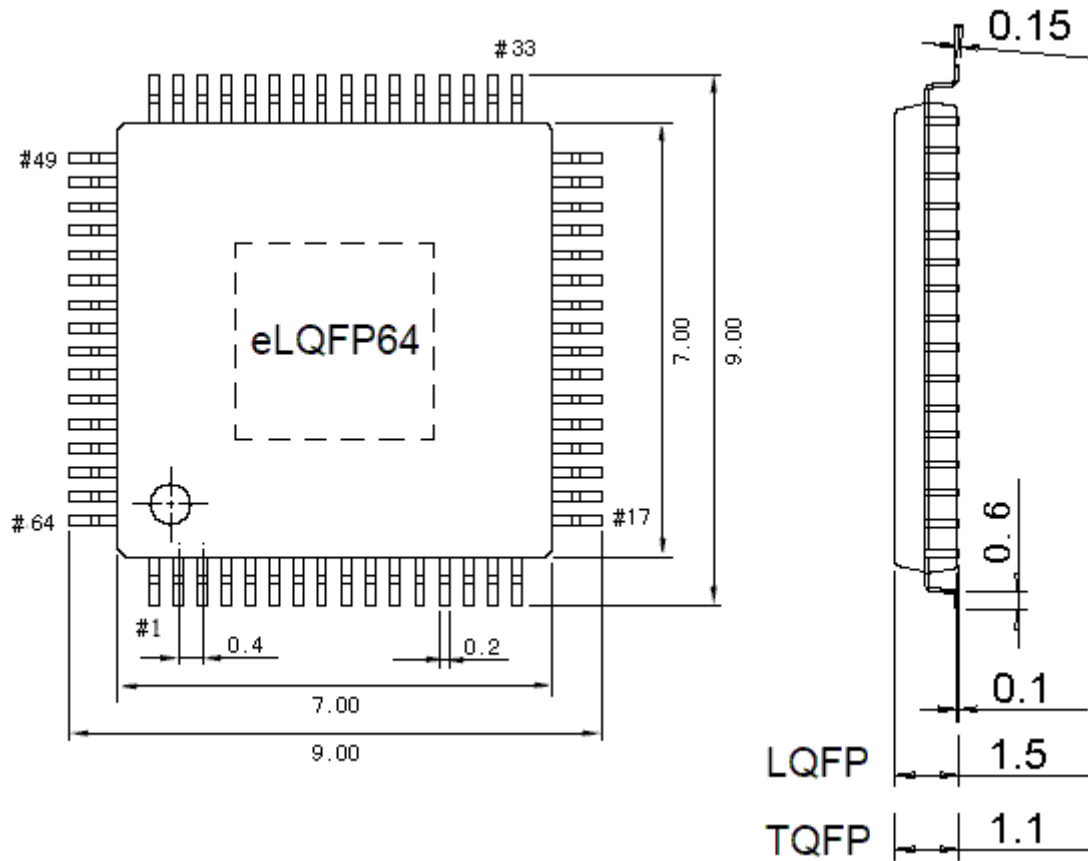
LQFP48 (LQFP48-7*7), TQFP48, eLQFP48

eLQFP48 Exposed Pad: 3.2*3.2

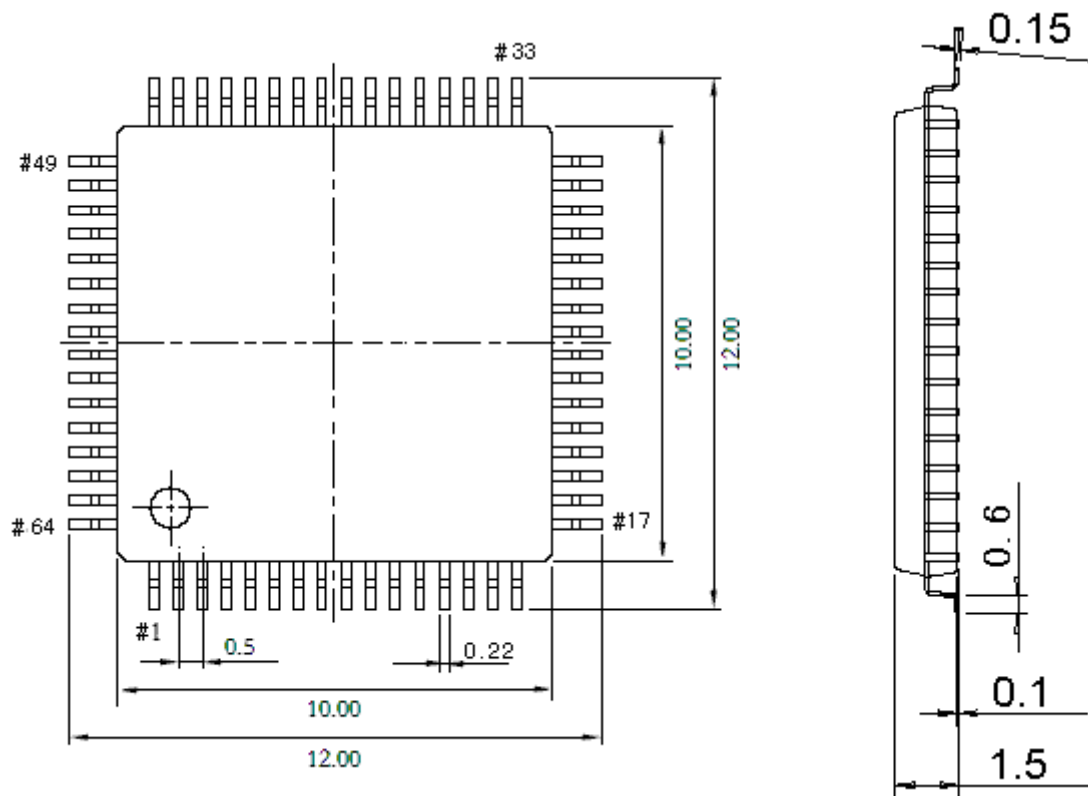


LQFP64 (LQFP64-7*7), TQFP64, eLQFP64

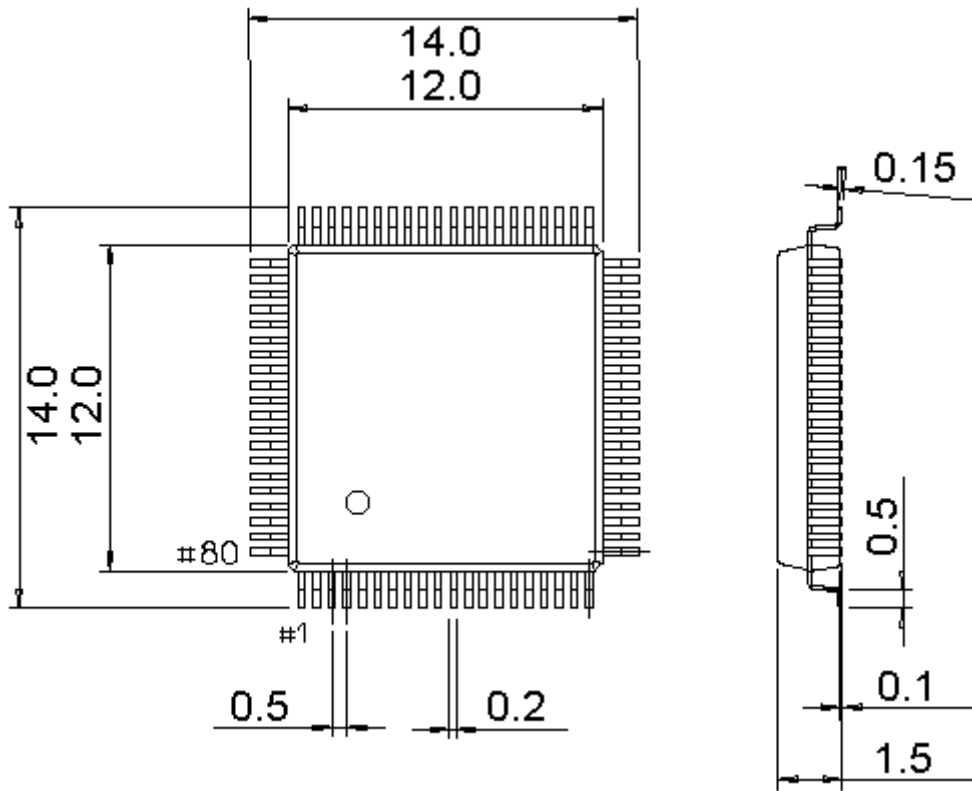
eLQFP64 Exposed Pad: 3.2*3.2



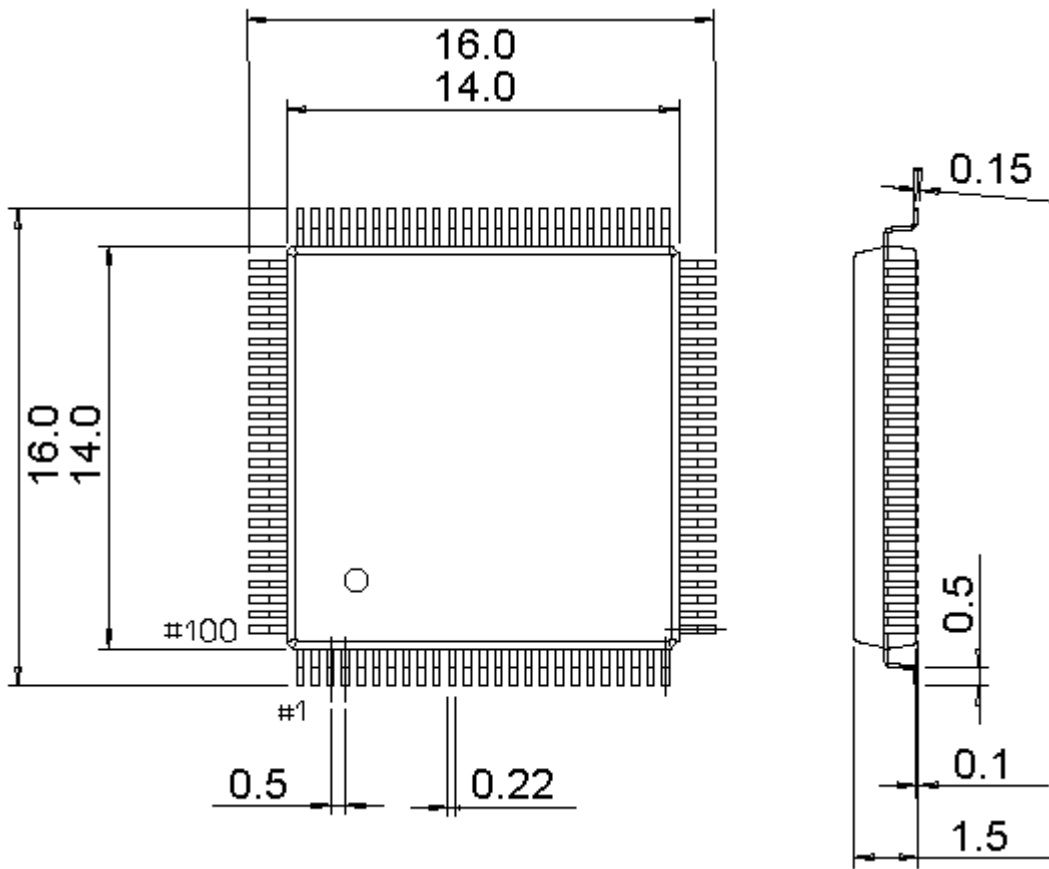
LQFP64M (LQFP64-10*10)



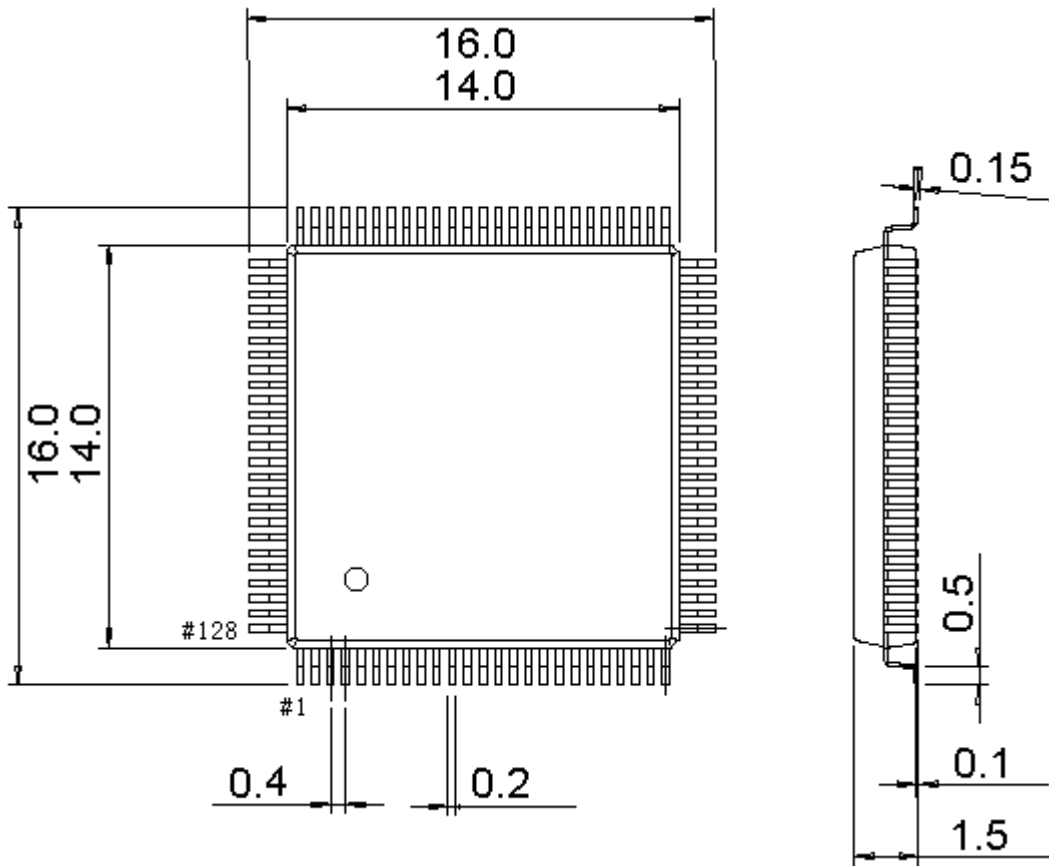
LQFP80 (LQFP80-12*12)



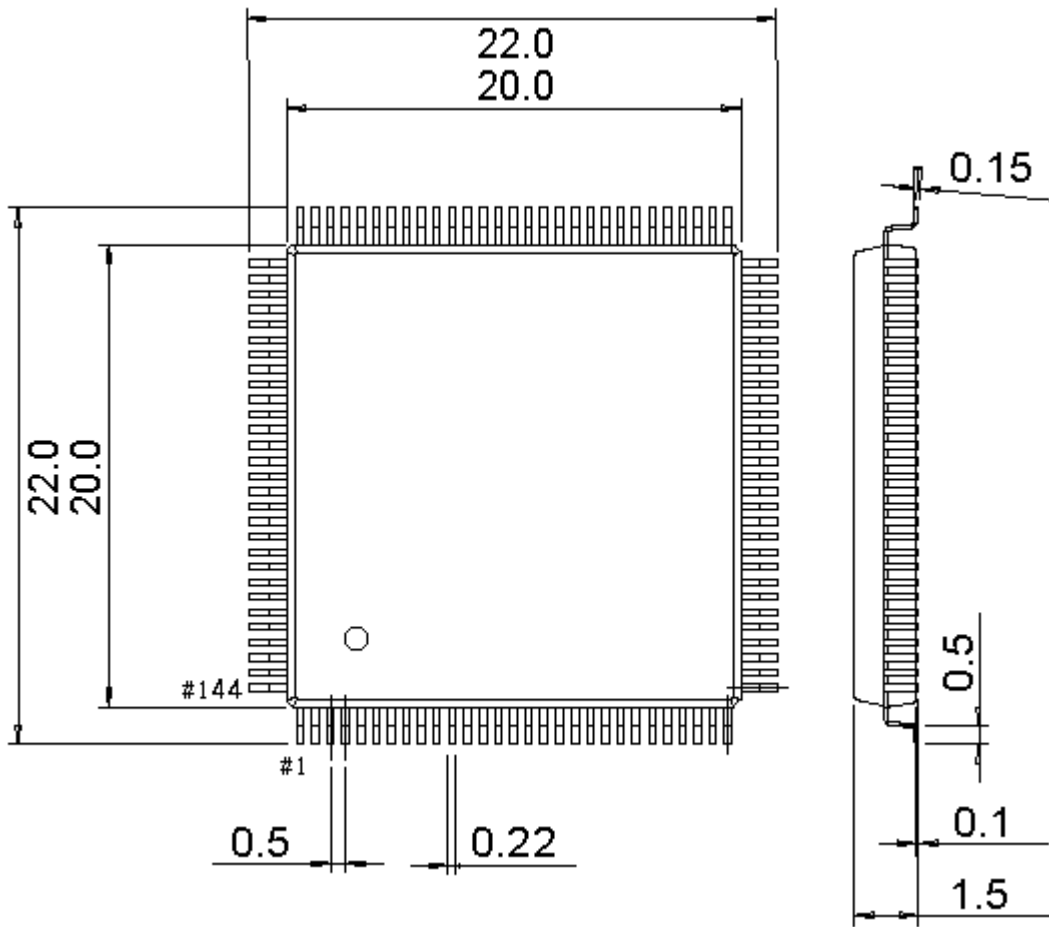
LQFP100 (LQFP100-14*14)



LQFP128 (LQFP128-14*14)



LQFP144 (LQFP144-20*20)



QFN Type

QFN Naming Rules Reference

Standard naming

QFN ab - d * e * t - p

Number ab: The cumulative number of pins on the 4 sides of the QFN package.

Numbers d and e: d and e represent the length and width of the QFN shape.

Number t: t represents the thickness of the QFN shape, commonly used are 0.55 and 0.75.

Number p: p represents the spacing between the centers of adjacent pins, that is, pitch. If there are two, choose the smaller one. Commonly used are 0.4 and 0.5, etc.

Reference simplified naming

QFN ab c d X e

Number ab: the cumulative number of pins on the 4 sides of the QFN package.

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

Letter X represents general-purpose QFN with Exposed Pad, non-default size;

Letter C represents WCH-designed general-purpose QFN with Exposed Pad;

Letter F represents WCH-customized dedicated QFN without Exposed Pad;

Letter E represents WCH-customized specialized QFN with Exposed Pad.

Numbers d and e: d and e represent the length and width of the QFN profile;

No d without e represents the default size (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;

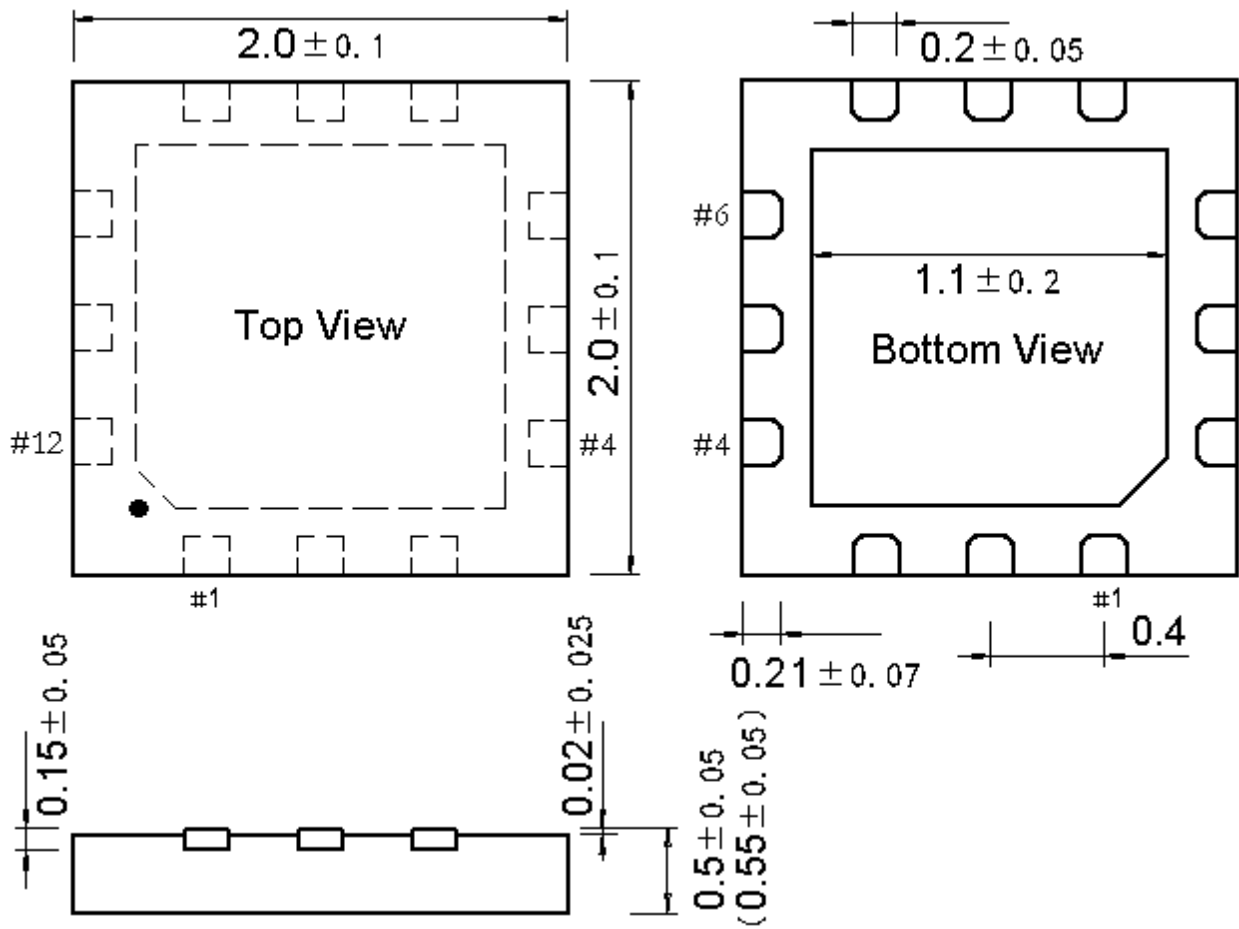
QFN20X25X45: General-purpose QFN with Exposed Pad, size 2.5*4.5;

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

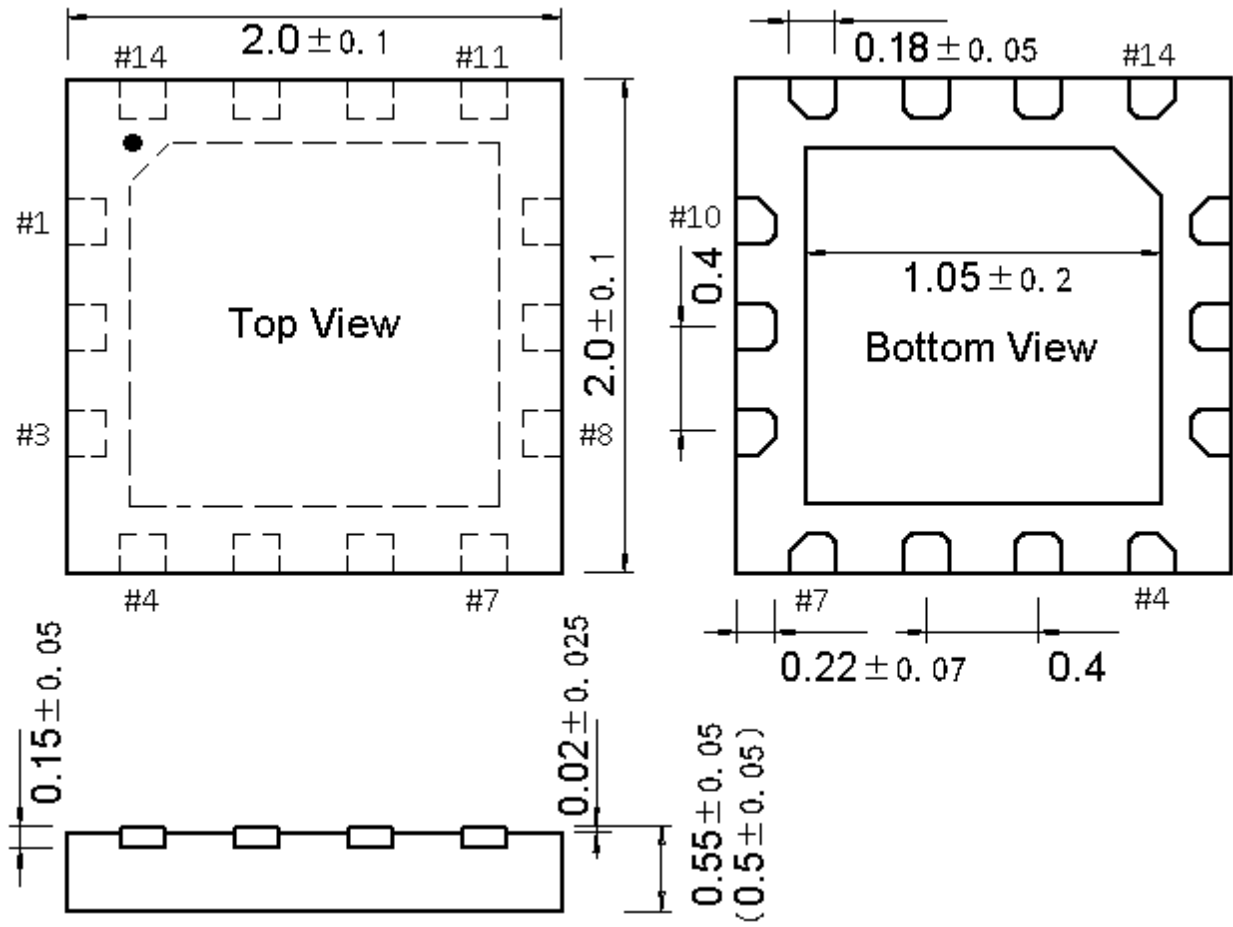
QFN20F3: WCH-customized special QFN, without Exposed Pad, size 3*3;

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

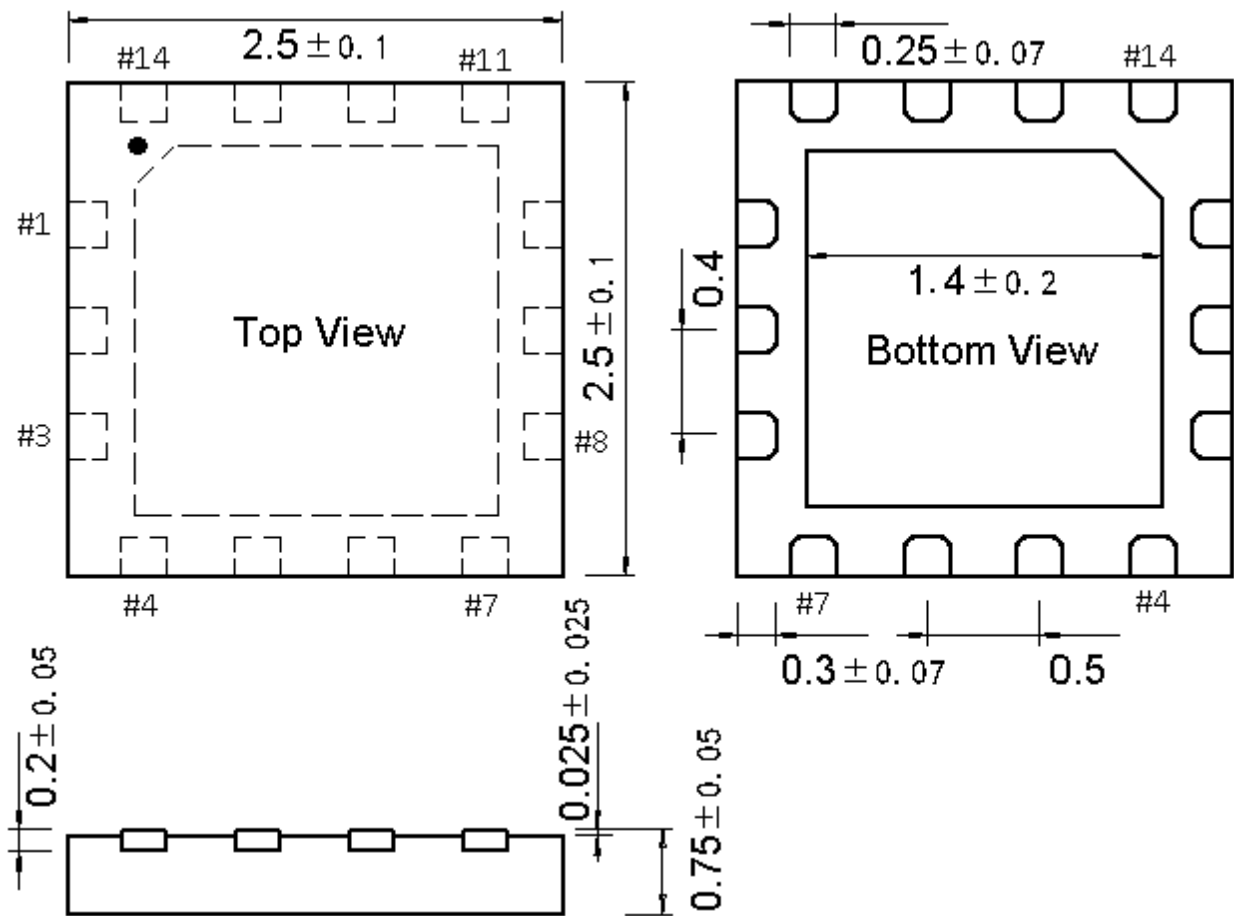
QFN12 (QFN12-2*2*0.5-0.4)



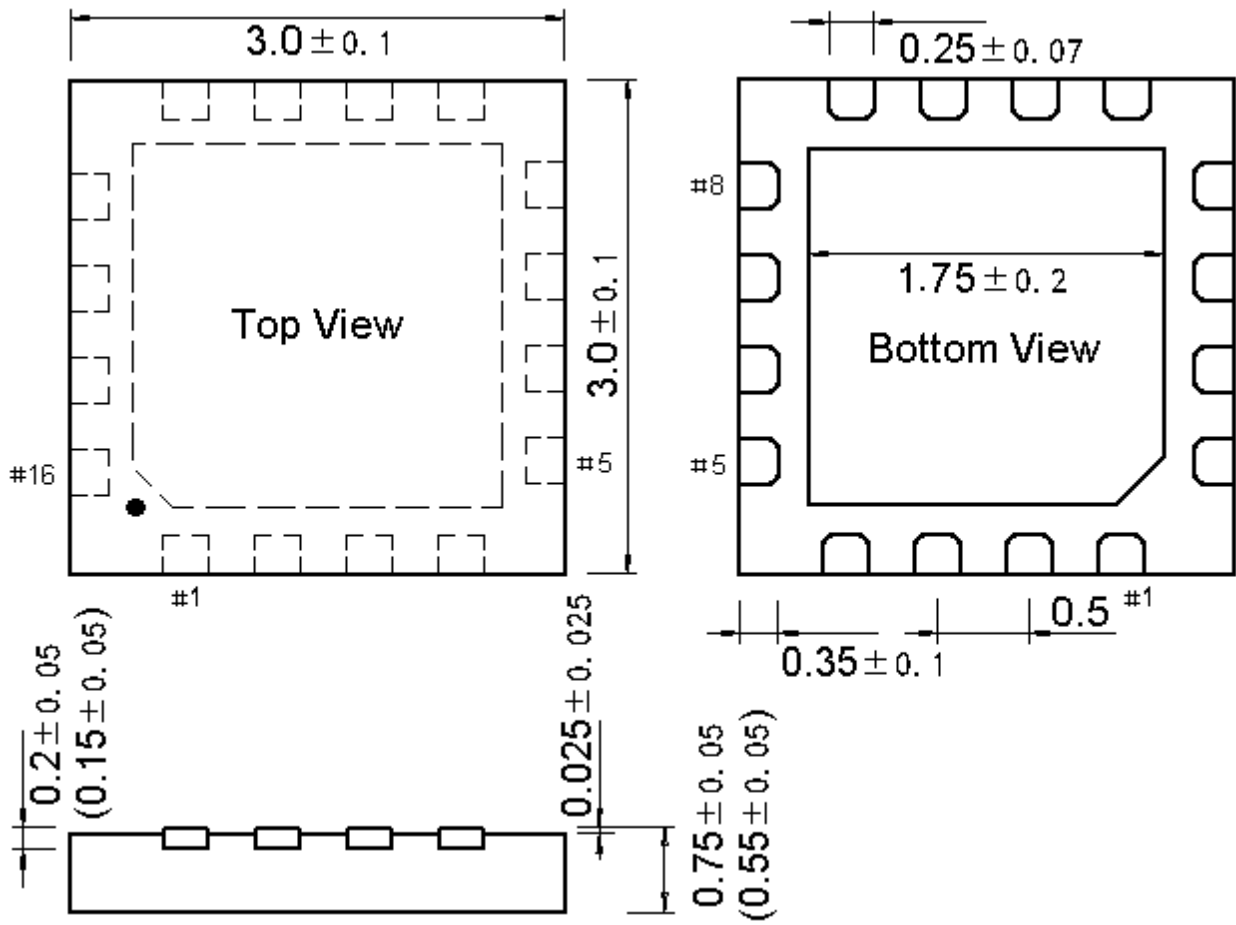
QFN14 (QFN14-2*2*0.55-0.4)



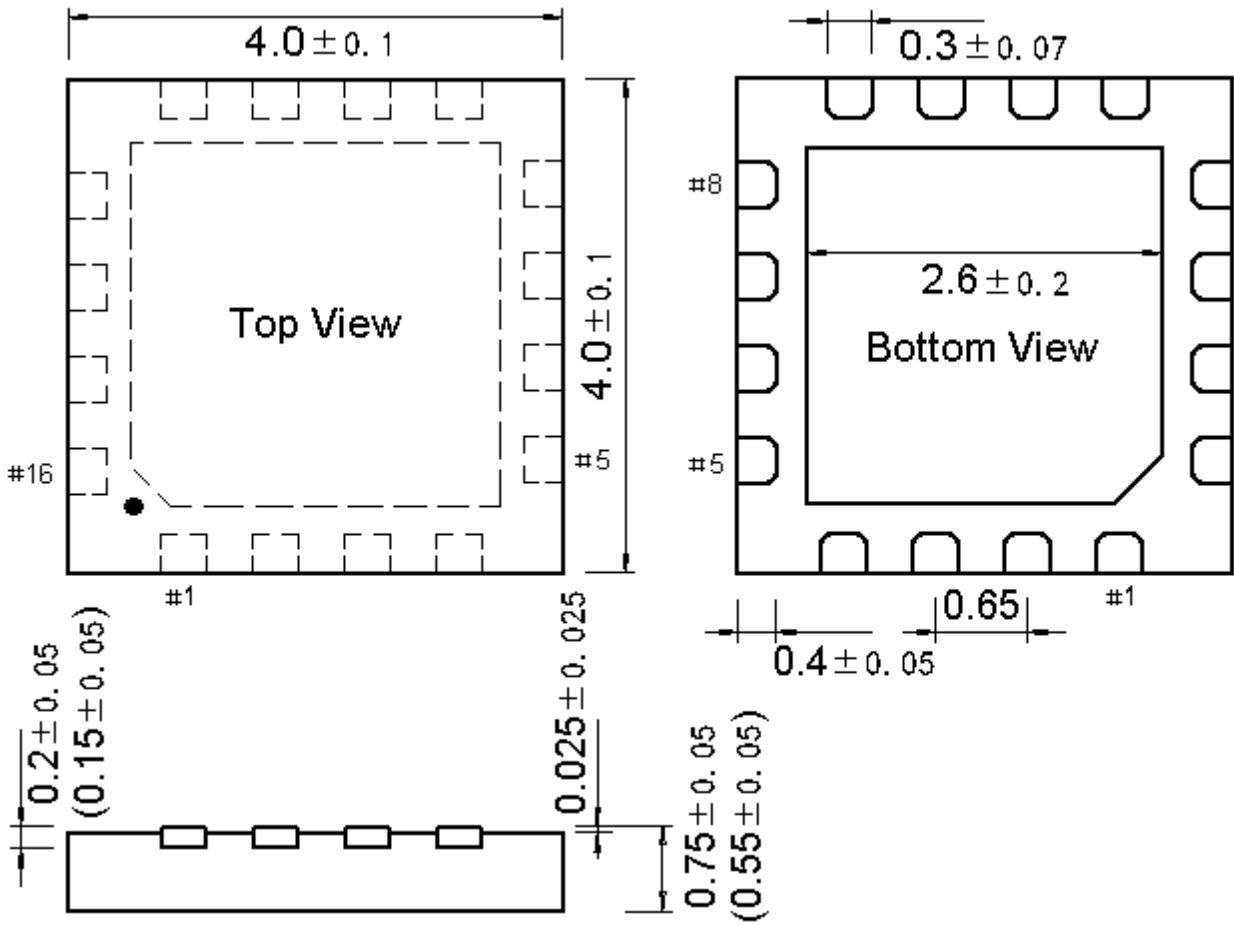
QFN14X25 (QFN14-2.5*2.5*0.75-0.5)



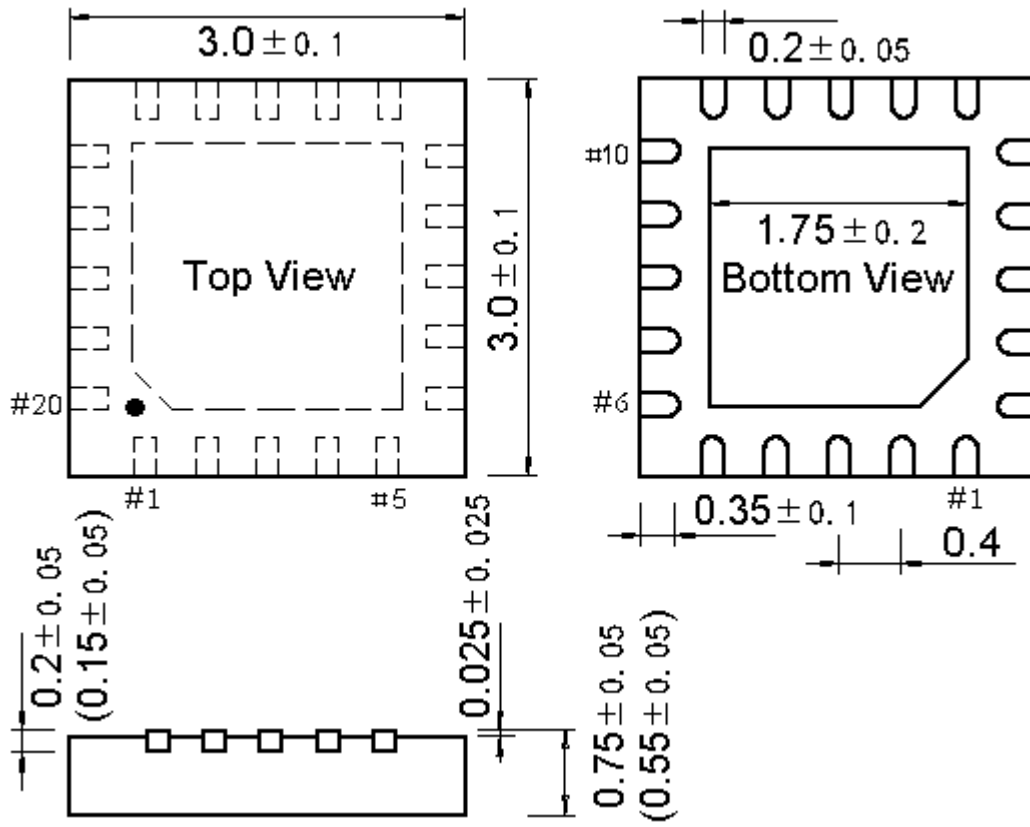
QFN16 (QFN16-3*3)



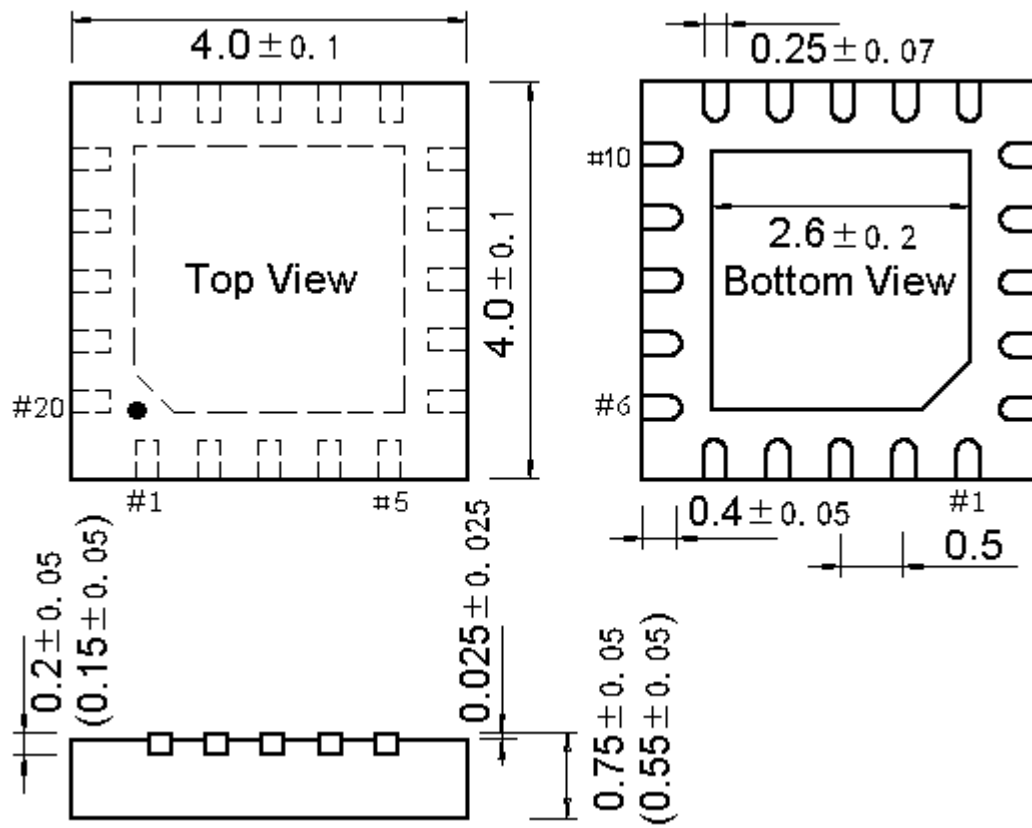
QFN16X4 (QFN16-4*4)



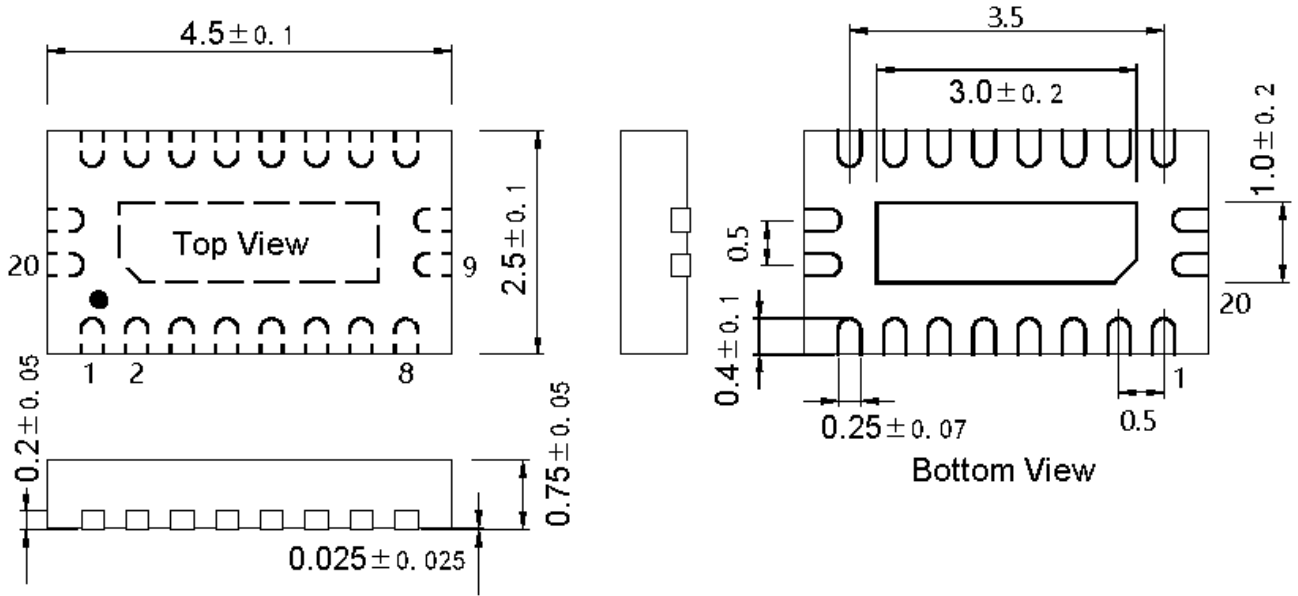
QFN20 (QFN20-3*3)



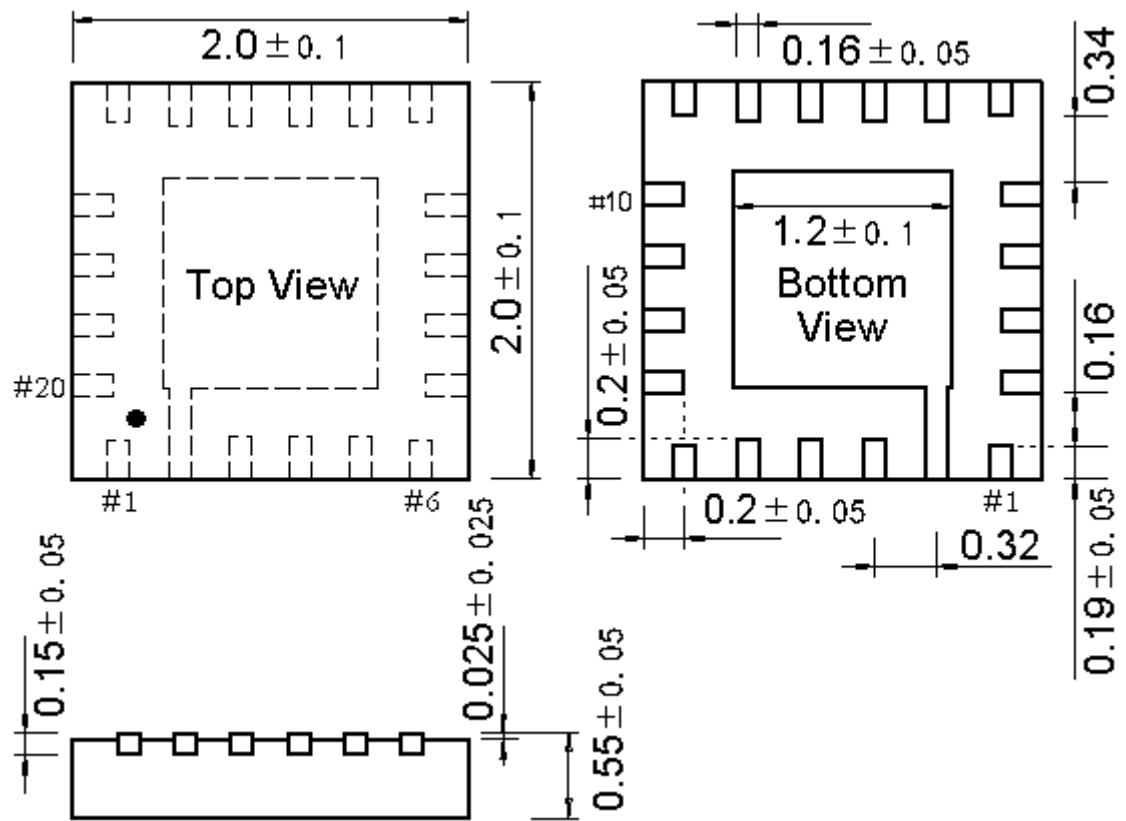
QFN20X4 (QFN20-4*4)



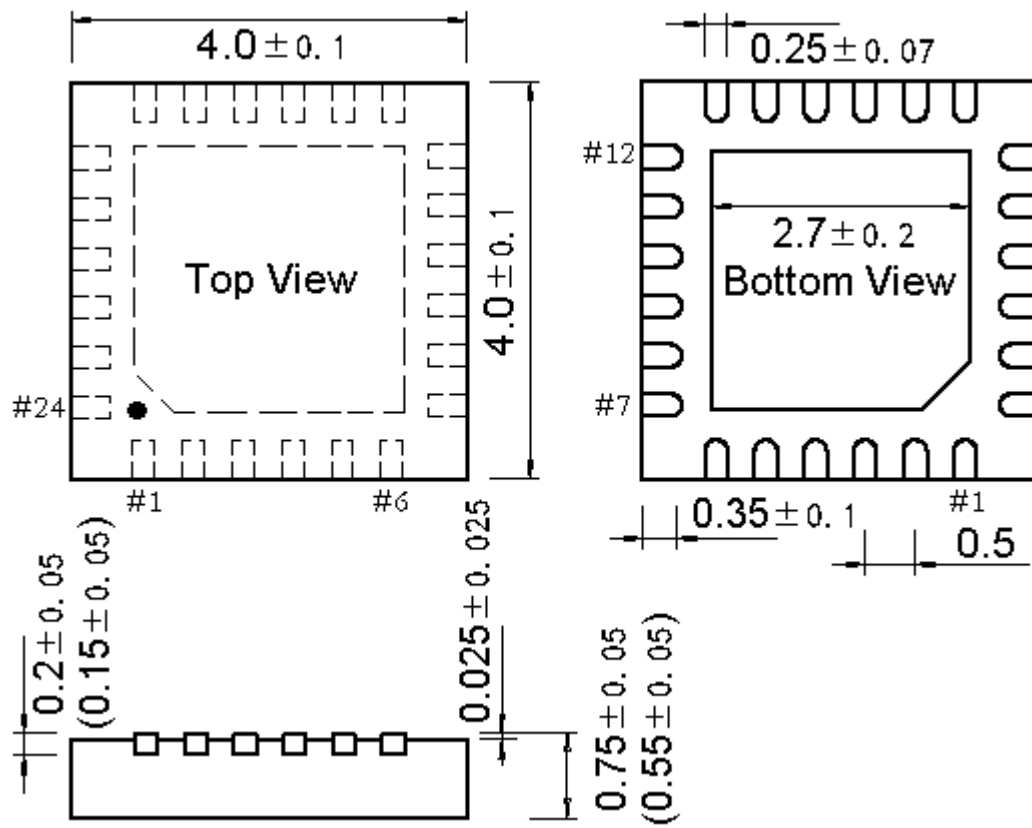
QFN20X25X45 (QFN20-2.5*4.5*0.75-0.5)



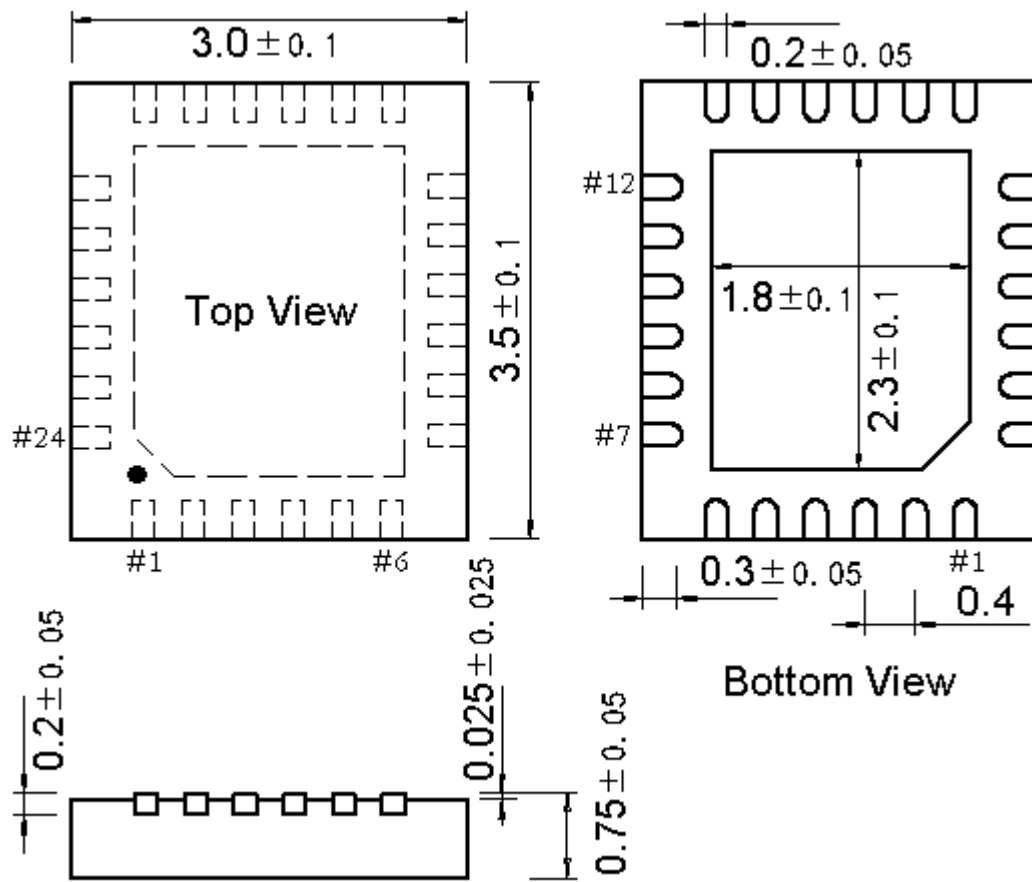
QFN20C2 (QFN20C-2*2*0.55-0.32)



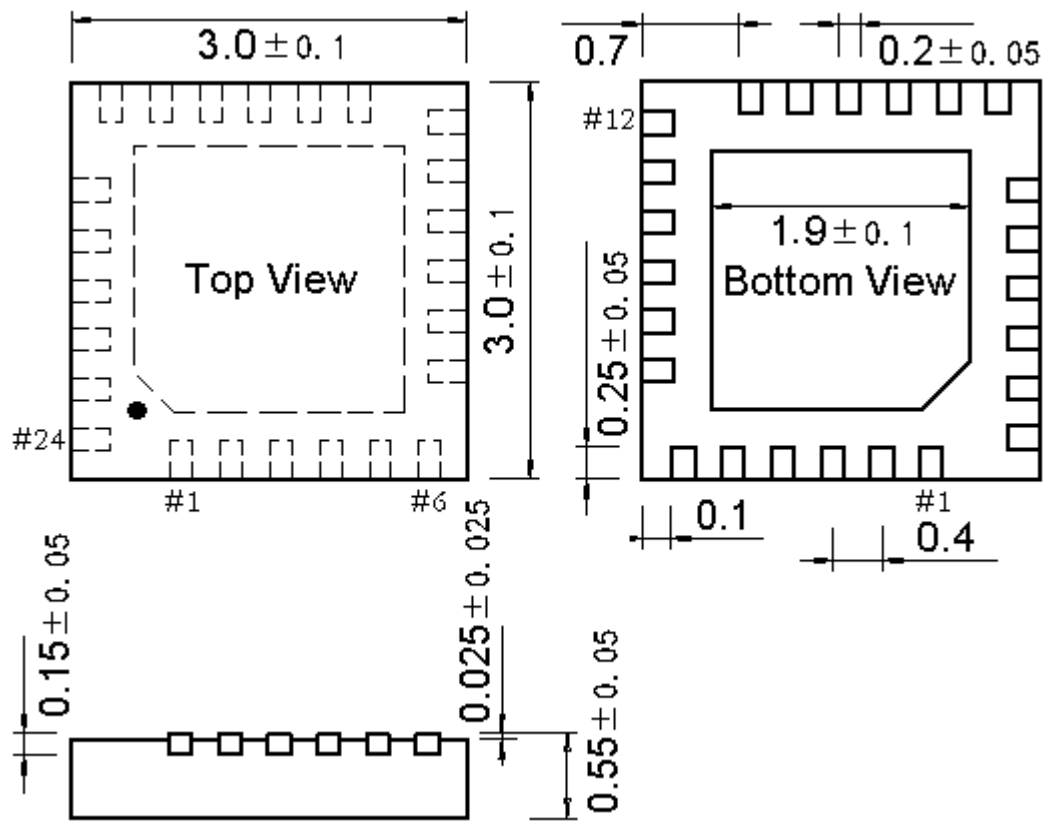
QFN24 (QFN24-4*4)



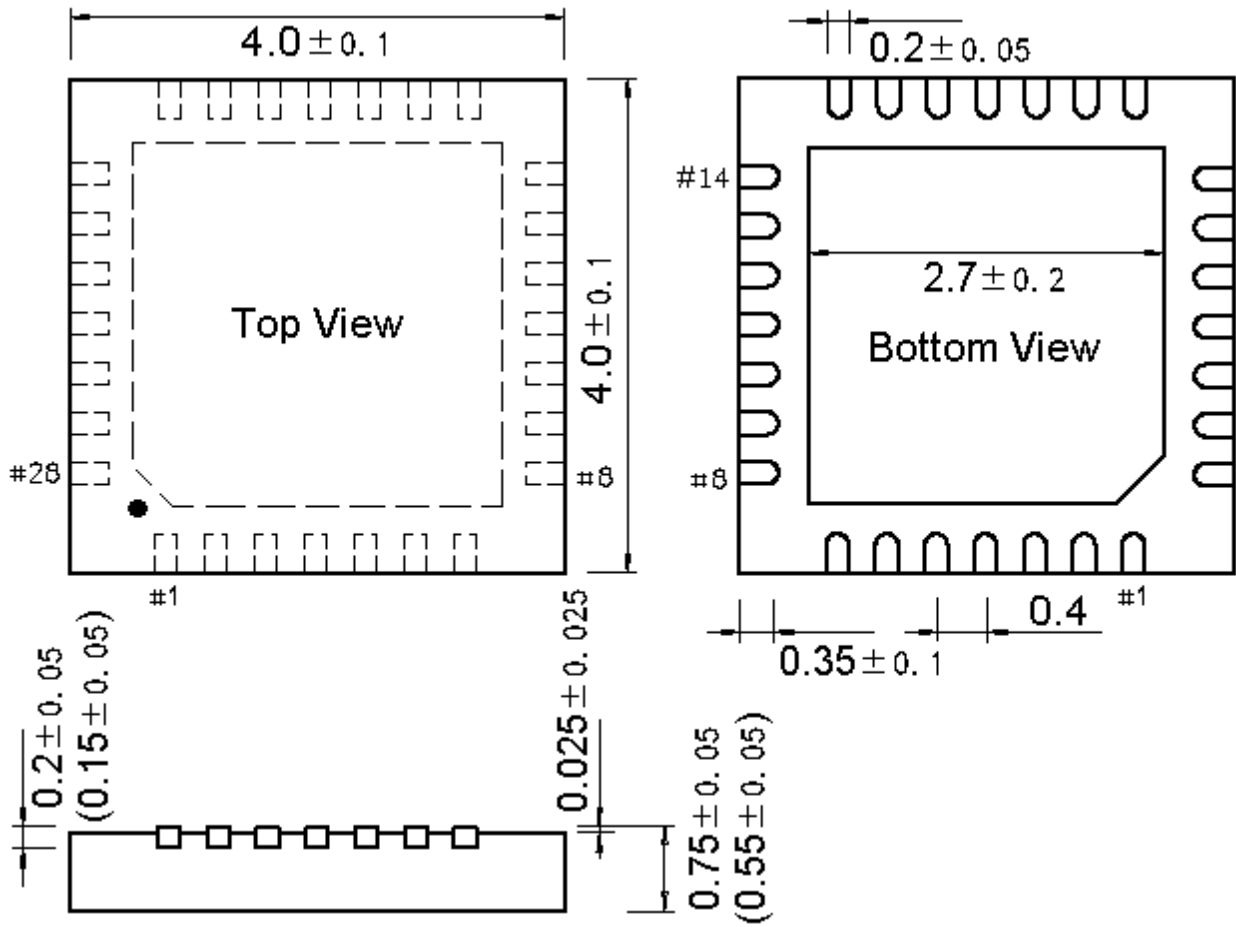
QFN24X3X35 (QFN24-3*3.5*0.75-0.4)



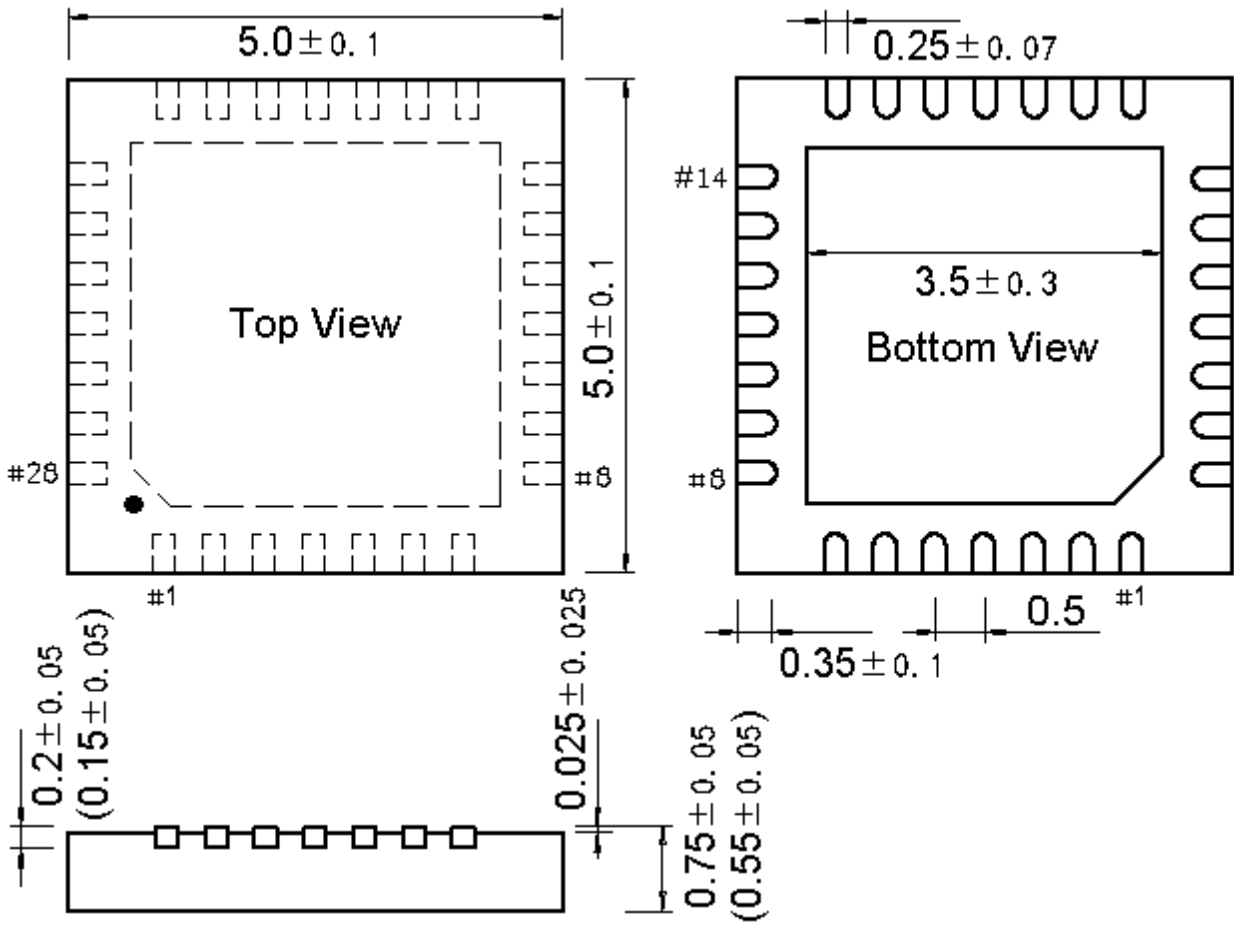
QFN24X3 (QFN24-3*3*0.55-0.4)



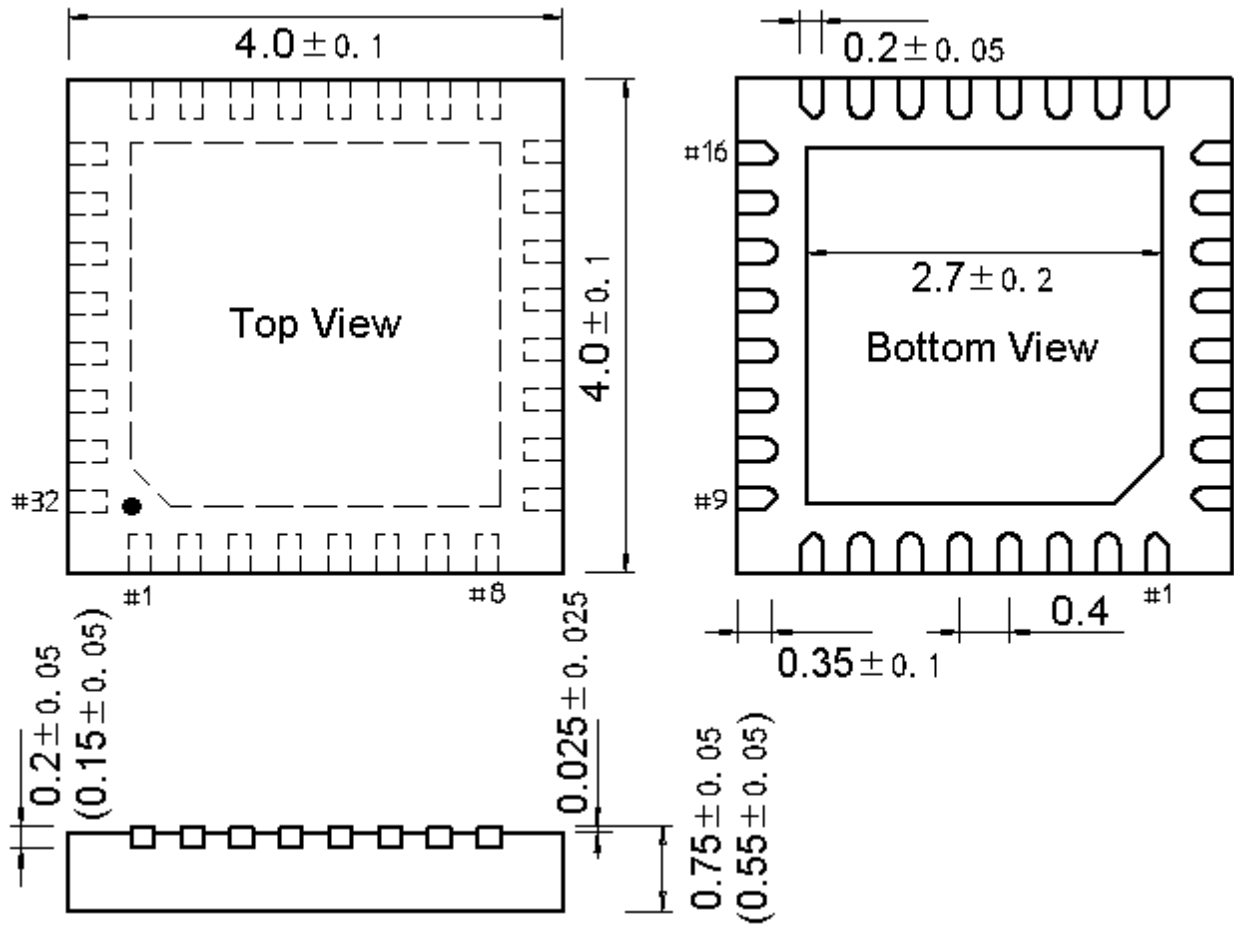
QFN28 (QFN28-4*4)



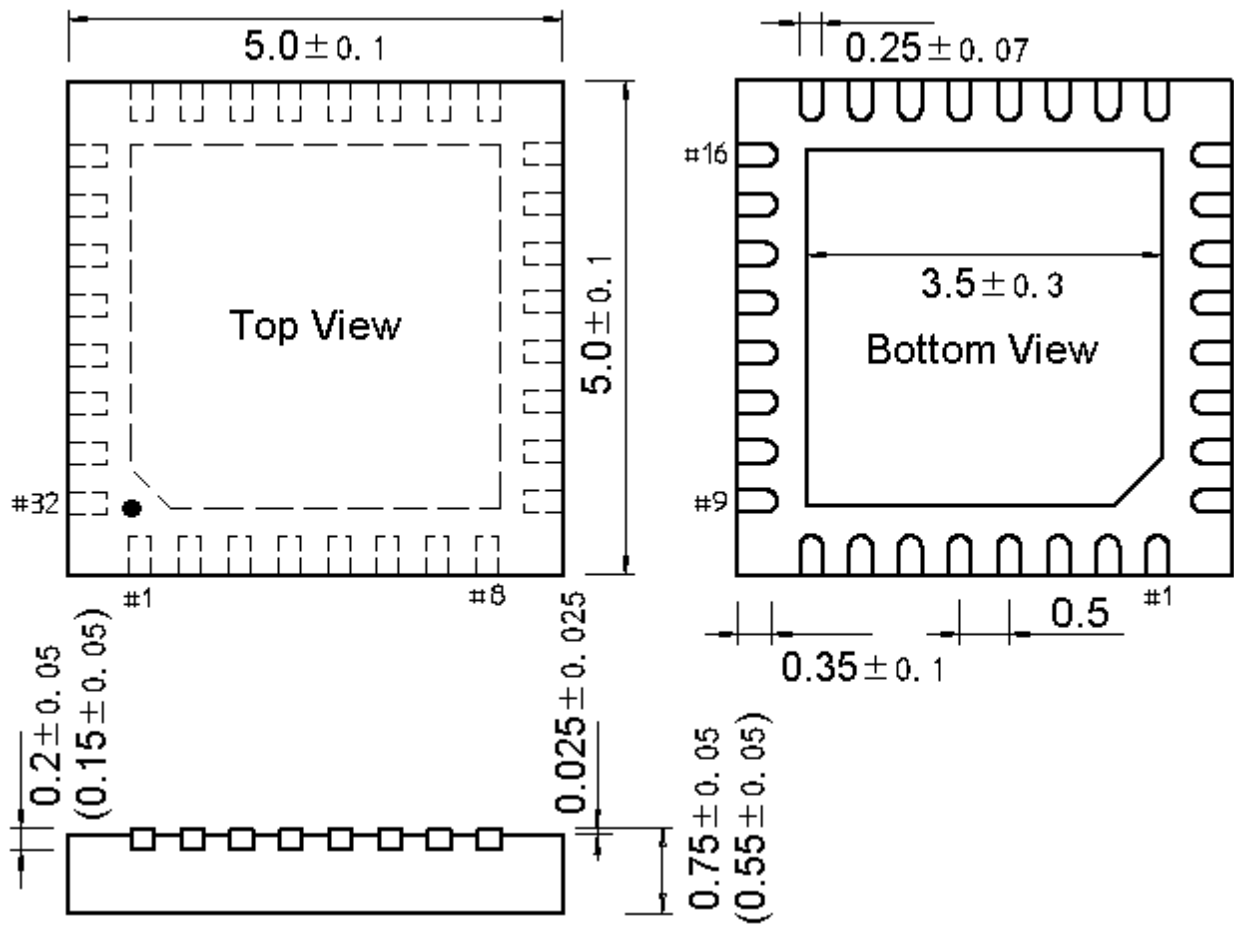
QFN28X5 (QFN28-5*5)



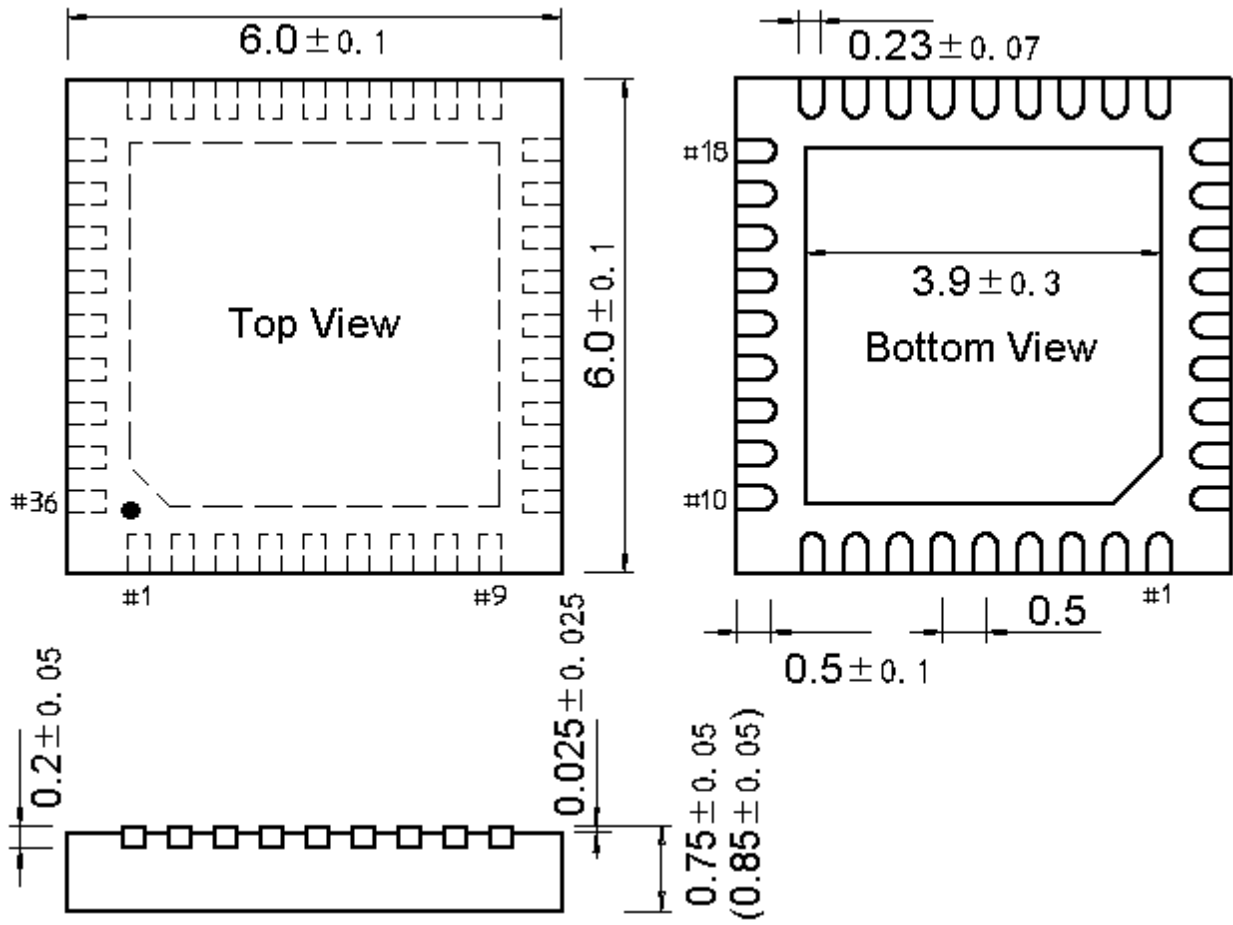
QFN32 (QFN32-4*4)



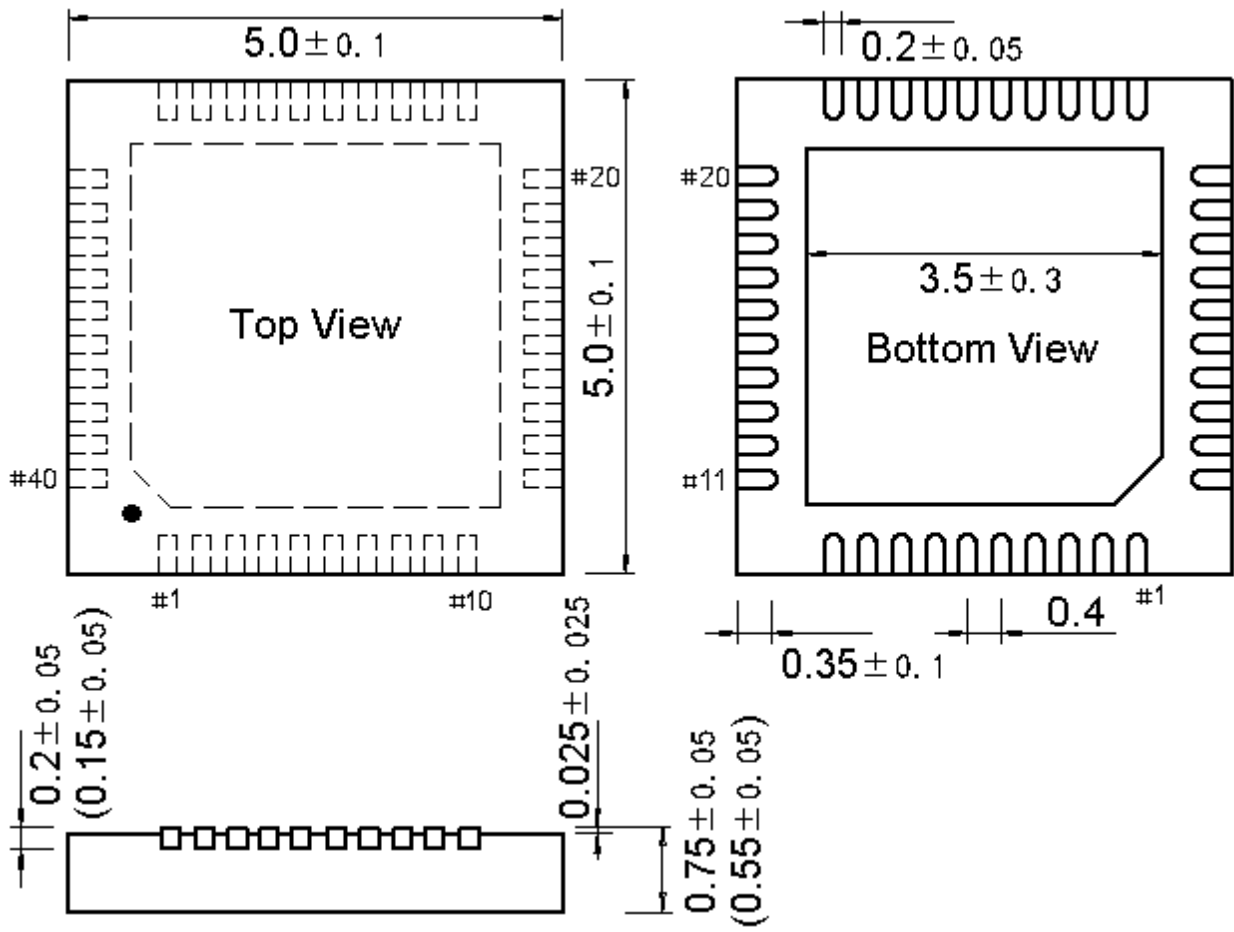
QFN32X5 (QFN32-5*5)



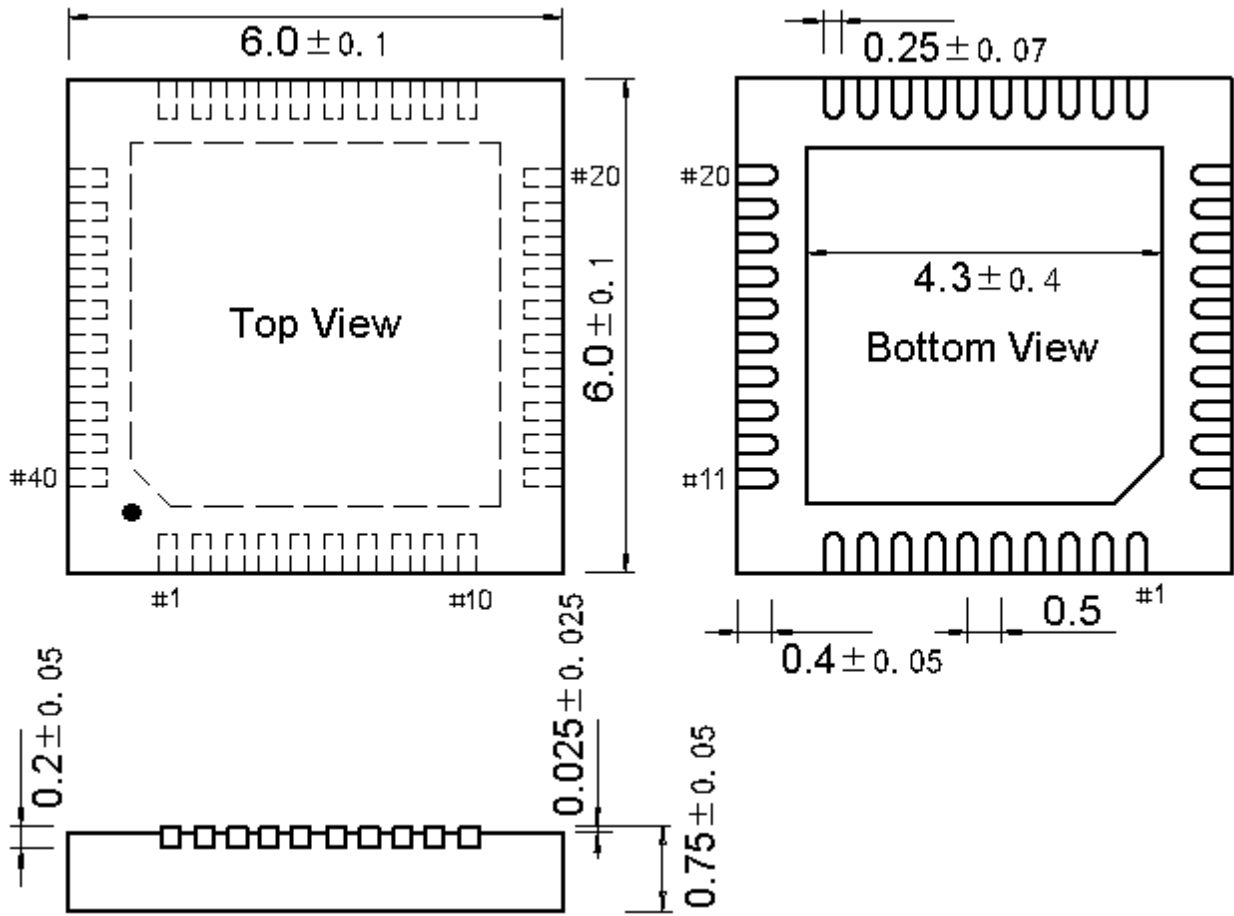
QFN36X6 (QFN36-6*6)



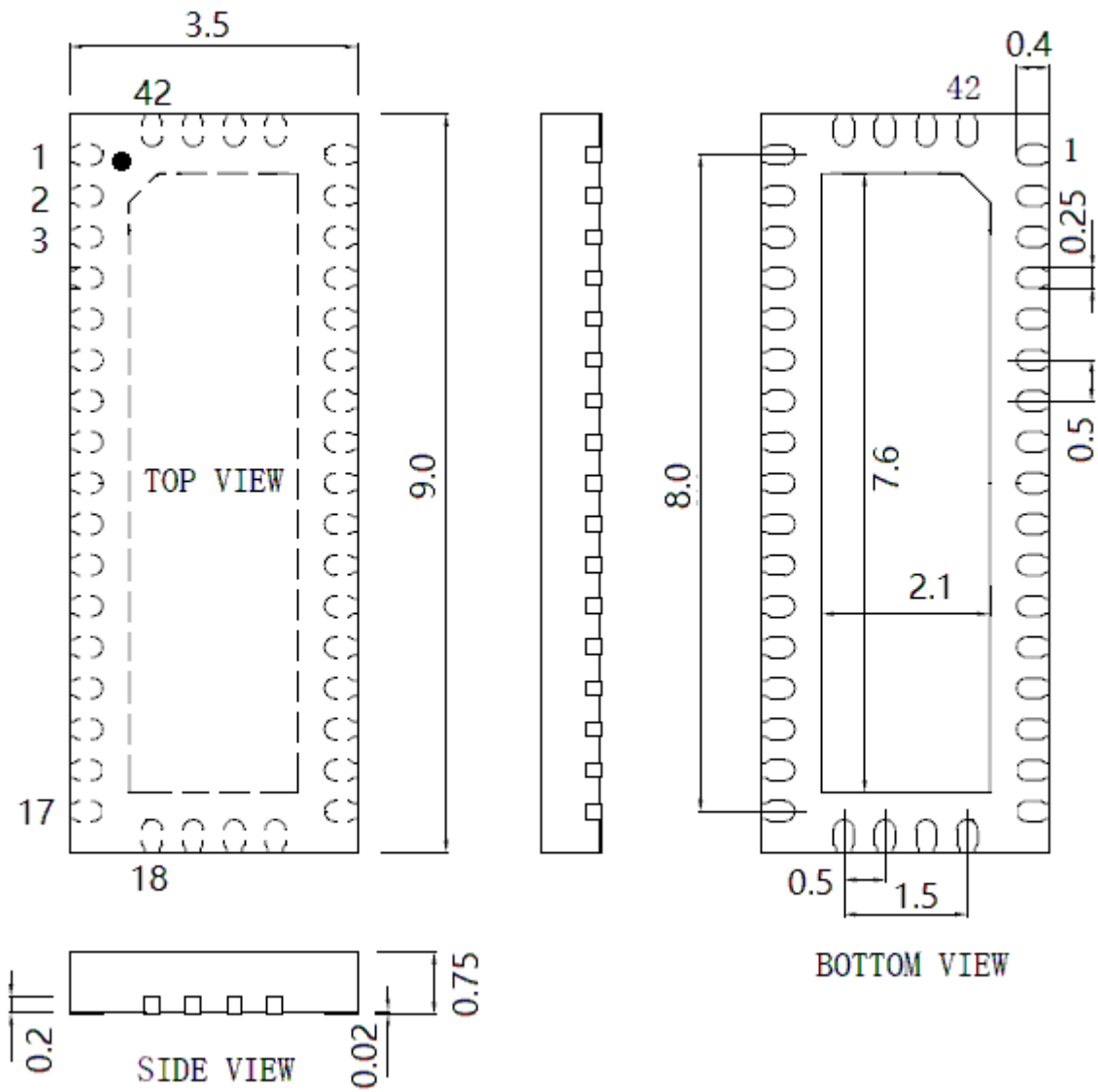
QFN40 (QFN40-5*5)



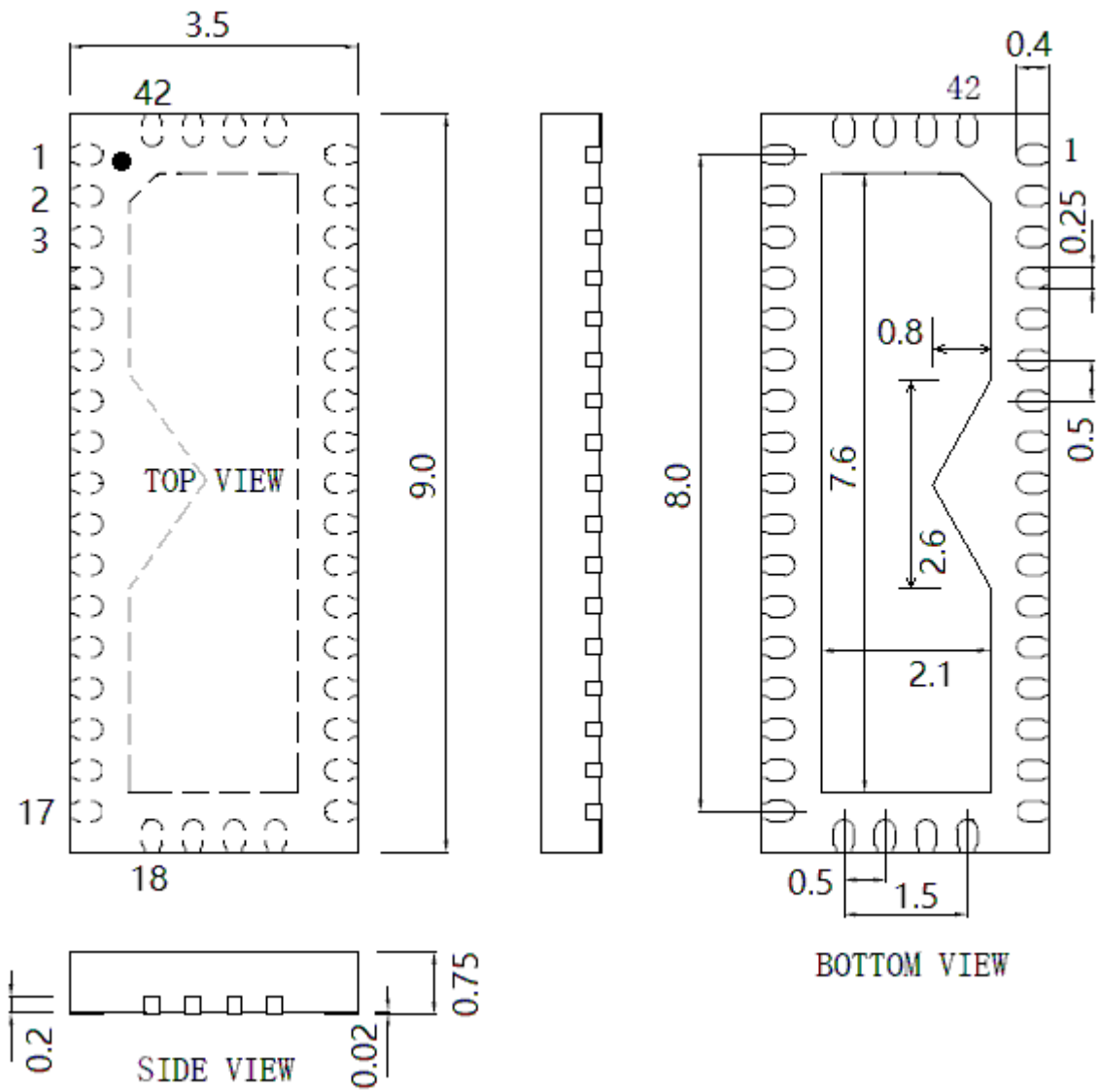
QFN40X6 (QFN40-6*6)



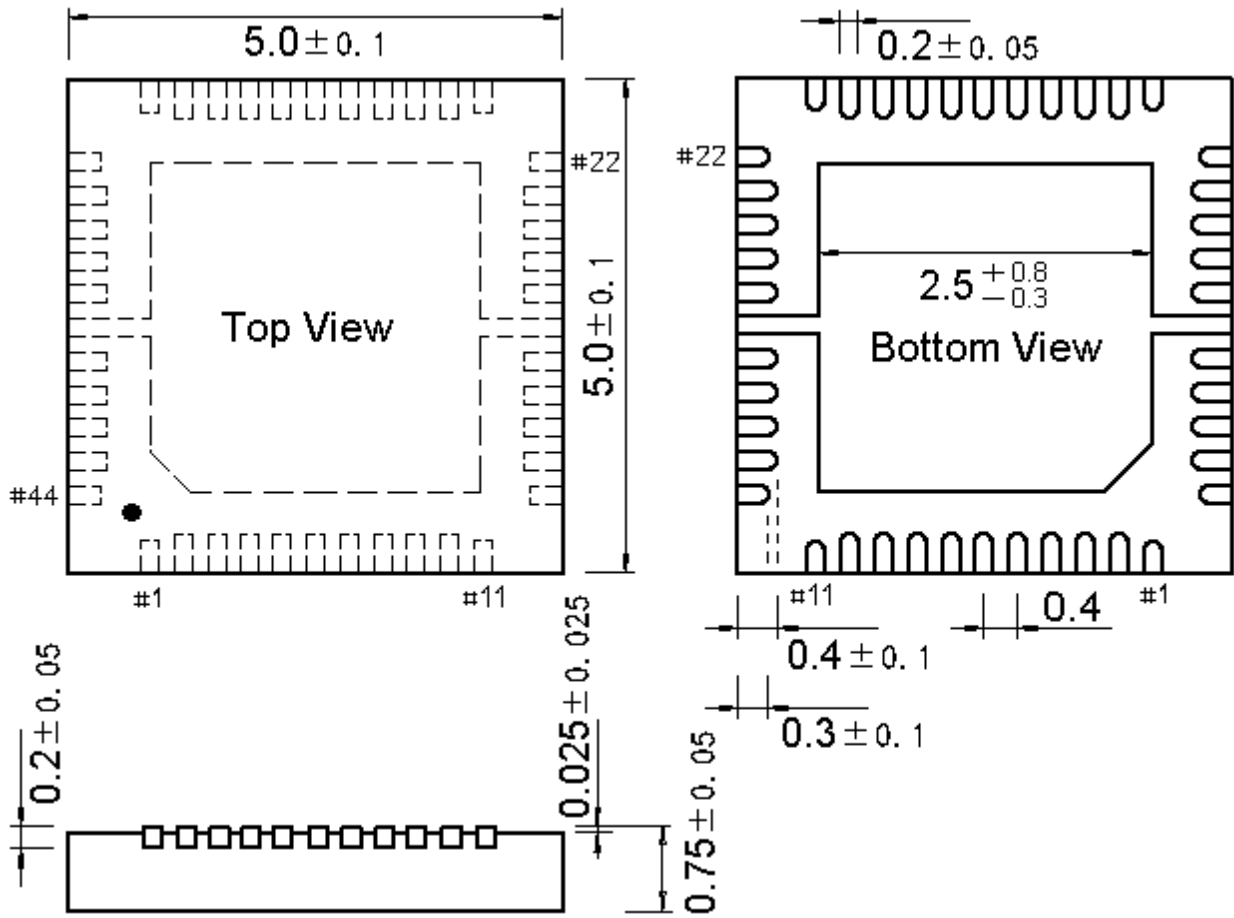
QFN42-3.5*9



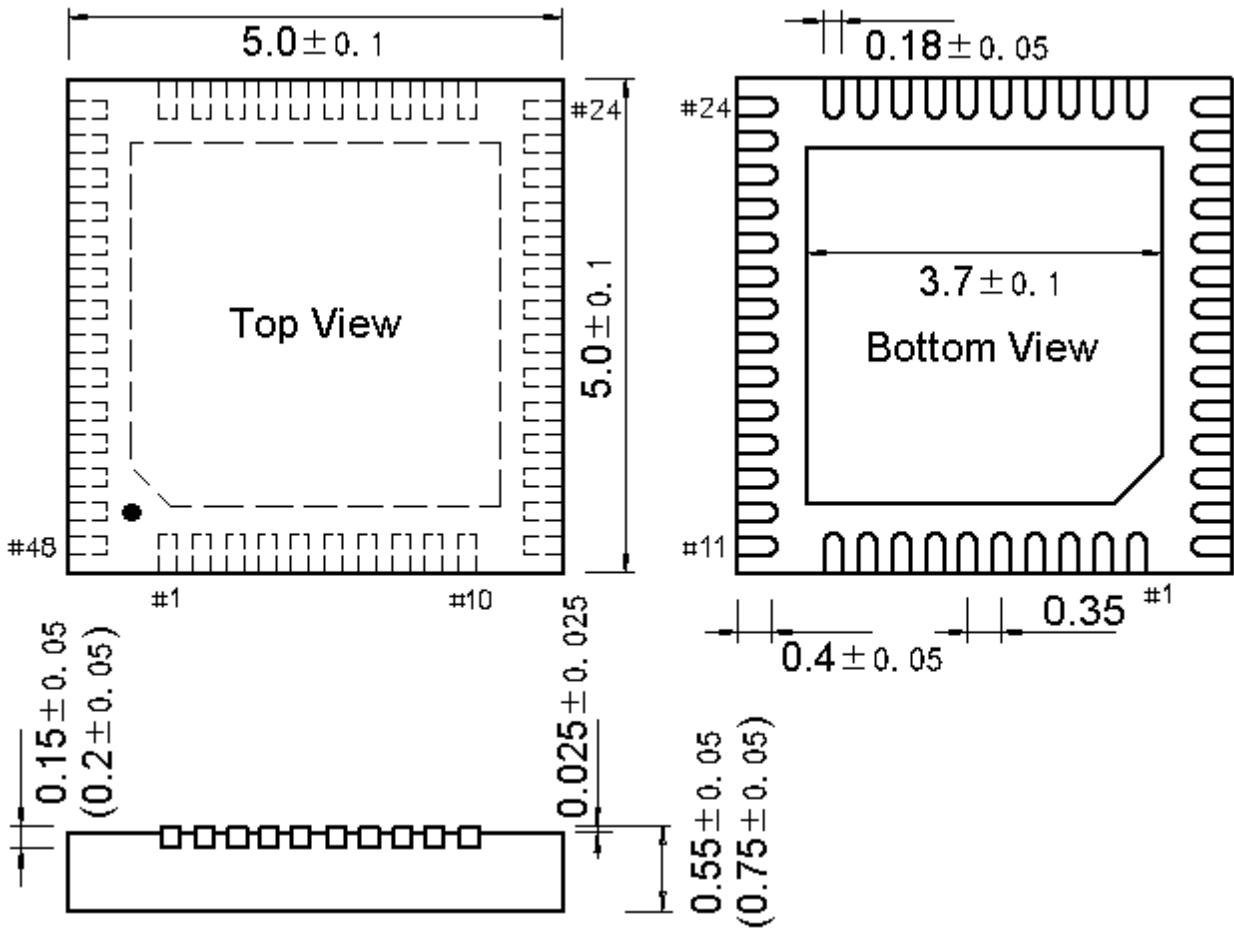
QFN42C-3.5*9



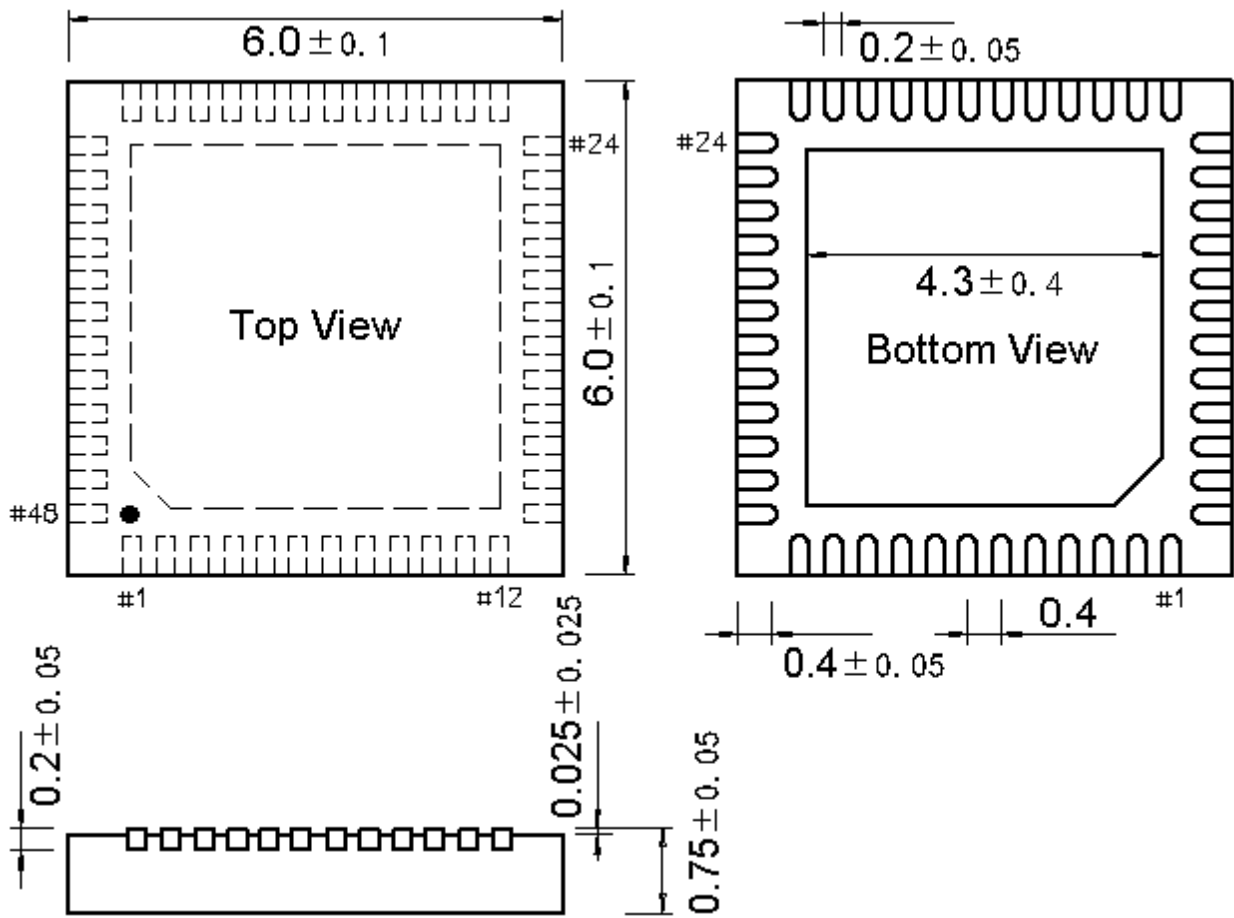
QFN44 (QFN44-5*5*0.75-0.4)



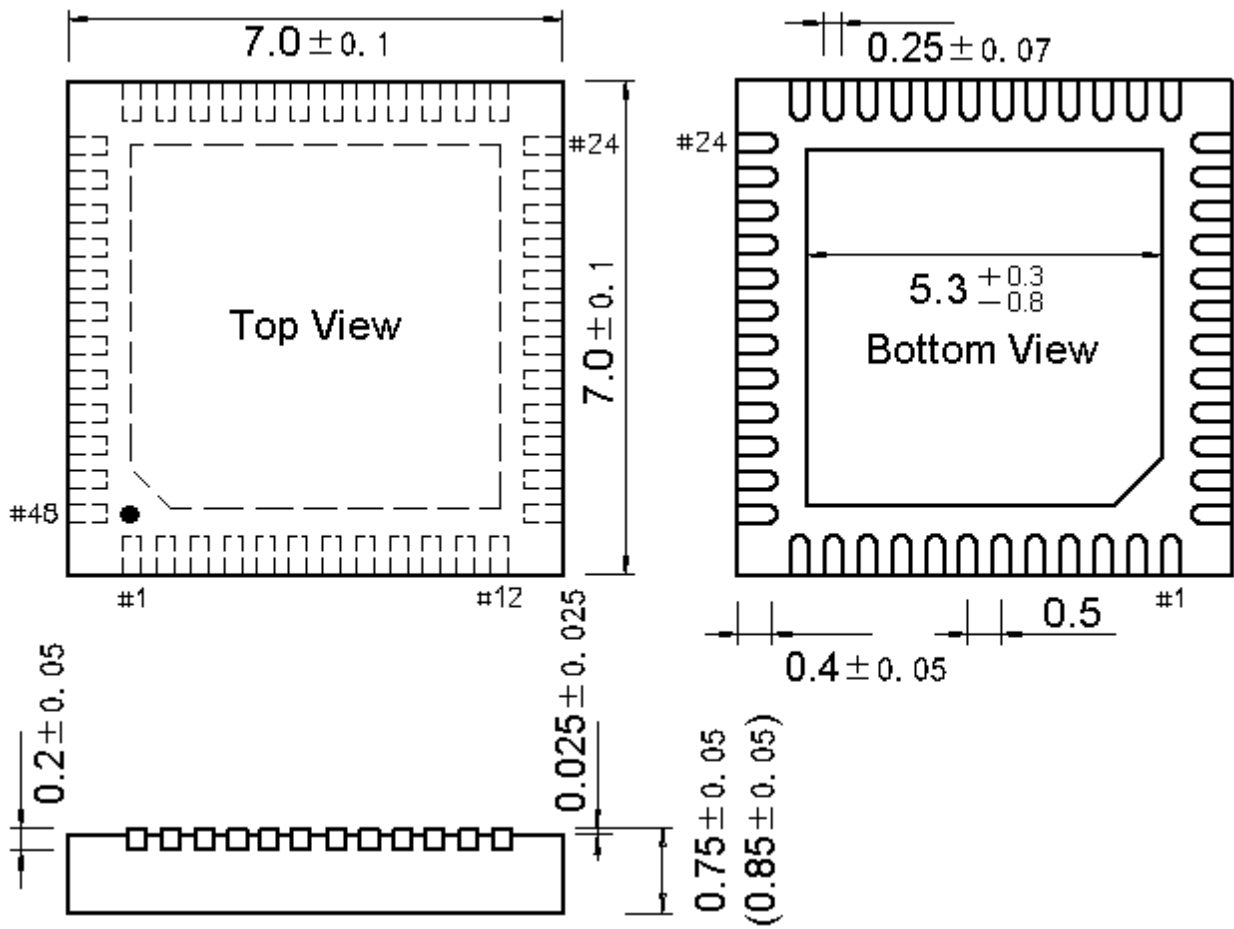
QFN48 (QFN48-5*5*0.55-0.35)



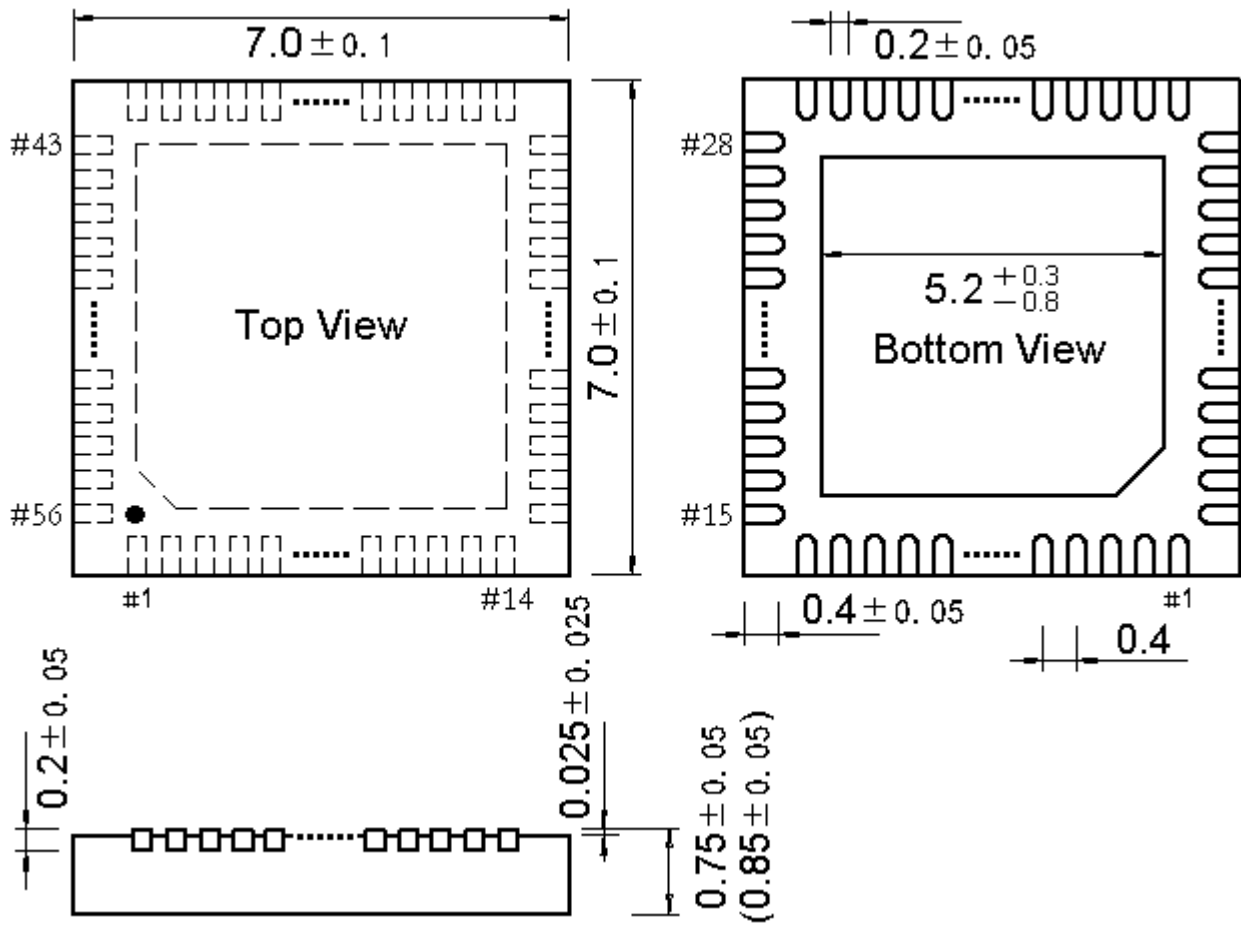
QFN48X6 (QFN48-6*6)



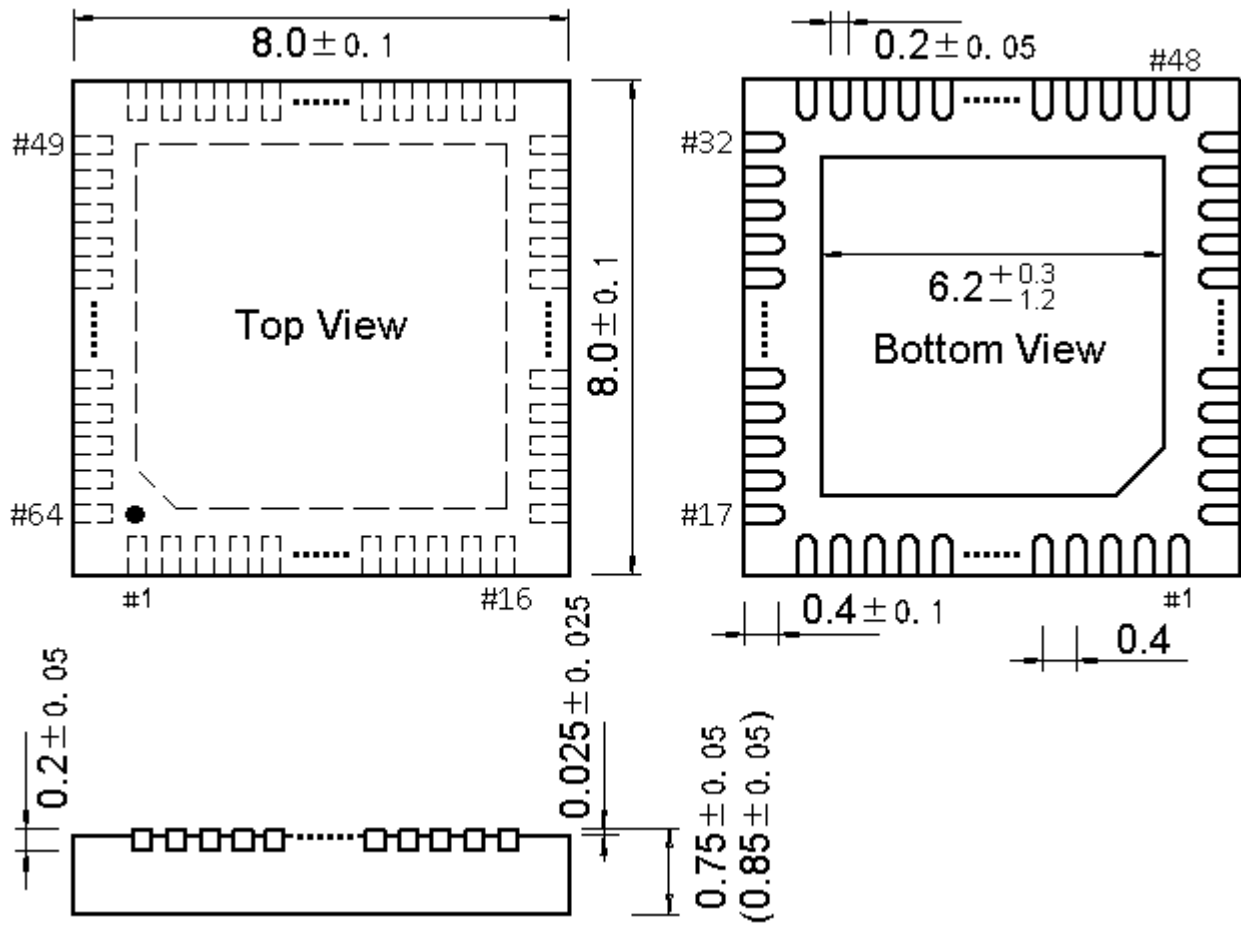
QFN48X7 (QFN48-7*7)



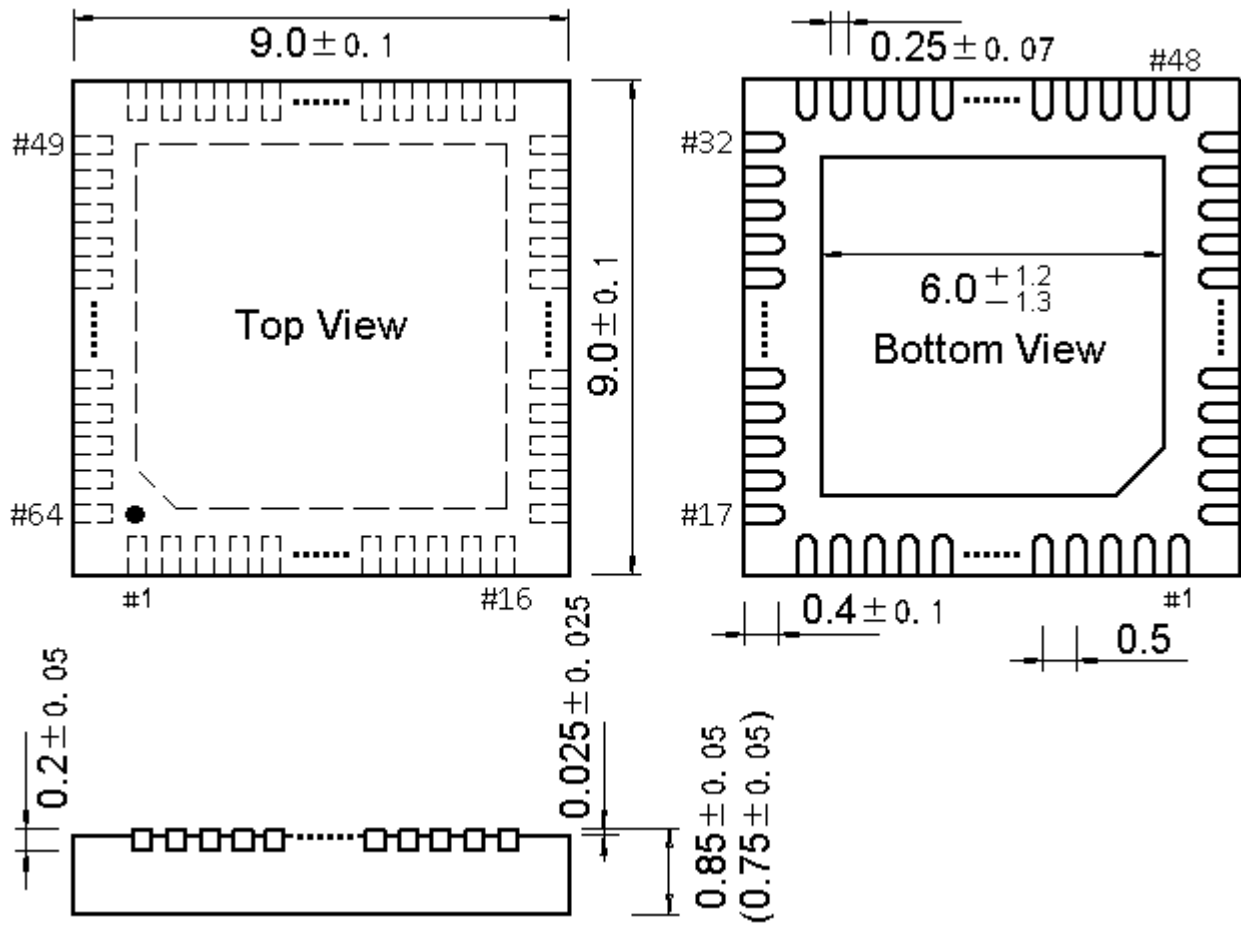
QFN56 (QFN56-7*7)



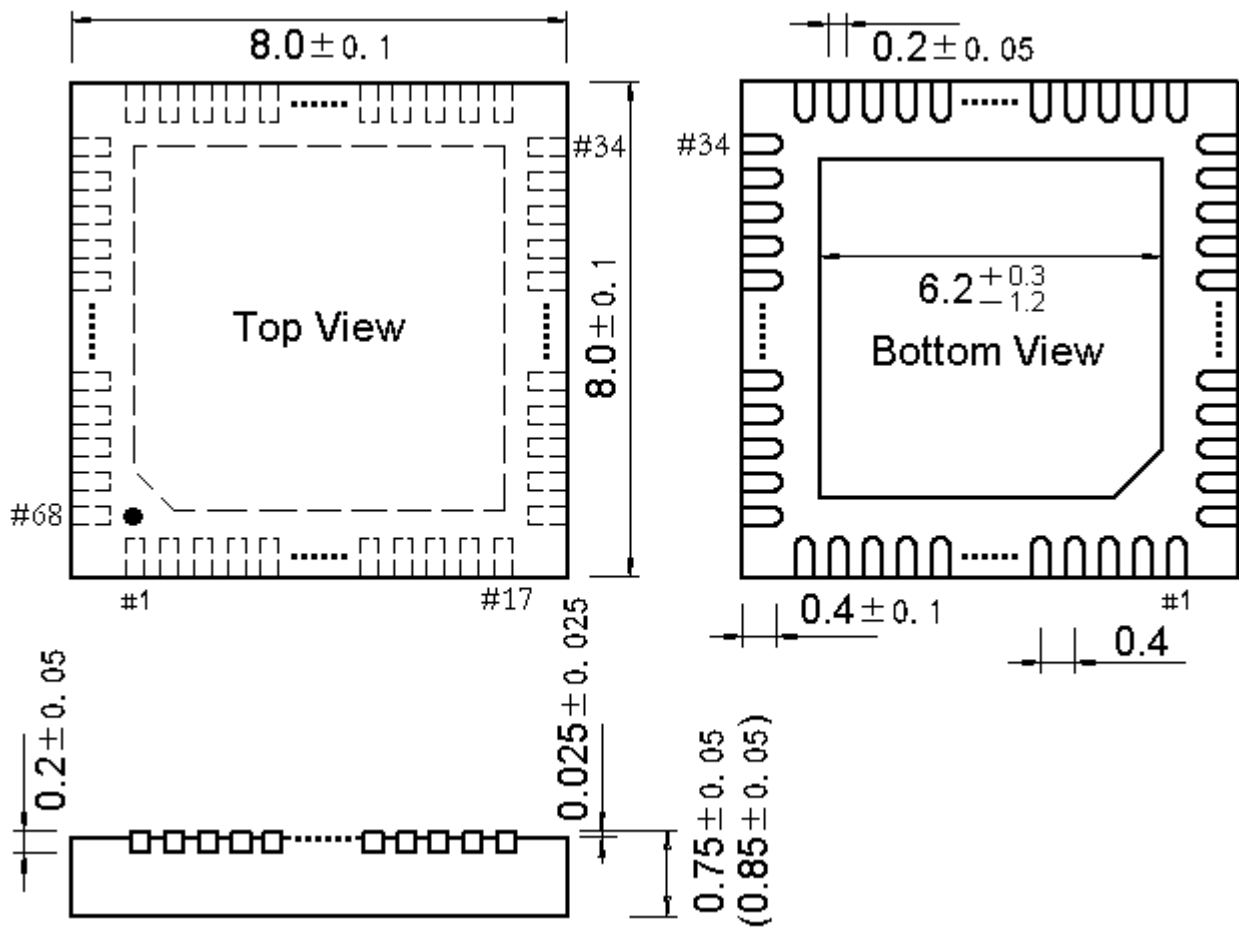
QFN64 (QFN64-8*8)



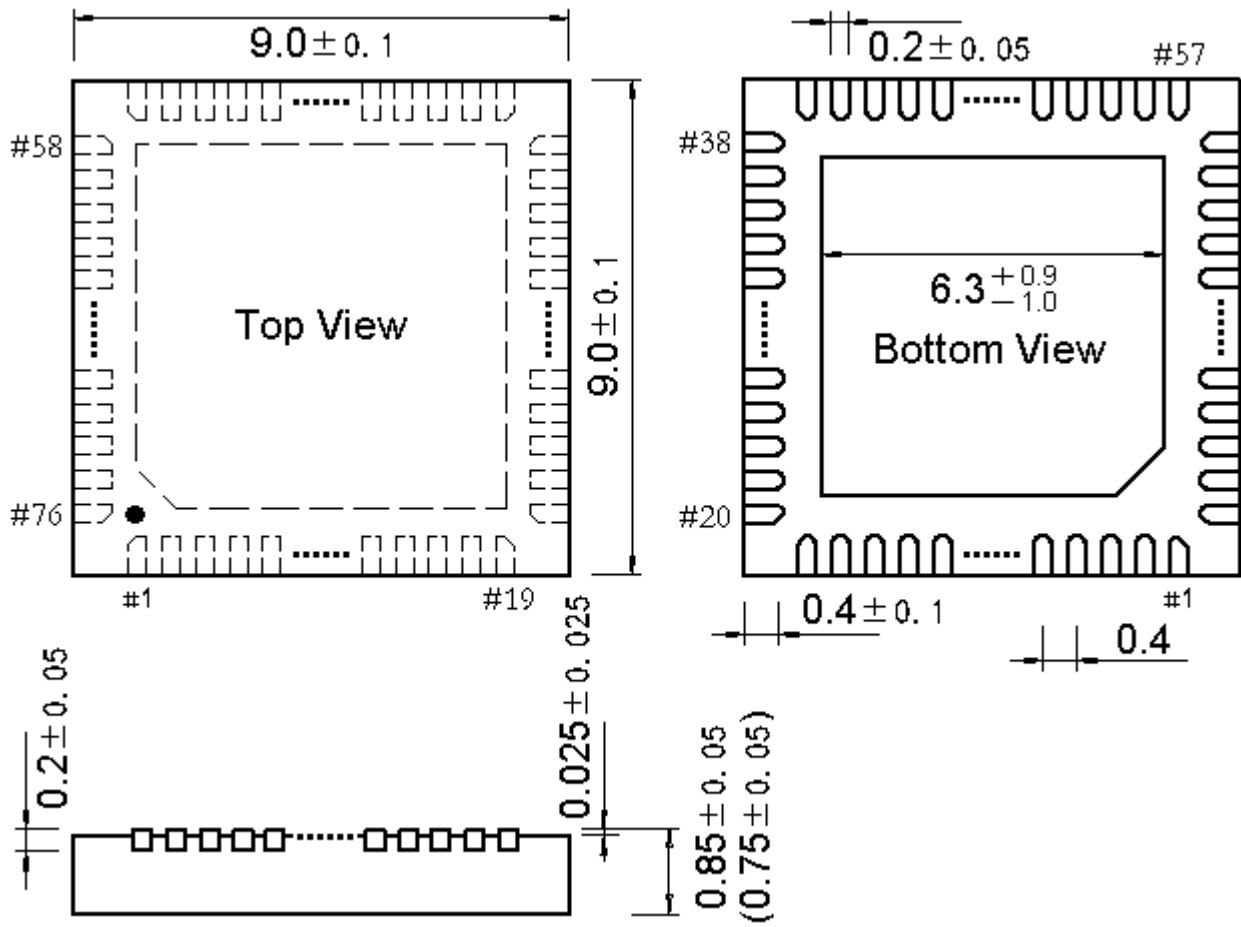
QFN64X9 (QFN64-9*9)



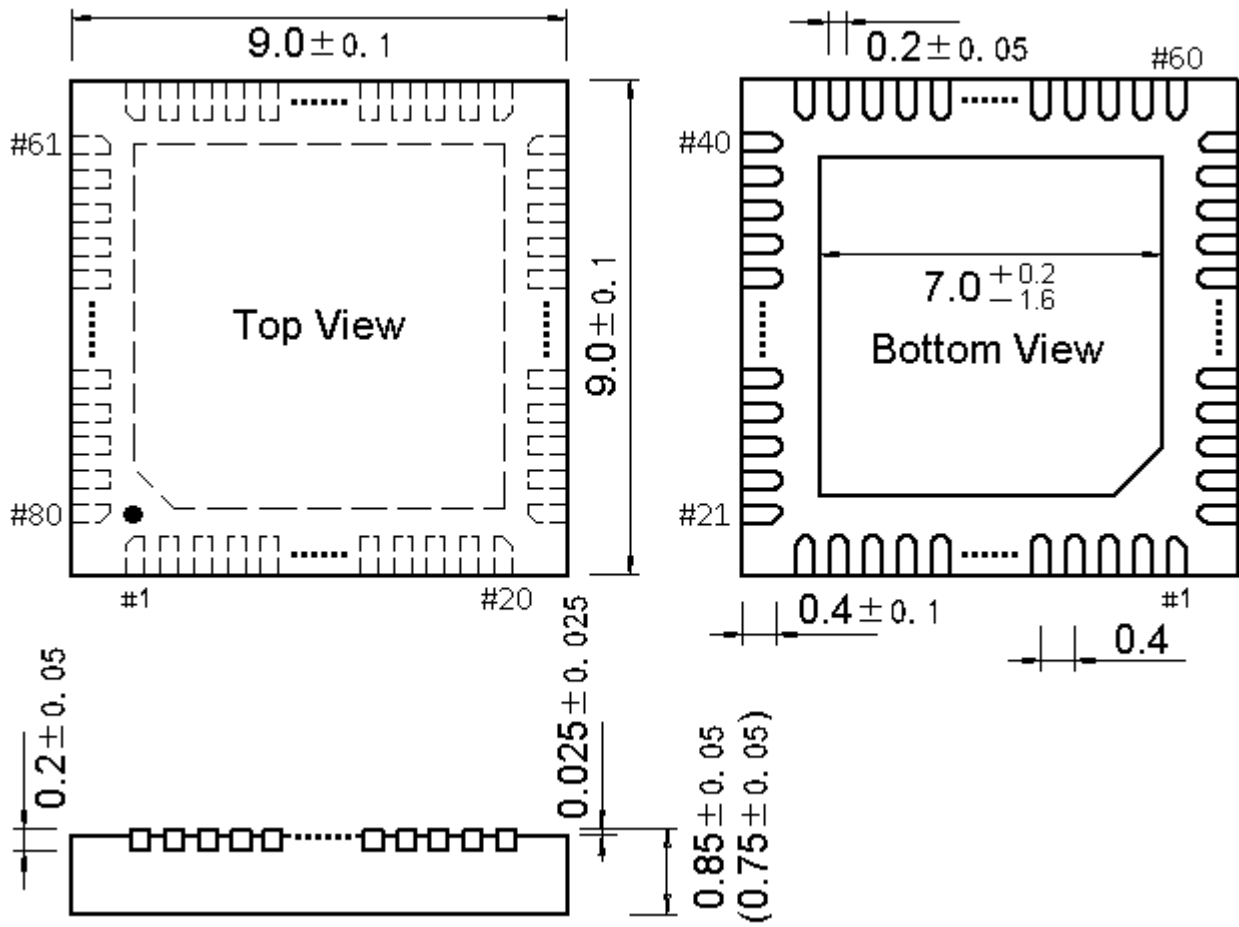
QFN68 (QFN68-8*8)



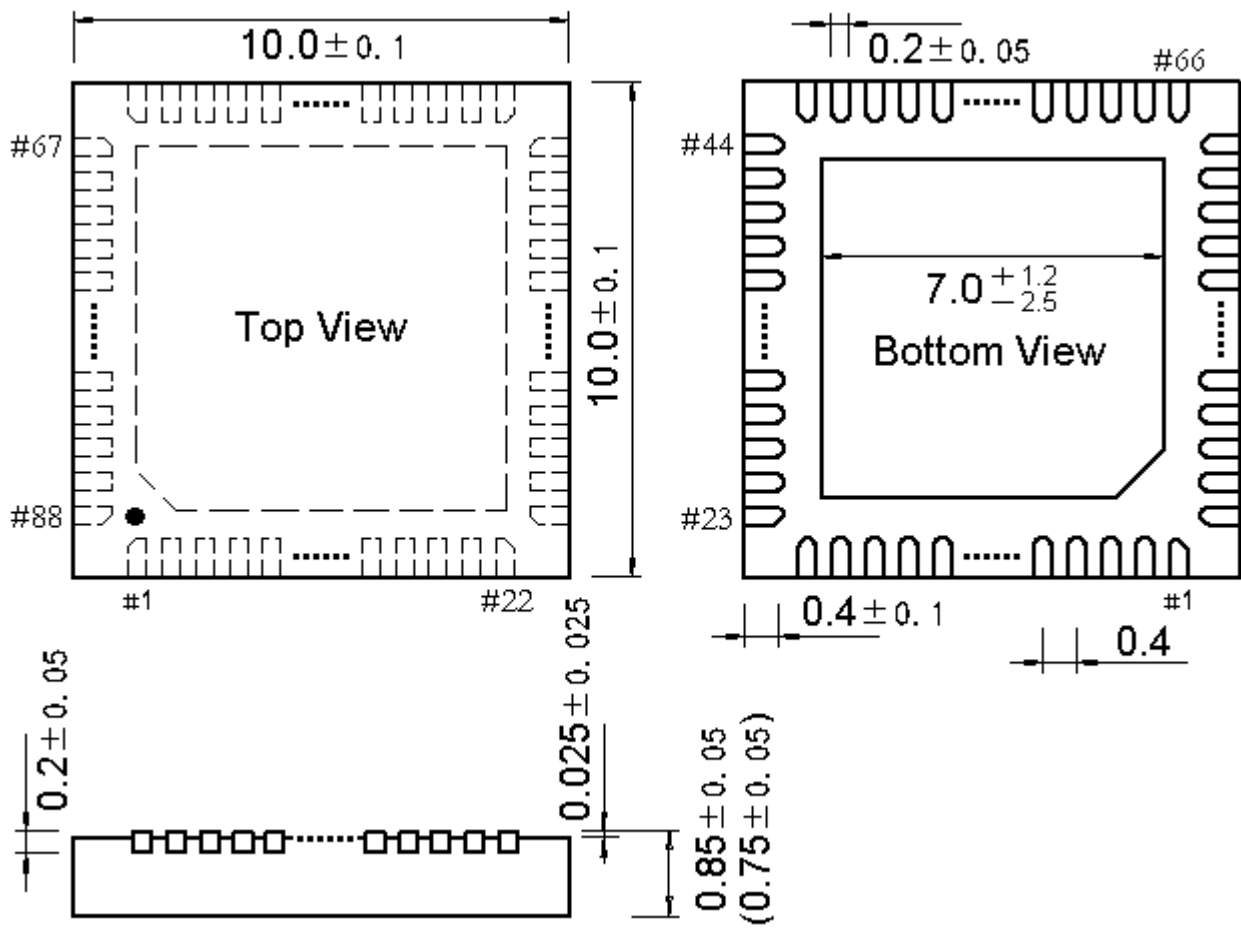
QFN76 (QFN76-9*9)



QFN80 (QFN80-9*9)

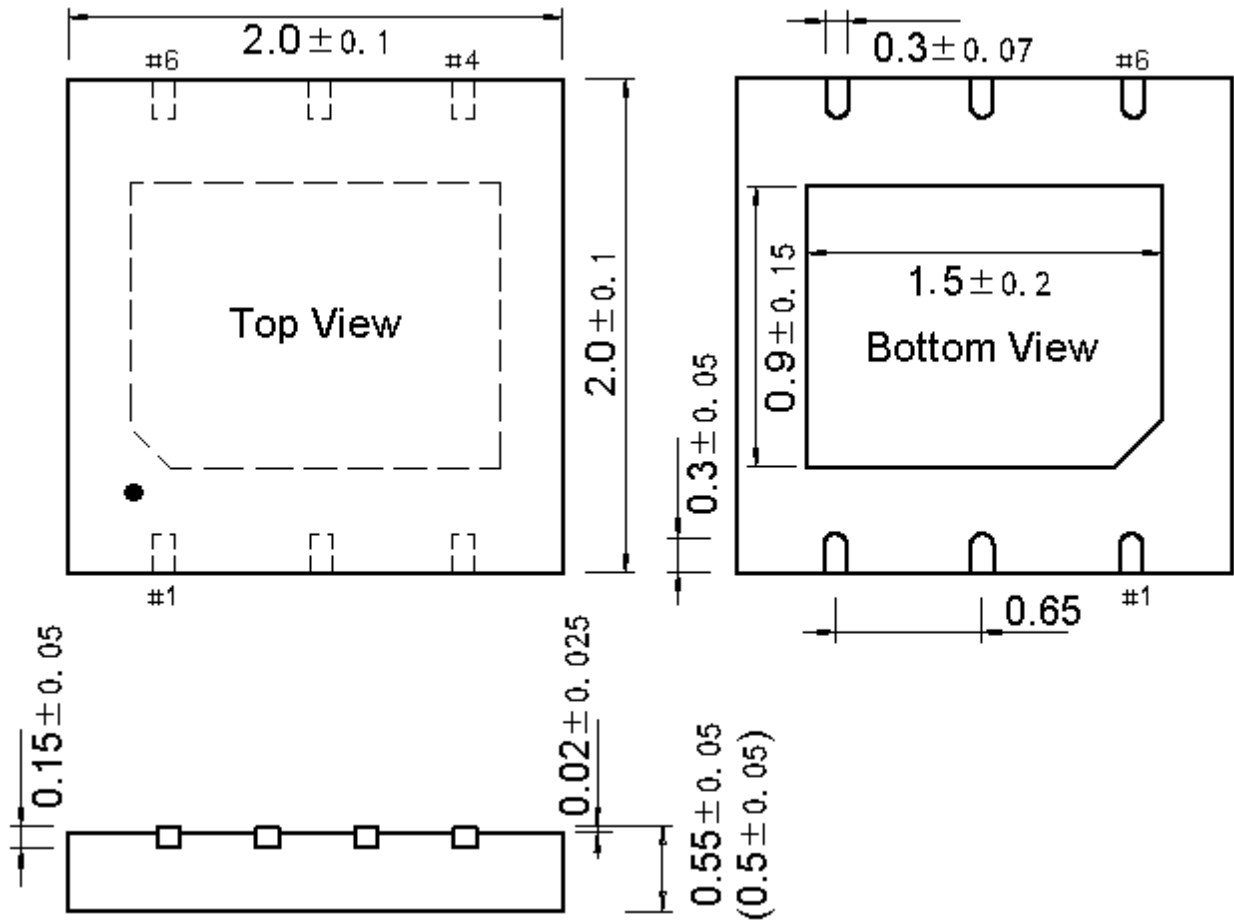


QFN88 (QFN88-10*10)

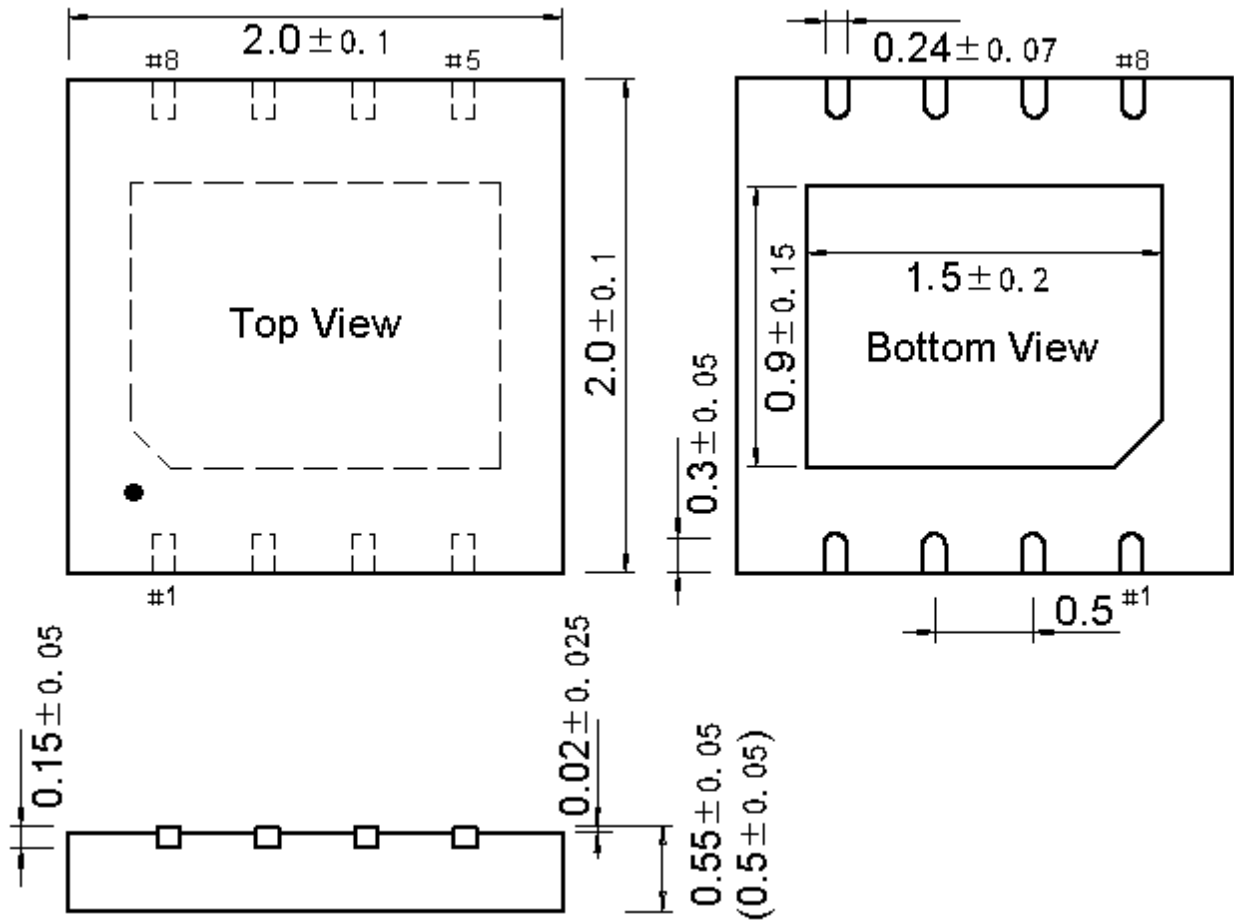


DFN Type

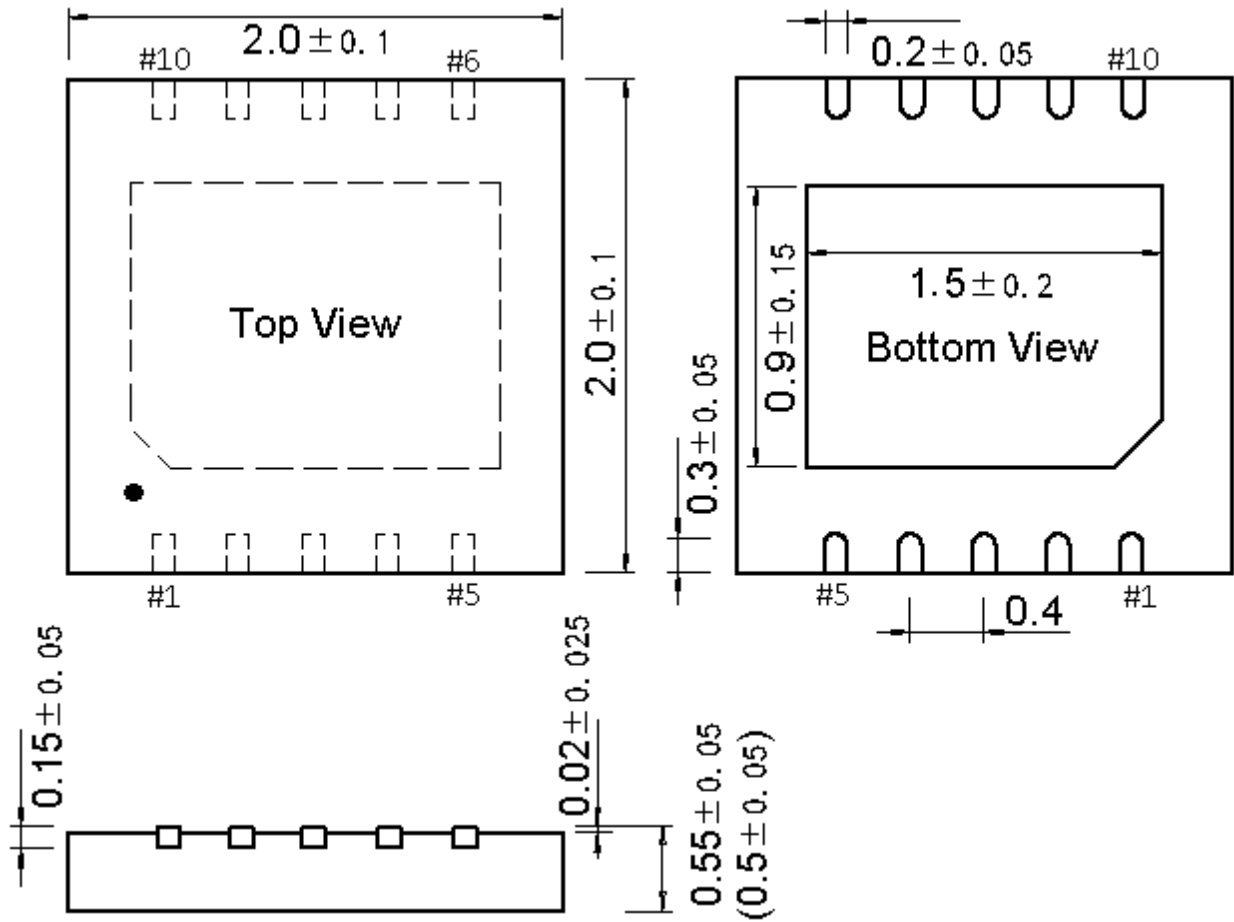
DFN6 (DFN6-2*2)



DFN8 (DFN8-2*2)

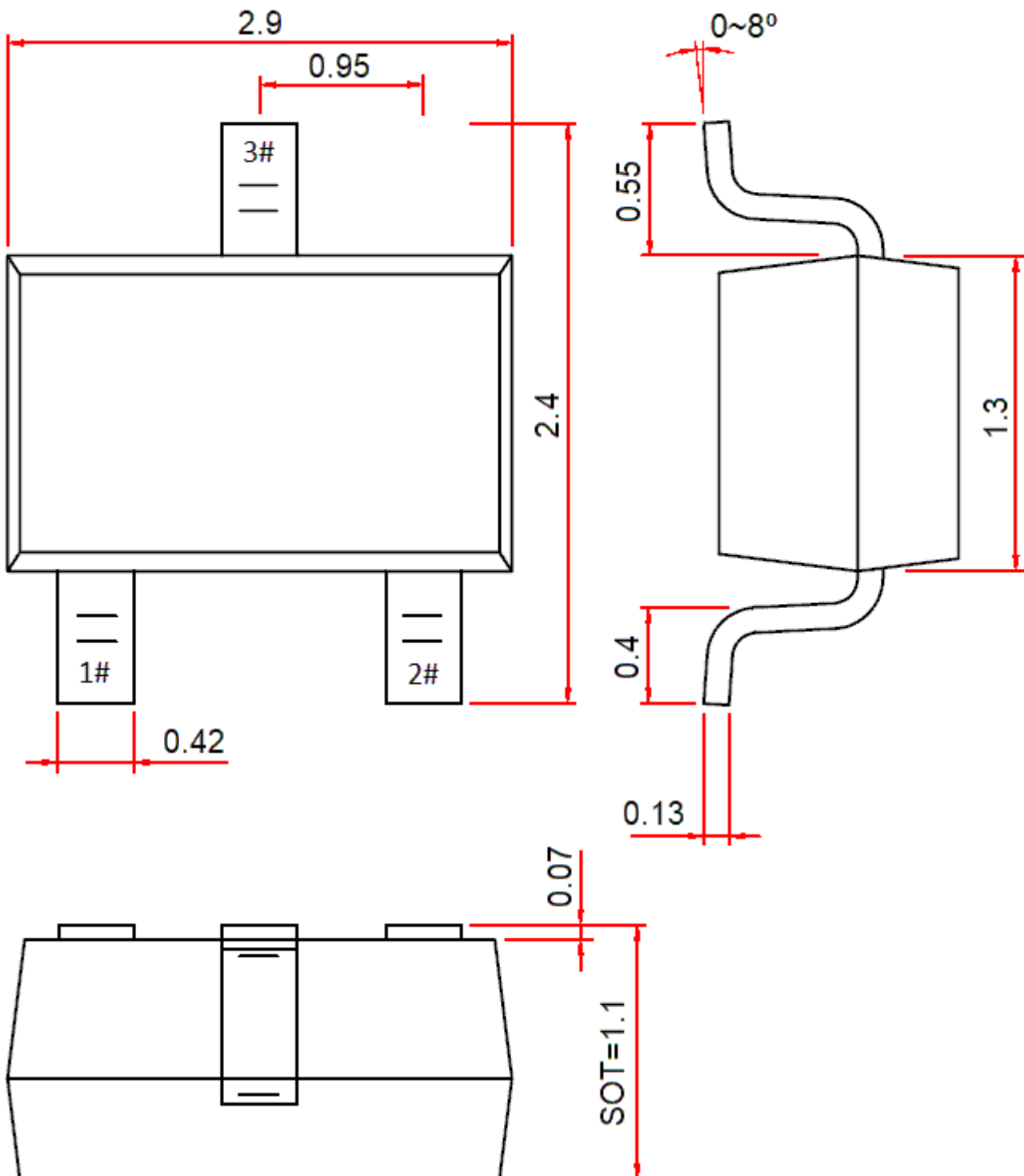


DFN10 (DFN10-2*2)

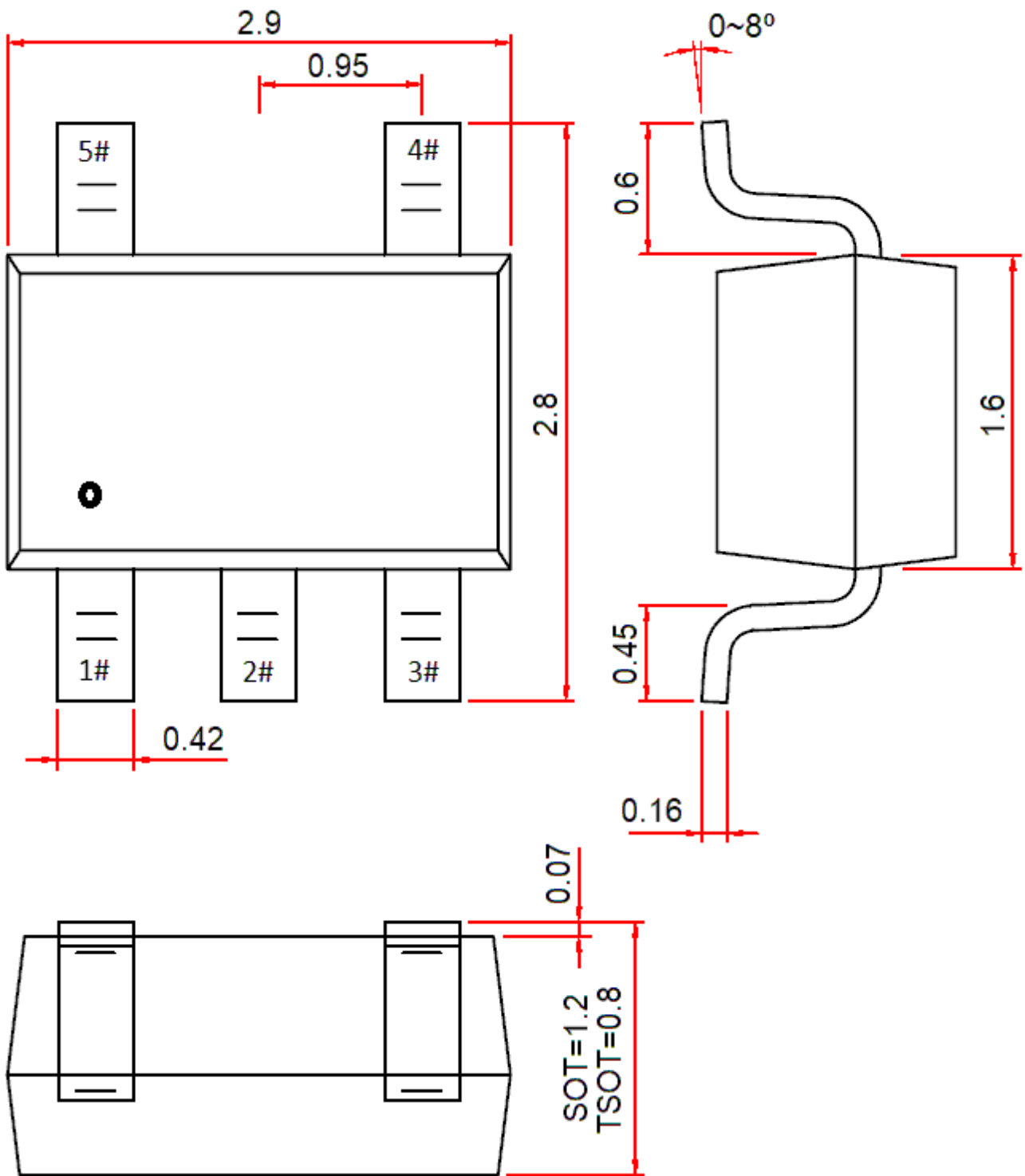


SOT Type

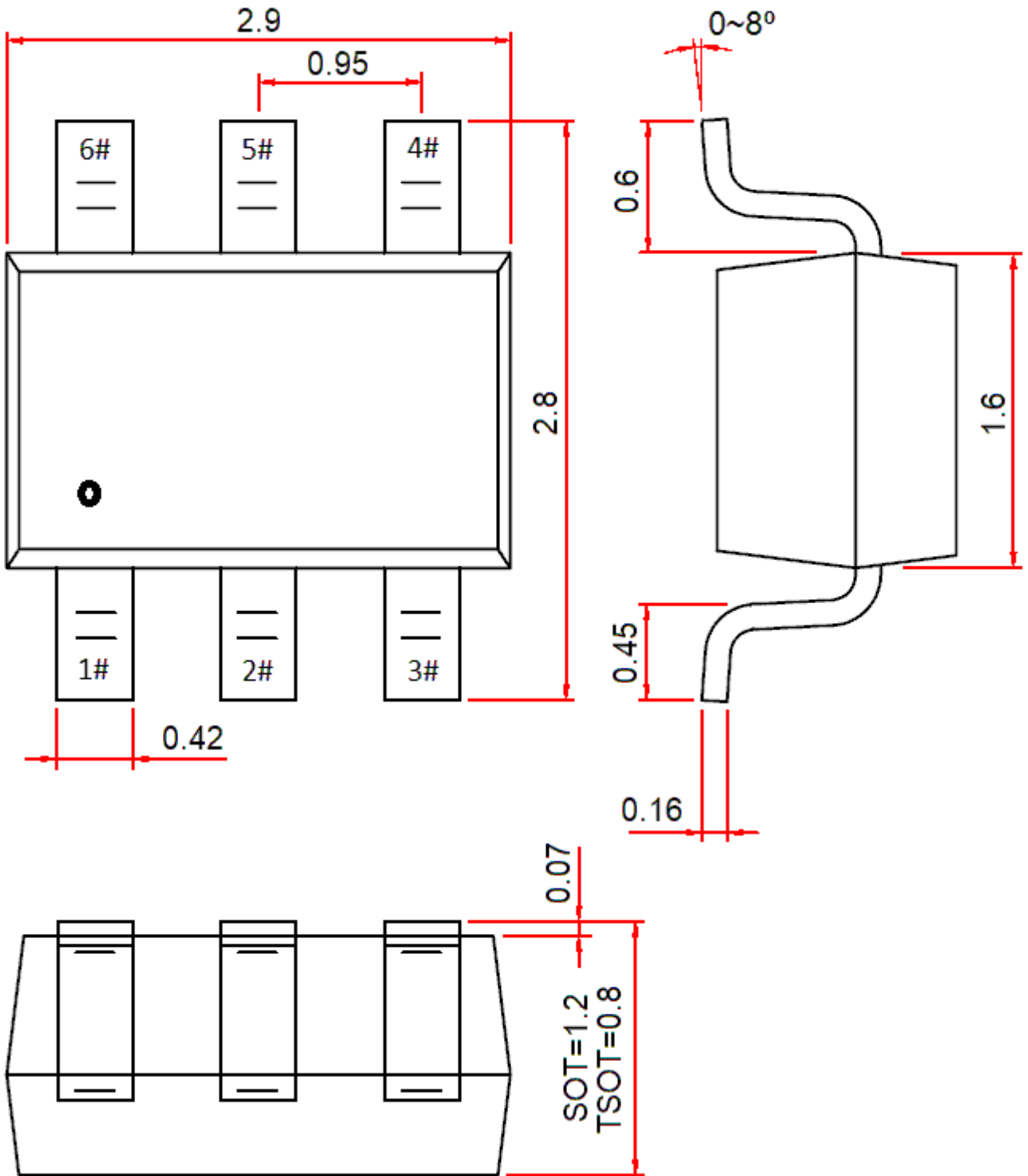
SOT23-3



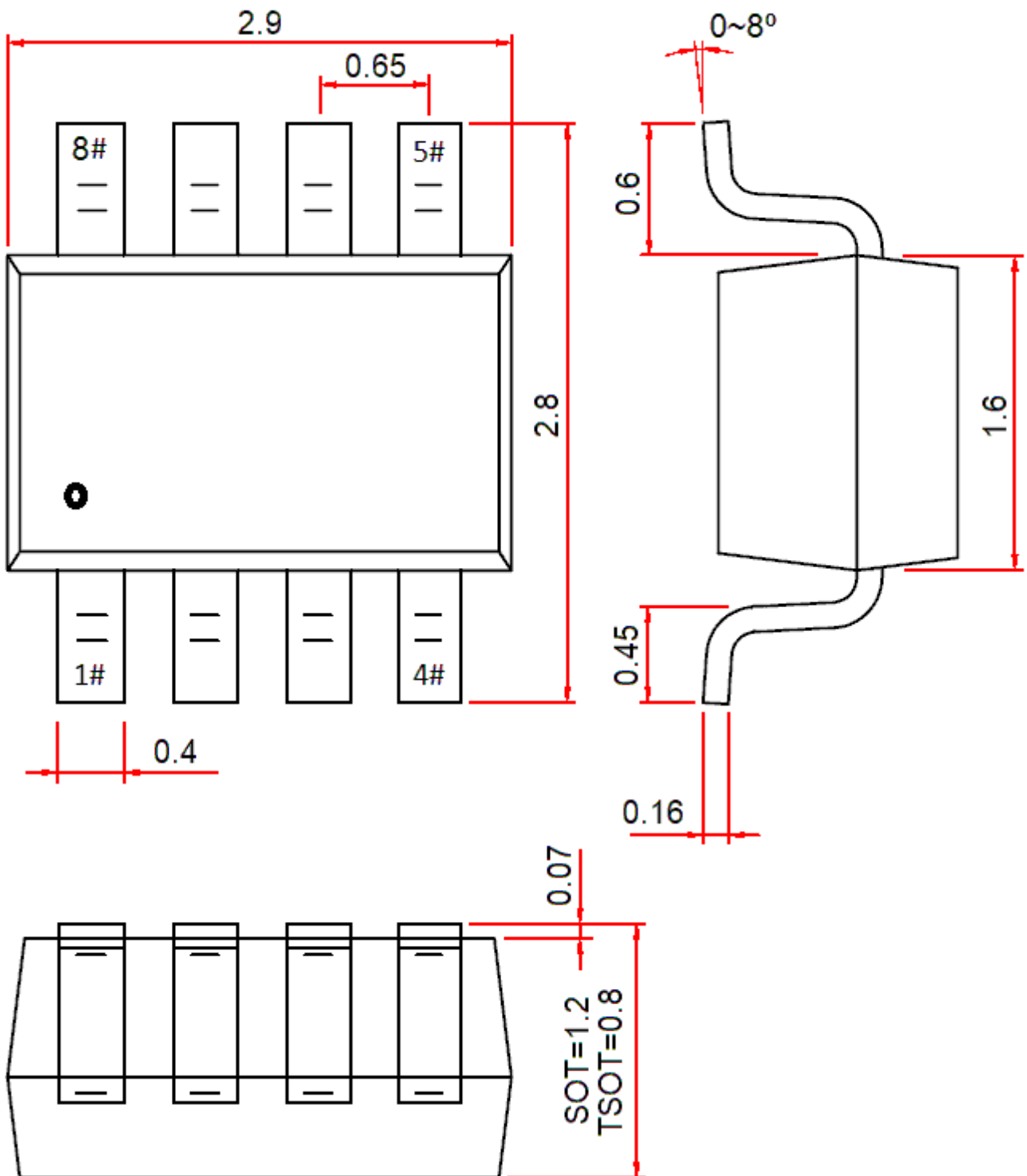
SOT23-5, TSOT23-5L



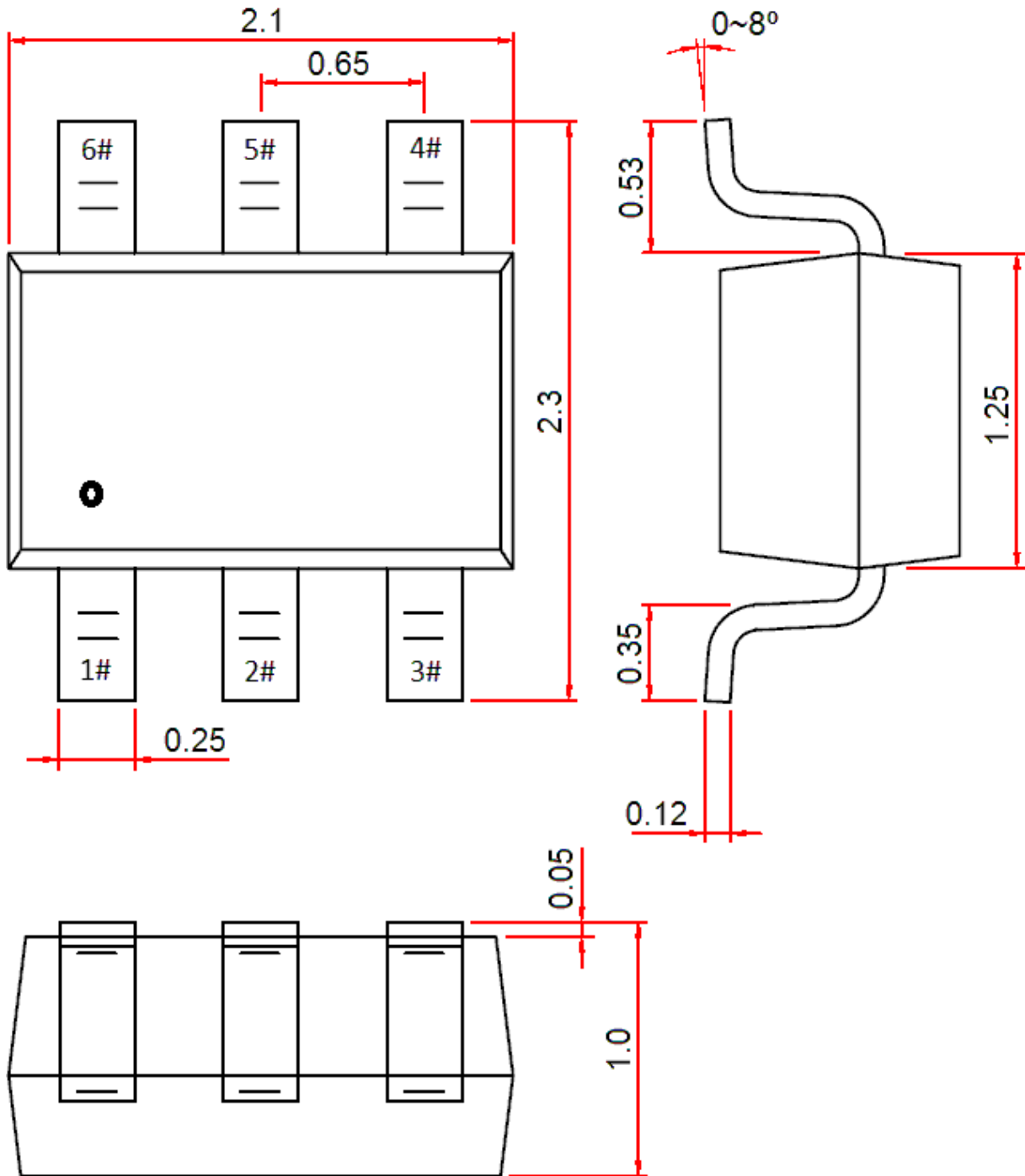
SOT23-6, TSOT23-6L



SOT23-8, TSOT23-8L



SOT363 (SC70-6L)



SOT353 (SC70-5L)

