



Package Information

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Package Information

Revision History:

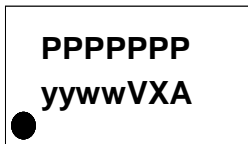
Revision	Date	Description
0.01	2014/05/20	1st version
0.02	2016/08/02	<ol style="list-style-type: none"> 1. Add front cover, page header and revise page footer. 2. Add revision history. 3. Add description“(0.635mm)”of package type for Y: SSOP on page 3 and drawings. 4. Add page 4: QFN/DFN package marking information. 5. Add “note” on page 5. 6. Add 3 package outline drawings: QFN4*4-16, QFN3*3-16 and DFN3*3-10 on page 12~14.
0.03	2016/08/04	Revise description of bonding information for PMS132-1J16A example on page 4.
0.04	2017/11/03	<ol style="list-style-type: none"> 1. Add package type of M: MSOP on page 3. 2. Add package type of H: HTSOP on page 3 and package outline drawing on page8.
0.05	2018/11/01	<ol style="list-style-type: none"> 1. Add package outline drawing of SOT23-6 on page 6. 2. Add package outline drawing of SOP8 on page 7.
0.06	2019/03/27	<ol style="list-style-type: none"> 1. Add Table of contents and revise all pages 2. Add package outline drawing of DFN2*2-8 on page 26. 3. Add package outline drawing of ESSOP10 on page 27
0.07	2019/06/13	<ol style="list-style-type: none"> 1. Revise all pages

Package Information

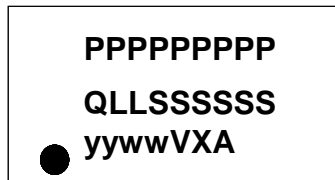
1. Package Marking Information

1.1. MSOP/SOP/SSOP/DIP/HTSOP/SOT23/TSSOP Package Marking Information

MSOP10 (118mil)

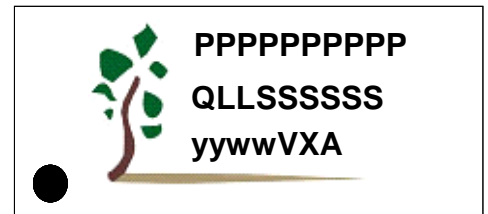


SSOP16 (150mil)



SOP/ SSOP20 (150mil)

SOP/ DIP (300mil)



Standard Legend										
PPP.....P	PADAUK's part name (Ex:PMC251)									
Q	Package type									
	S:	D:	K:	L:	T:	Y:	U:	M:	H:	E:
	SOP	DIP	Skinny DIP	LQFP	TSSOP	SSOP	SOT23	MSOP	HTSOP	Exposed Pad
LL	Pin Count									
	Ex:	SSOP16→Y16			SOP20→S20			SOT23-6→U06		
SS.....S	Lot number information									
	EX : TG42199H1→421991					EX : TG52688→526880				
	EX : TGD8231→8231A0					EX : TGD3579-R1→3579A1				
	A: Project									
V	Vender code									
X	Product code									

Package Information

1.2. QFN / DFN Package Marking Information

QFN

PPPPPPPP QQLLB yywwVXA 

DFN

PPPPPPP QQLLB yywwVXA 
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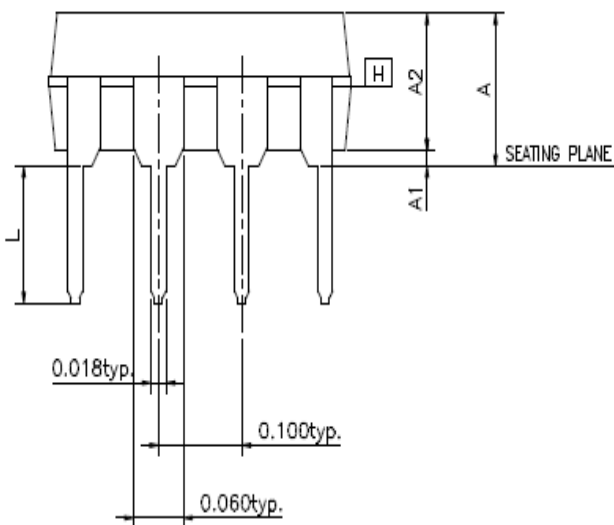
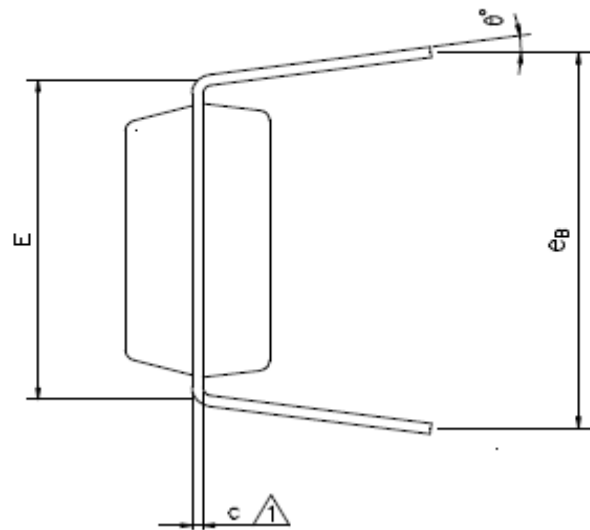
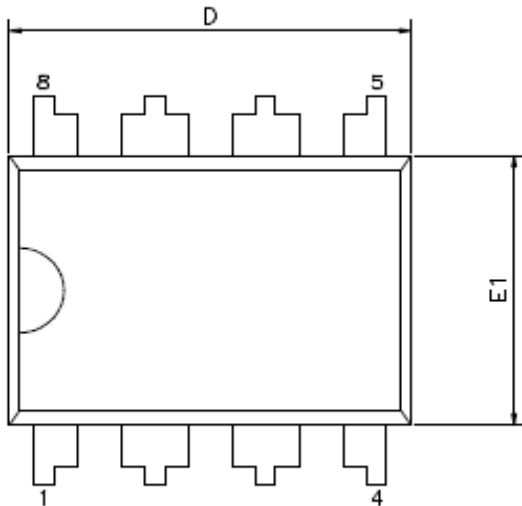
Standard Legend	
PPP....P	PADAUK's part name
QQ	Package type (QFN → J ; DFN → N)
LL	Pin Count
B	Bonding information (Ex:PMS132-4N10 → PADAUK single type DFN3*3-10 package. PMS132-1J16A → PADAUK Type A QFN3*3-16 package.)
yy	Year code (last 2 digits of calendar year)
ww	Week code
V	Vender code
X	Product code
A	Wafer information

Package size	Number	Package size	Number
QFN 3*3mm	1J	DFN 1.6*1.6mm	1N
QFN 4*4mm	2J	DFN 2*2mm	2N
QFN 5*5mm	3J	DFN 2.4*2.4mm	3N
QFN 6*6mm	4J	DFN 3*3 mm	4N
		DFN 3.5*3.5mm	5N

2. Package outline drawing (POD):

The following drawings and dimensions are for reference only

2.1. DIP8(300mil)

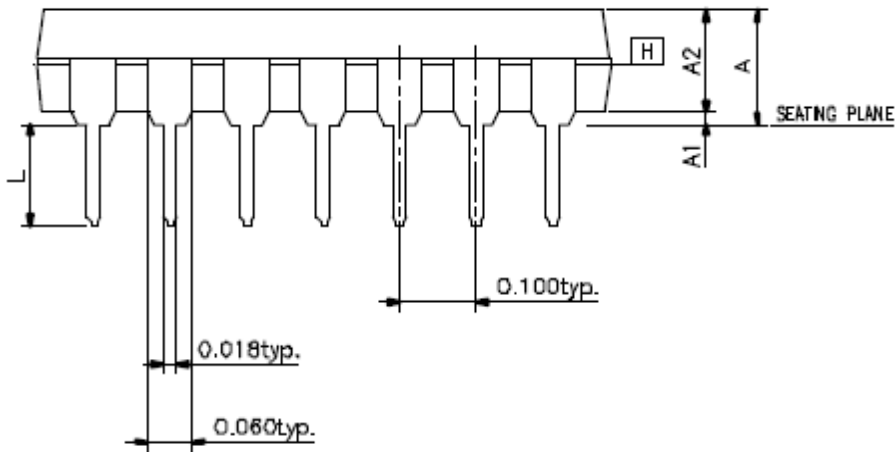
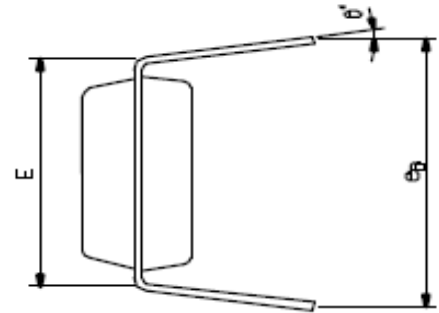
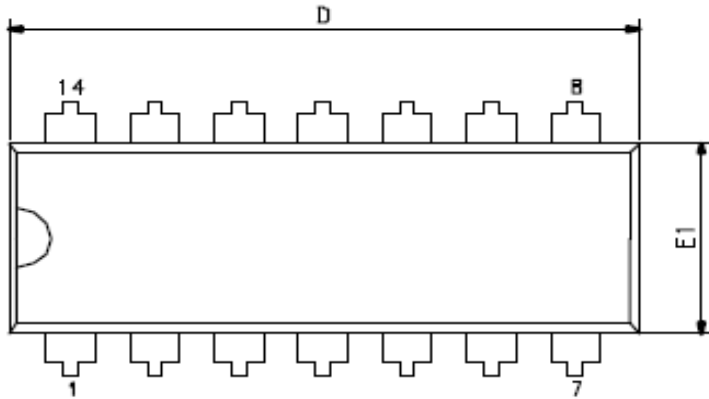


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.210
A1	0.015	-	-
A2	0.125	0.130	0.135
c	0.008	0.010	0.014
D	0.355	0.365	0.400
E	0.300 BSC		
E1	0.245	0.250	0.255
L	0.115	0.130	0.150
eB	0.335	0.355	0.375
θ°	0	7	15

Package Information

2.2. DIP14(300mil)

Lead of DIP 14	300 mil
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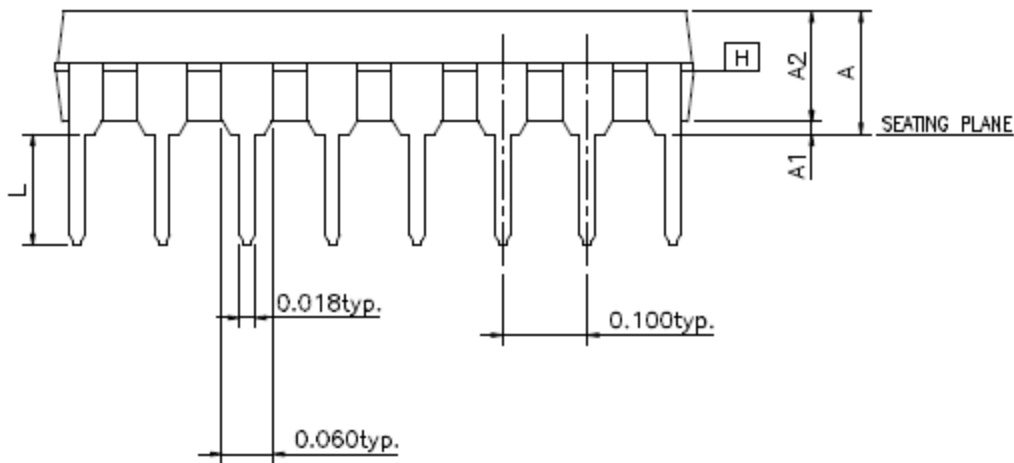
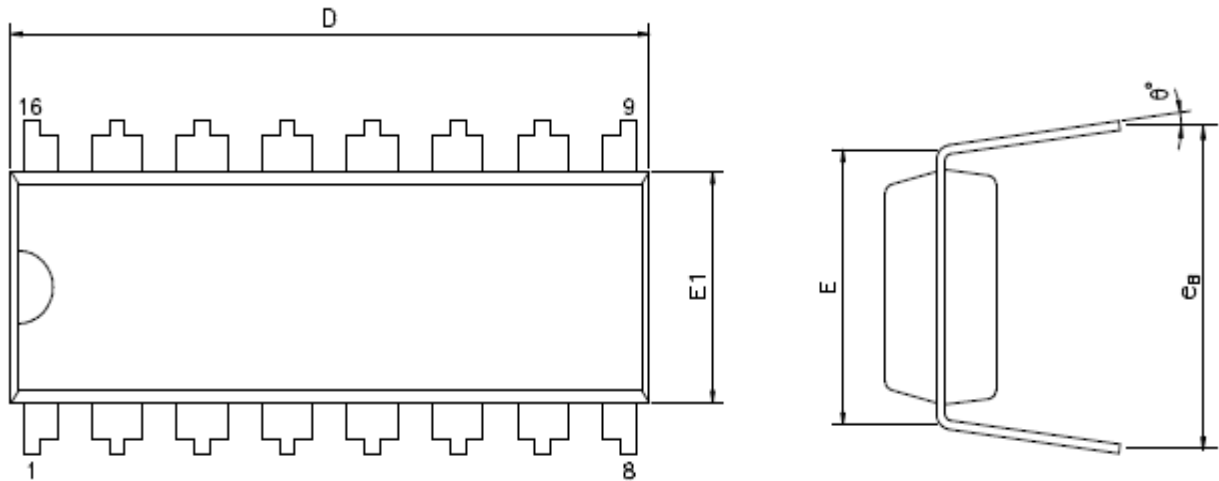


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.21
A1	0.015	-	-
A2	0.125	0.130	0.135
D	0.735	0.750	0.775
E	0.300 BSC		
E1	0.245	0.250	0.255
L	0.115	0.130	0.150
e B	0.335	0.355	0.375
θ°	0	7	15

Package Information

2.3. DIP16(300mil)

Lead of DIP 16	300 mil
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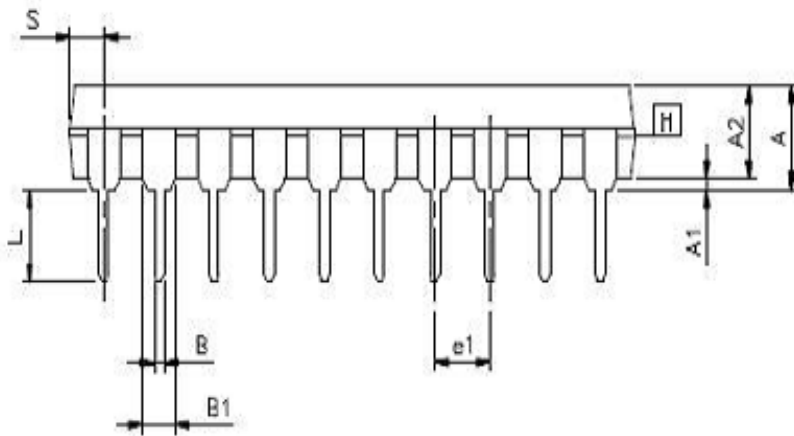
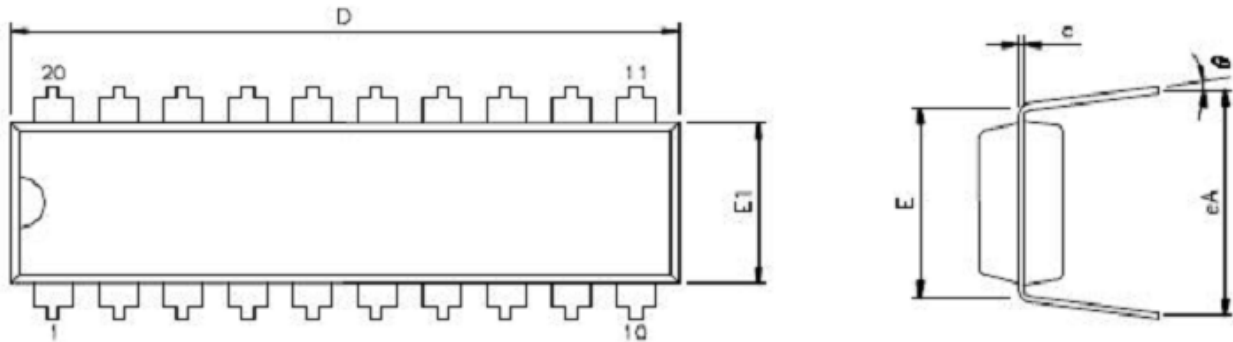


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.172
A1	0.015	-	0.038
A2	0.125	0.130	0.135
D	0.735	0.755	0.775
E	0.300 BSC		
E1	0.245	0.250	0.255
L	0.115	0.130	0.150
eB	0.335	0.355	0.375
θ°	0	7	15

Package Information

2.4. DIP20(300mil)

Lead of DIP 20	300 mil
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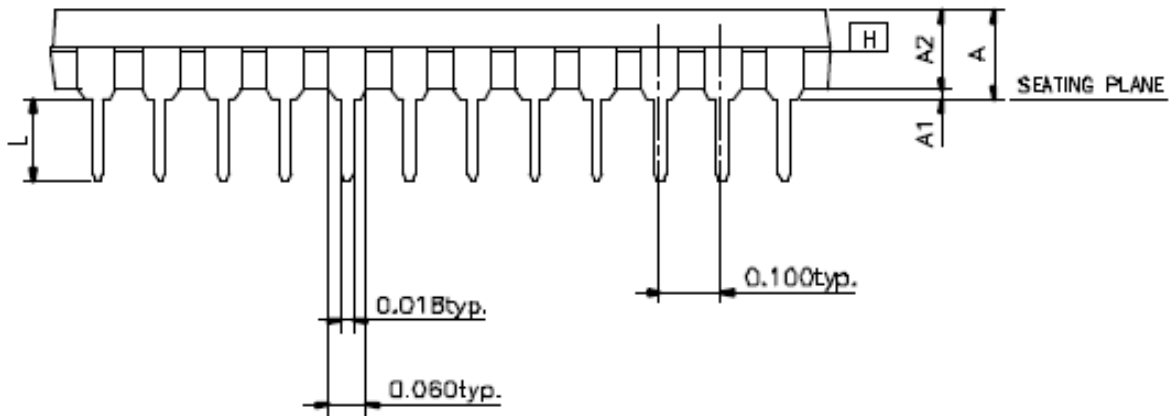
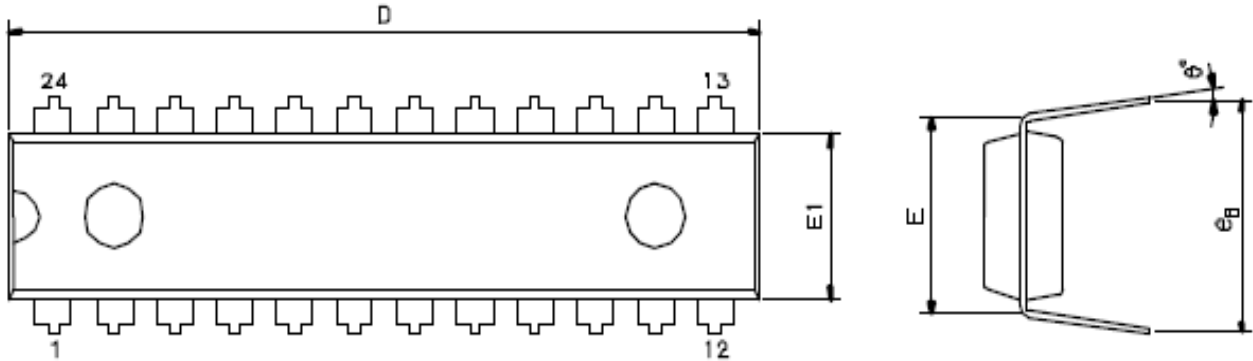


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.175
A1	0.015	-	-
A2	0.125	0.130	0.135
B	0.016	0.018	0.020
B1	0.058	0.060	0.064
c	0.008	0.010	0.011
D	1.002	1.026	1.040
E	0.290	0.300	0.310
E1	0.245	0.250	0.255
e1	0.090	0.100	0.110
L	0.120	0.130	0.140
θ°	0	-	15
eA	0.335	0.355	0.375
eC	0.000	-	0.06
S	-	-	0.075

Package Information

2.5. DIP24(300mil)

Lead of Skinny DIP24	300 mil
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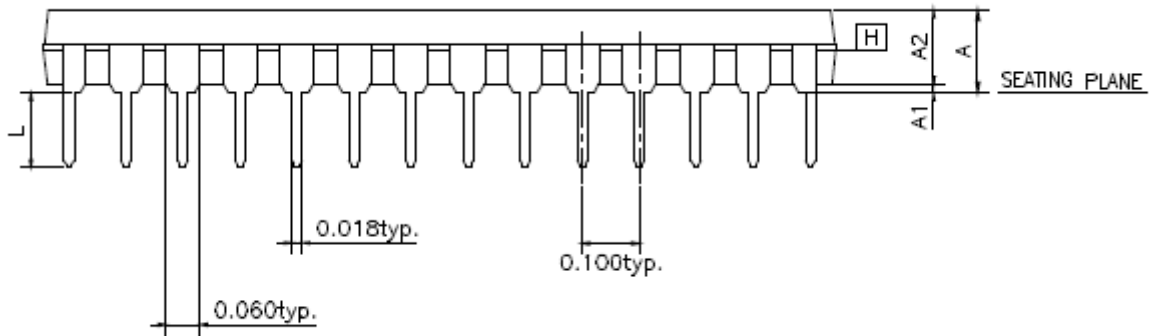
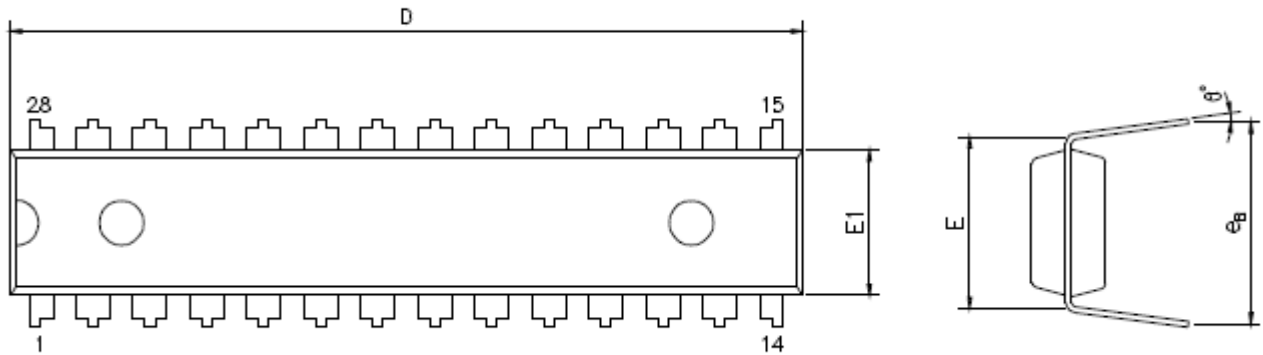


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.210
A1	0.015	-	-
A2	0.125	0.130	0.135
D	1.230	1.250	1.280
E	0.300 BSC		
E1	0.253	0.258	0.263
L	0.115	0.130	0.150
e B	0.335	0.355	0.375
θ°	0	7	15

Package Information

2.6. DIP28(300mil)

Lead of Skinny DIP28	300 mil
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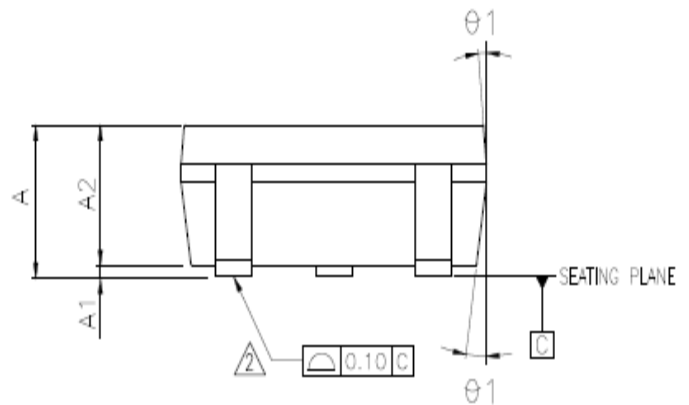
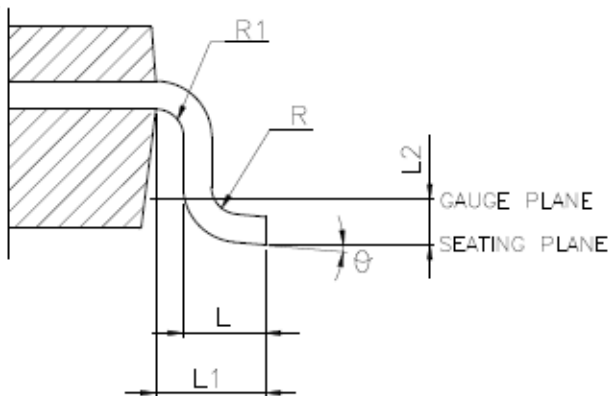
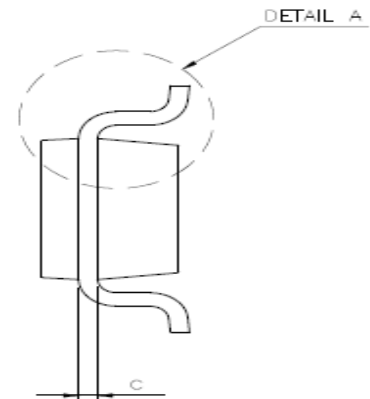
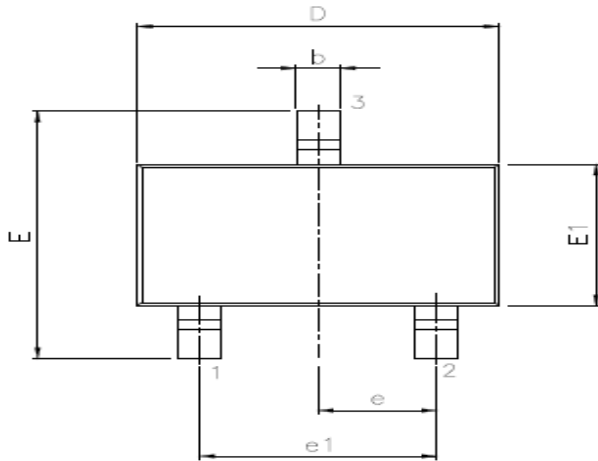


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.175
A1	0.015	-	-
A2	0.125	0.130	0.135
D	1.385	1.390	1.400
E	0.310 BSC		
E1	0.283	0.288	0.293
L	0.120	0.130	0.140
eB	0.330	0.350	0.370
θ°	0	7	15

Package Information

2.7. SOT23-3

Lead of SOT23-3	Pitch=0.95mm Body width=1.6 mm
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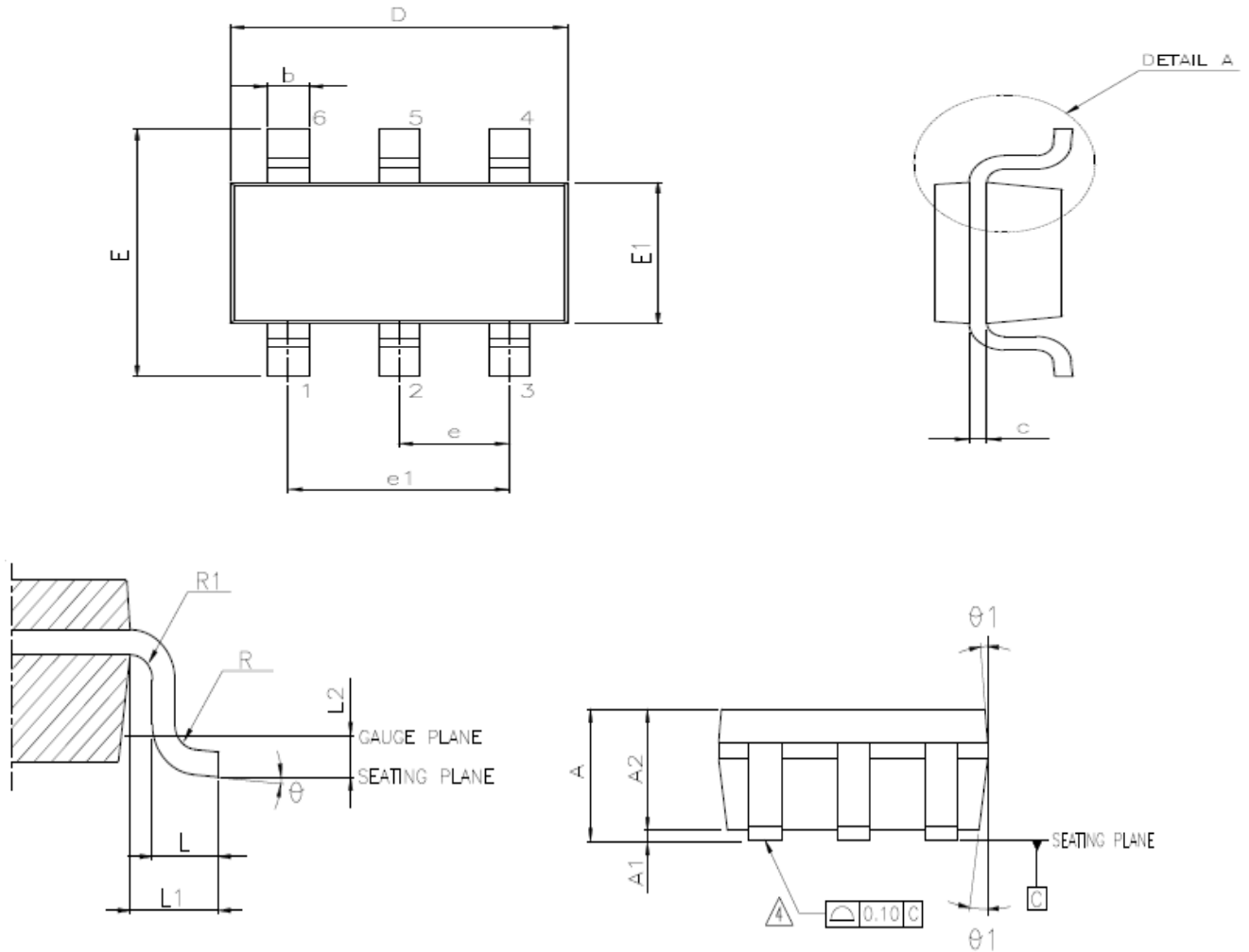


SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.15	1.30
b	0.30	-	0.50
c	0.08	-	0.22
D	2.90 REF		
E	2.80 REF		
E1	1.60 REF		
e	0.95 REF		
e1	1.90 REF		
L	0.30	0.45	0.60
L1	0.60 REF		
L2	0.25 BSC		
R	0.10	-	-
R1	0.10	-	0.25
θ	0	4	8
$\theta 1$	5	10	15

Package Information

2.8. SOT23-6

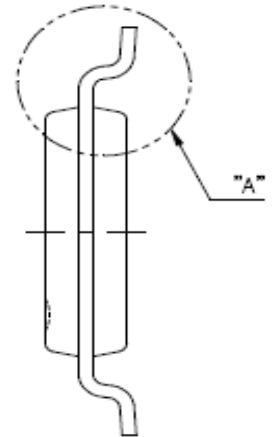
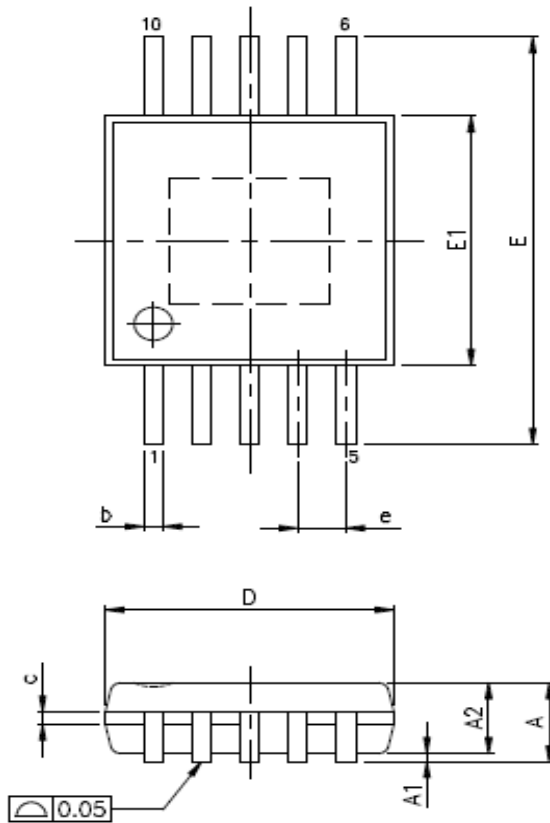
Lead of SOT23-6	Pitch=0.95mm Body width=1.6 mm
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SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.15	1.30
b	0.30	-	0.50
c	0.08	-	0.22
D	2.90 REF		
E	2.80 REF		
E1	1.60 REF		
e	0.95 REF		
e1	1.90 REF		
L	0.30	0.45	0.60
L1	0.60 REF		
L2	0.25 BSC		
R	0.10	-	-
R1	0.10	-	0.25
θ	0	4	8
$\theta 1$	5	10	15

2.9. MSOP10(118mil)

Lead of MSOP10	Pitch=0.5mm Body width=3 mm=118 mil
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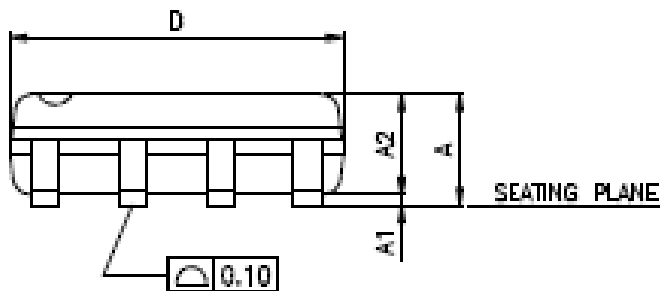
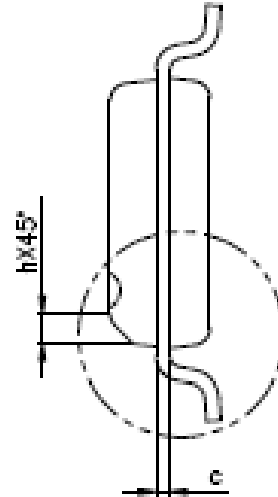
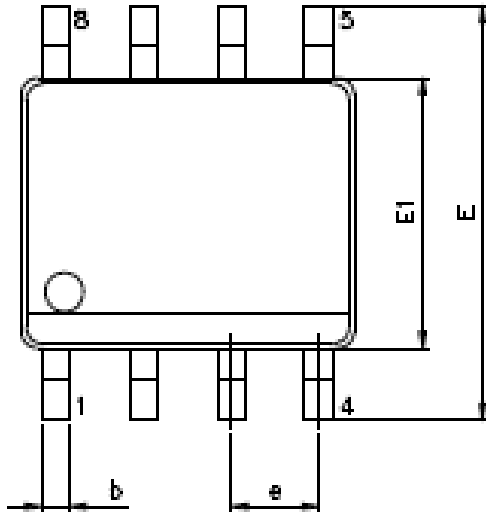


SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	-	-	1.10
A1	0.00	-	0.15
A2	0.75	0.85	0.95
b	0.17	-	0.27
c	0.08	-	0.23
D	3.00 BSC		
E	4.90 BSC		
E1	3.00 BSC		
e	0.50 BSC		
L	0.40	0.60	0.80
L1	0.95 REF		
θ°	0	-	8

Package Information

2.10. SOP8(Pitch:1.27mm,Width:150mil)

Lead of SOP8	Pitch=1.27 mm=0.05 inch Body width=3.9 mm=150 mil
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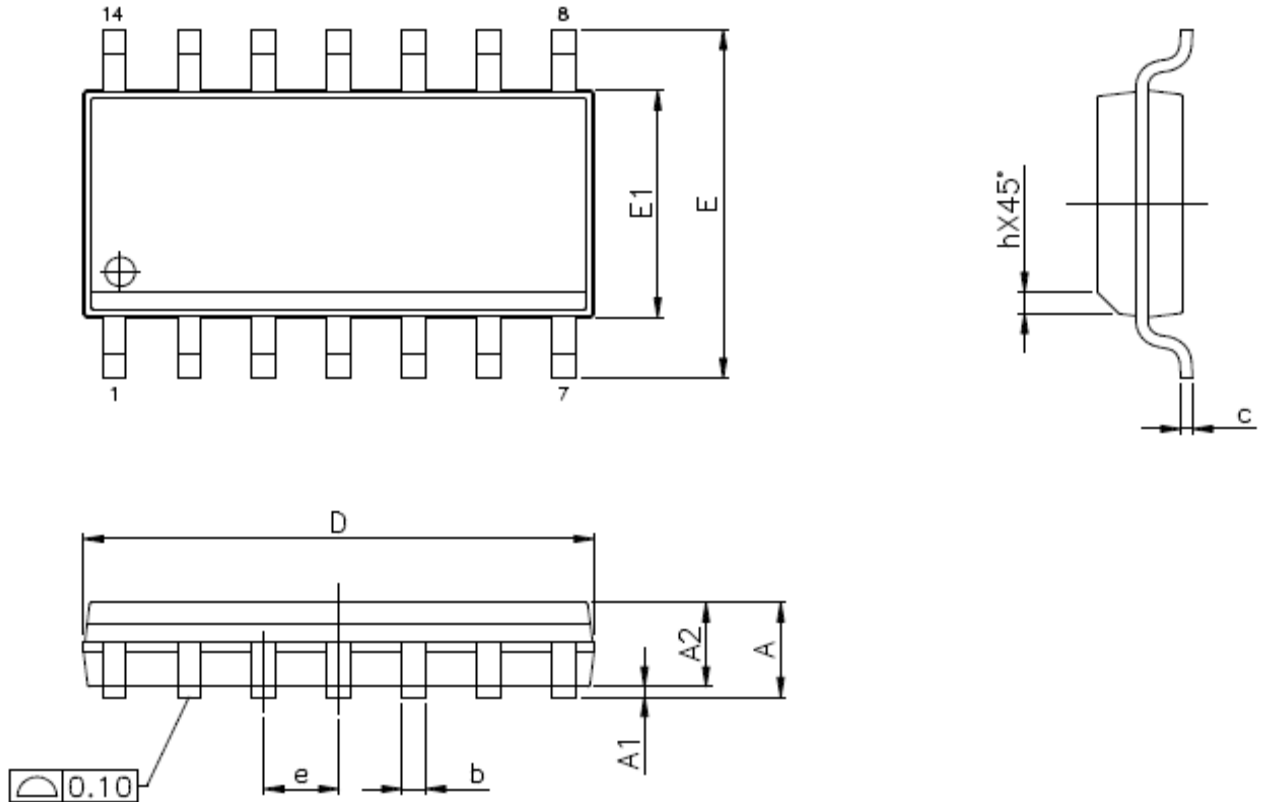


SYMBOLS	MILLIMETERS	
	MIN	MAX
A	-	1.75
A1	0.10	0.25
A2	1.25	-
b	0.31	0.51
c	0.10	0.25
D	4.90 BSC	
E	6.00 BSC	
E1	3.90 BSC	
e	1.27 BSC	
L	0.40	1.27
h	0.25	0.50
θ°	0	8

Package Information

2.11. SOP14(Pitch:1.27mm,Width:150mil)

Lead of SOP14	Pitch=1.27 mm=0.05 inch Body width=3.9 mm=150 mil=0.15 inch
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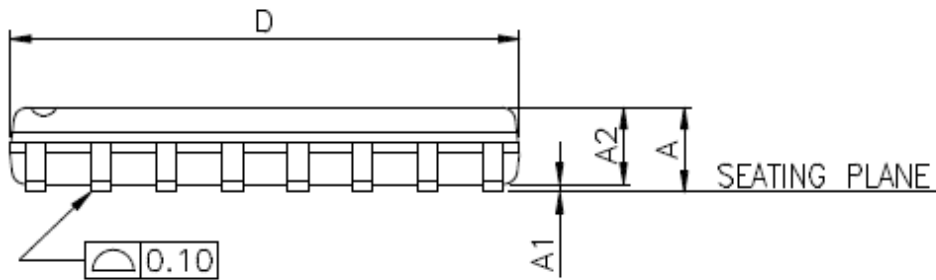
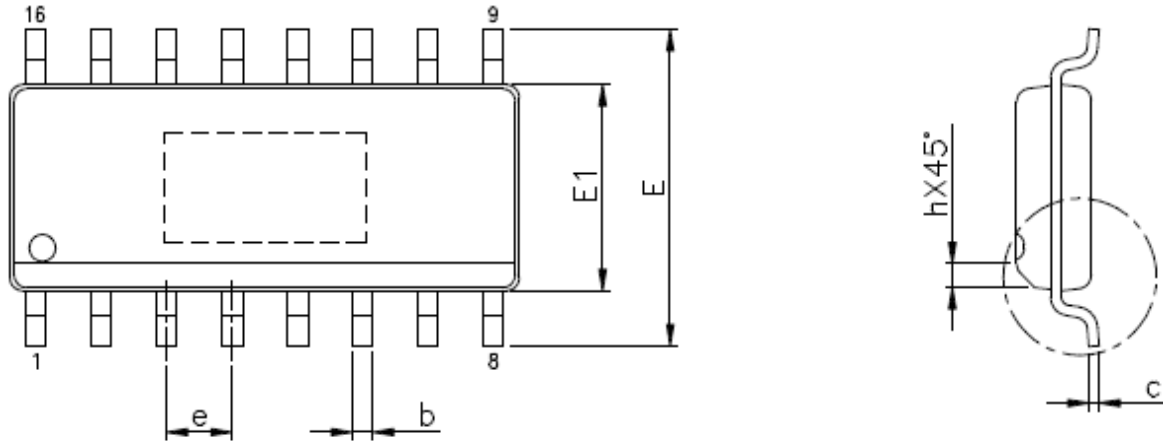


SYMBOLS	MILLIMETERS	
	MIN	MAX
A	-	1.75
A1	0.10	0.25
A2	1.25	-
b	0.31	0.51
c	0.10	0.25
D	8.65 BSC	
E	6.00 BSC	
E1	3.90 BSC	
e	1.27 BSC	
L	0.40	1.27
h	0.25	0.50
θ°	0	8

Package Information

2.12. SOP16(Pitch:1.27mm,Width:150mil)

Lead of SOP16	Pitch=1.27mm=0.05 inch Body width=150 mil
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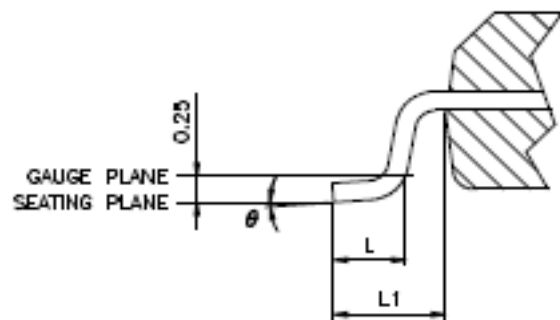
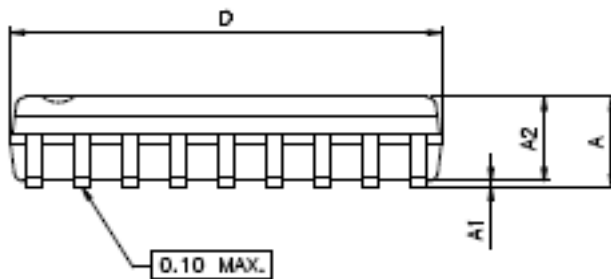
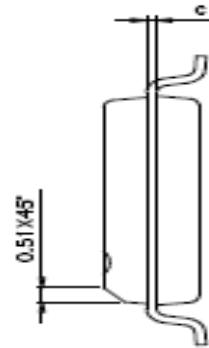
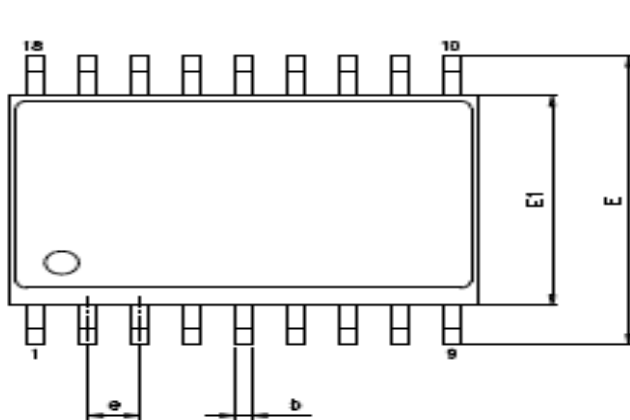


SYMBOLS	MILLIMETERS	
	MIN	MAX
A	-	1.75
A1	0.10	0.25
A2	1.25	-
b	0.31	0.51
c	0.10	0.25
D	9.90 BSC	
E	6.00 BSC	
E1	3.90 BSC	
e	1.27 BSC	
L	0.40	1.27
h	0.25	0.50
θ°	0	8

Package Information

2.13. SOP18(Pitch:1.27mm ,Width:300mil)

Lead of SOP18	Pitch=1.27 mm=0.05 inch Body width=300 mil
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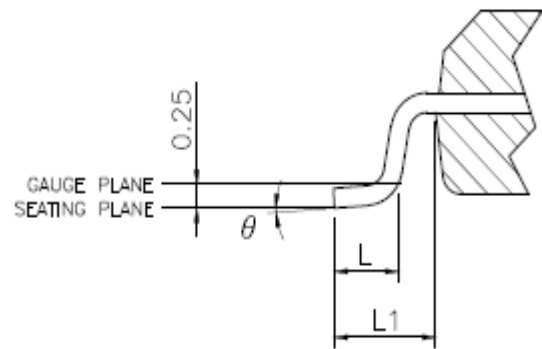
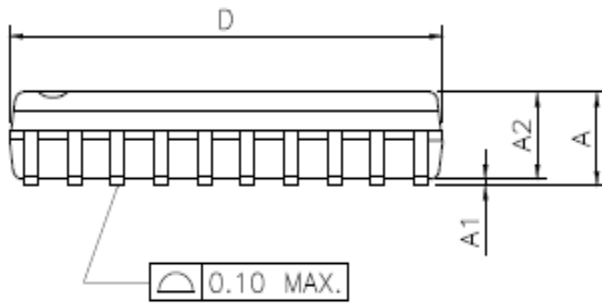
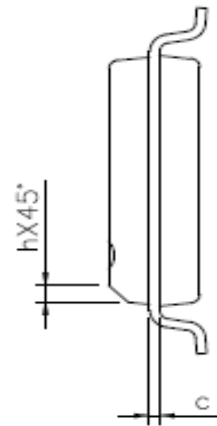
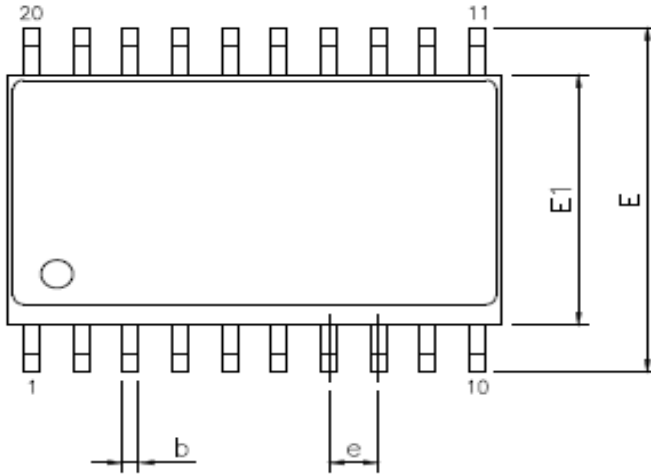


SYMBOLS	MILLIMETERS	
	MIN	MAX
A	-	2.65
A1	0.10	0.30
A2	2.05	-
b	0.31	0.51
c	0.20	0.33
D	11.55 BSC	
E1	7.50 BSC	
E	10.30 BSC	
e	1.27 BSC	
L1	1.40 REF	
L	0.40	1.27
θ°	0	8

Package Information

2.14. SOP20(Pitch:1.27mm,Width:300mil)

Lead of SOP20	Pitch=1.27 mm=0.05 inch Body width=300 mil
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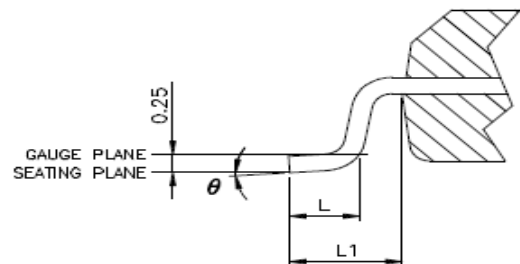
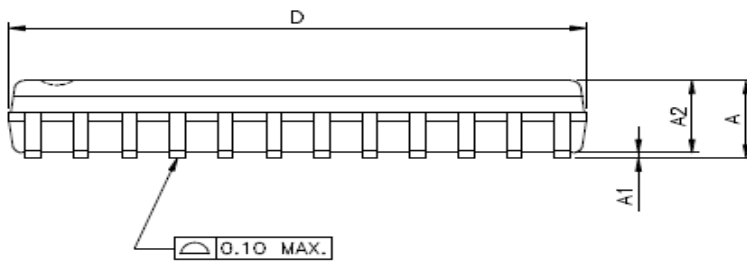
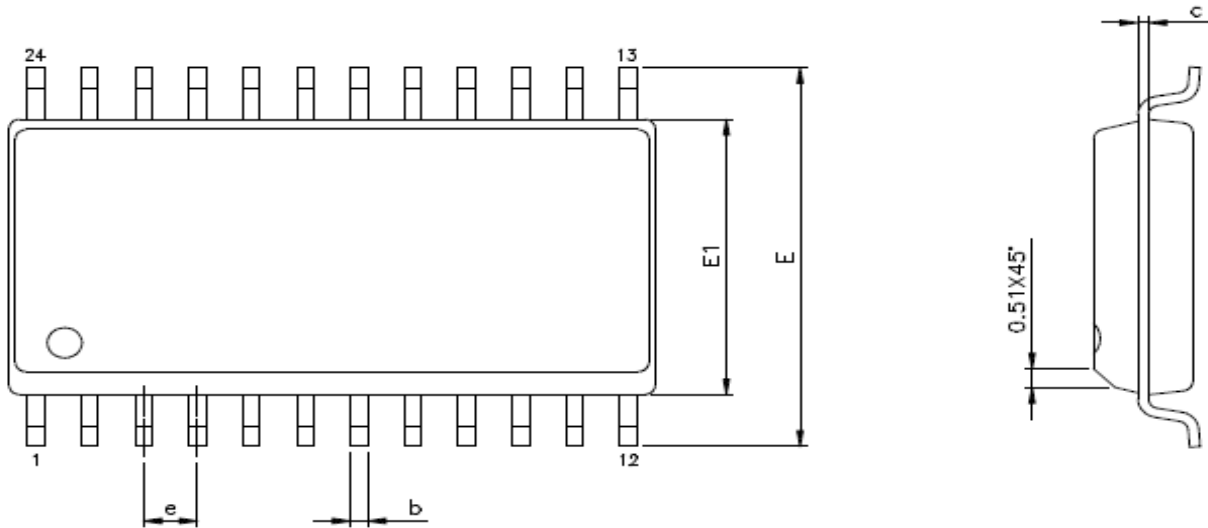


SYMBOLS	MILLIMETERS	
	MIN	MAX
A	-	2.65
A1	0.10	0.30
A2	2.05	
b	0.31	0.51
c	0.10	0.33
D	12.80 BSC	
E	10.30 BSC	
E1	7.50 BSC	
e	1.27 BSC	
L	0.40	1.27
L1	1.40 REF	
h	0.25	0.75
θ°	0	8

Package Information

2.15. SOP24(Pitch:1.27mm,Width:300mil)

Lead of SOP24	Pitch=1.27 mm= 0.05 inch Body width=300 mil
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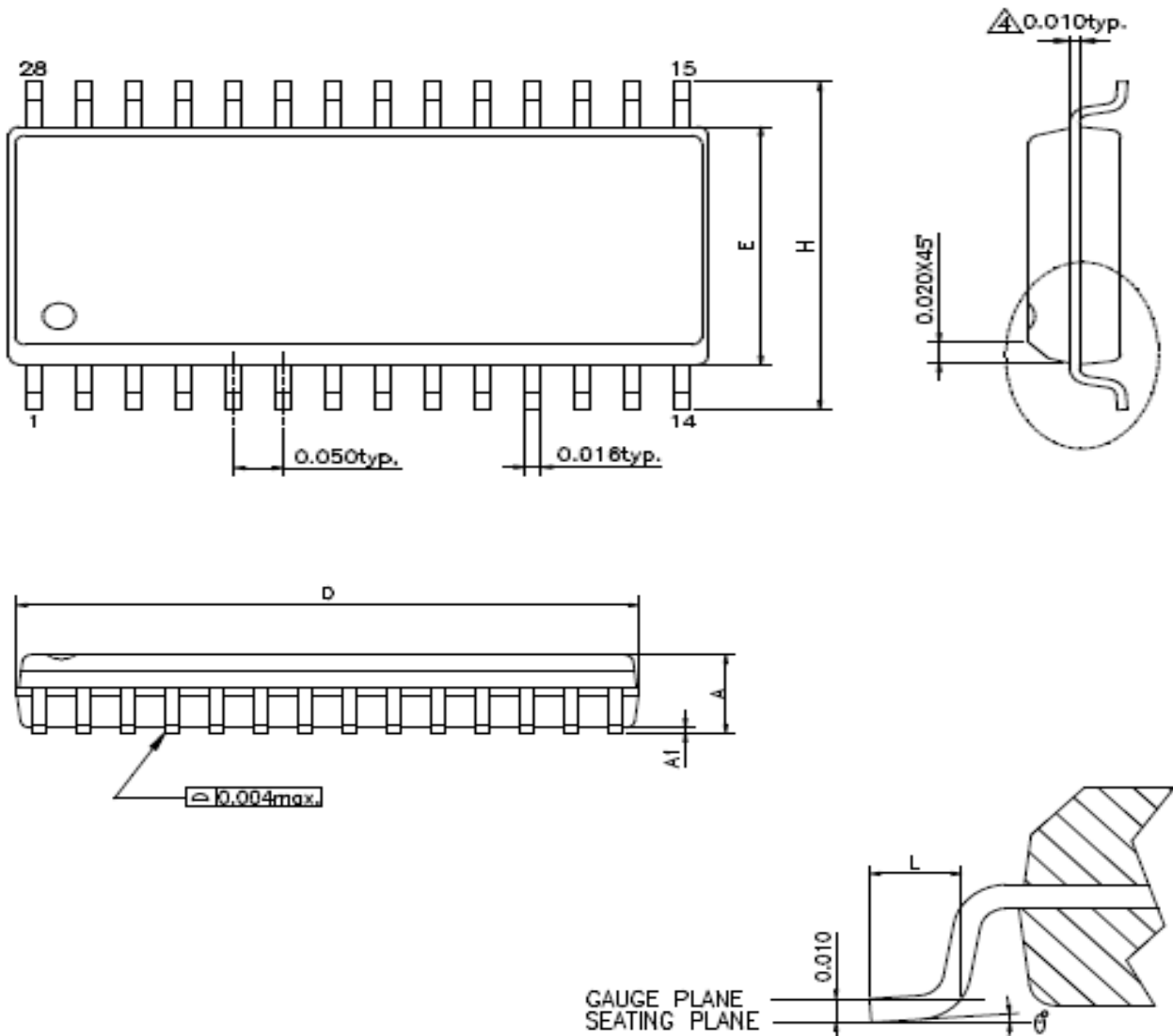


SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	-	-	2.65
A1	0.10	-	0.30
A2	2.05	-	-
b	0.31	-	0.51
c	0.20	-	0.33
D	15.24	-	15.70
E	7.50 BSC		
E1	10.30 BSC		
e	1.27 BSC		
L1	1.40 BSC		
L	0.40	-	1.27
θ °	0	-	8

Package Information

2.16. SOP28(Pitch:1.27mm,Width:300mil)

Lead of SOP28	Pitch=1.27 mm =0.05 inch Body width=300 mil
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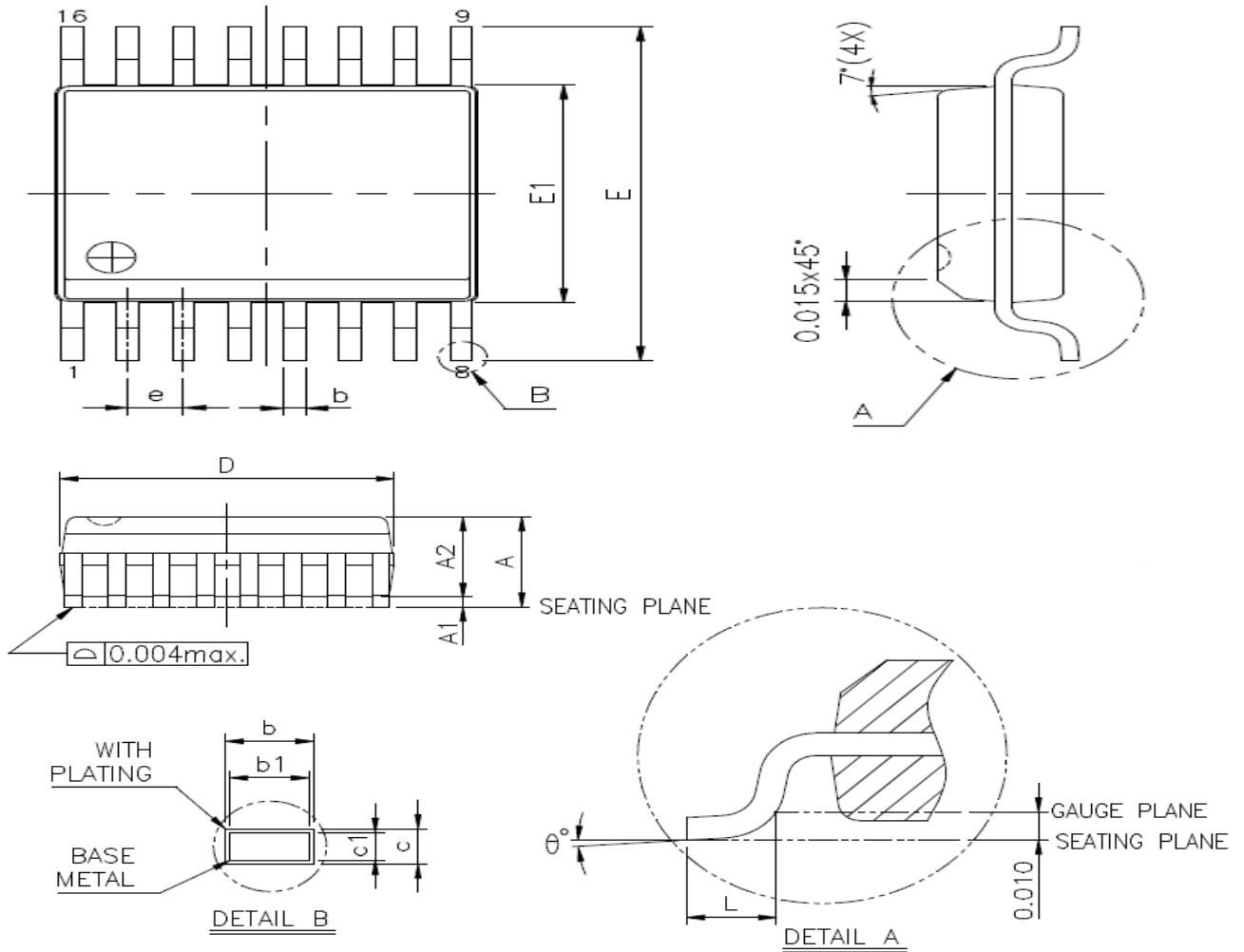


SYMBOLS	INCH		
	MIN	TYP	MAX
A	-	-	0.104
A1	0.004	-	-
D	0.697	0.718	0.724
E	0.291	0.295	0.299
H	0.394	0.406	0.419
L	0.016	0.035	0.050
θ°	0	4	8

Package Information

2.17. SSOP16(Pitch:0.635mm,Width:150mil)

Lead of SSOP16	Pitch=0.635mm=0.025 inch Body width=150 mil
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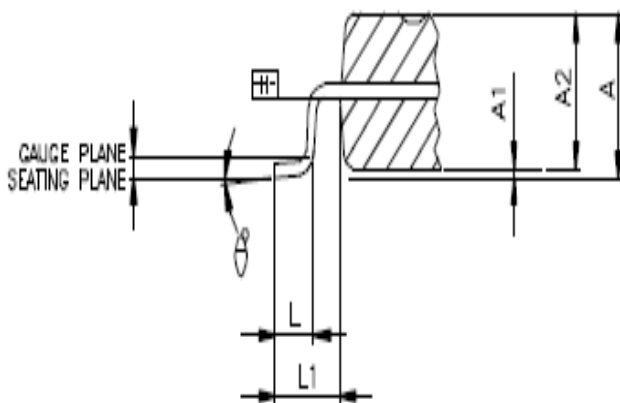
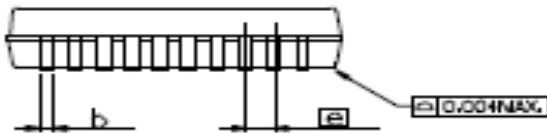
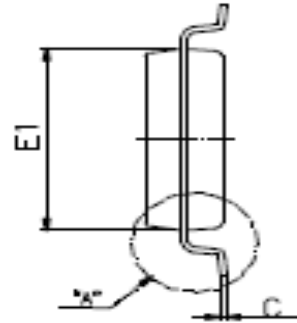
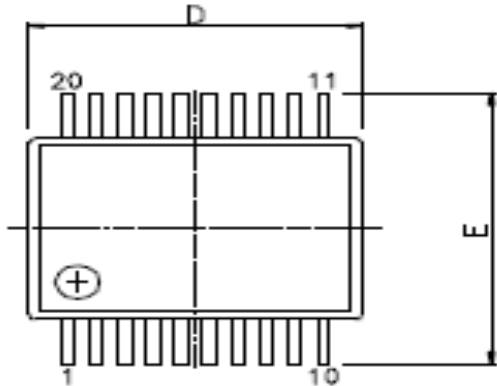


SYMBOLS	INCH		
	MIN	TYP	MAX
A	0.053	-	0.069
A1	0.004	-	0.010
A2	0.049	-	0.059
b	0.008	-	0.012
b1	0.008	0.010	0.011
c	0.007	-	0.010
c1	0.007	0.008	0.009
D	0.189	0.193	0.197
E1	0.150	0.154	0.157
E	0.228	0.236	0.244
L	0.016	0.025	0.050
e	0.025 BSC		
θ°	0	-	8

Package Information

2.18. SSOP20(Pitch:0.635mm,Width:150mil)

Lead of SSOP20	Pitch=0.635mm=0.025 inch Body width=150 mil
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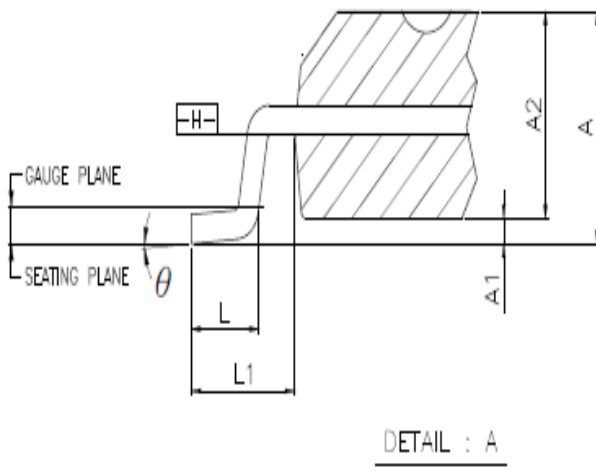
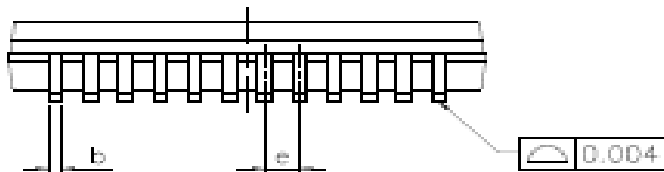
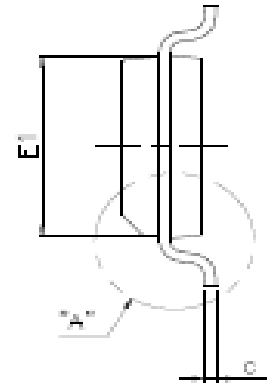
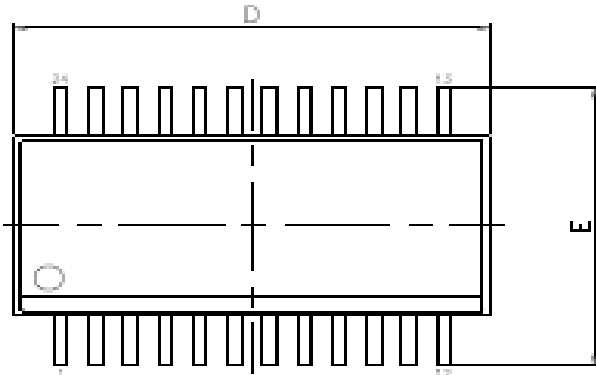
DETAIL : A

SYMBOLS	INCH		
	MIN	TYP	MAX
A	0.053	0.064	0.069
A1	0.004	0.006	0.010
A2	-	-	0.059
b	0.008	-	0.012
C	0.007	-	0.010
D	0.337	0.341	0.344
E	0.228	0.236	0.244
E1	0.150	0.154	0.157
e	0.025 BSC		
L	0.016	0.025	0.050
L1	0.041 BSC		
θ°	0	-	8

Package Information

2.19. SSOP24(Pitch:0.635mm,Width:150mil)

Lead of SSOP24	Pitch=0.635 mm=0.025 inch Body width=150 mil
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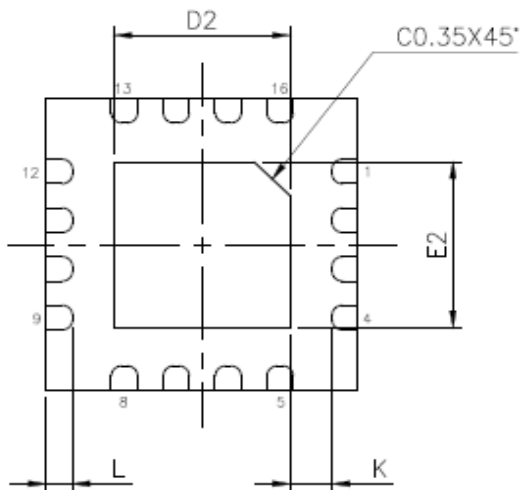
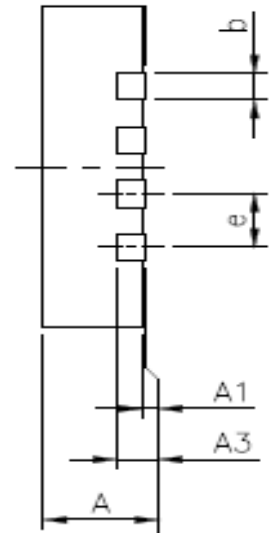
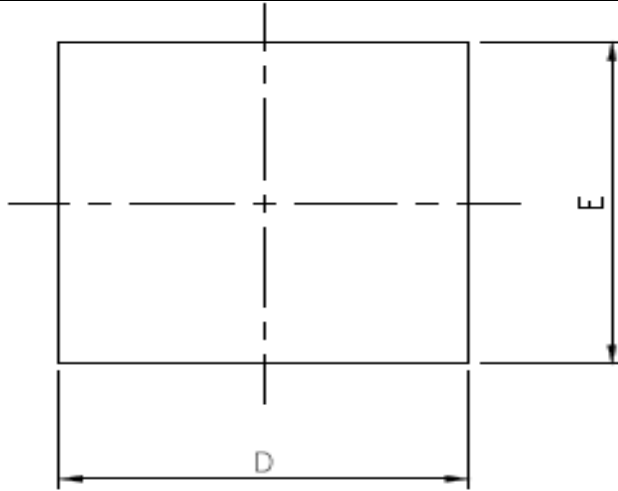


SYMBOLS	INCH		
	MIN	TYP	MAX
A	0.053	0.064	0.069
A1	0.004	0.006	0.010
A2	-	-	0.059
D	0.337	0.341	0.344
E	0.228	0.236	0.244
E1	0.150	0.154	0.157
b	0.008	-	0.012
c	0.007	-	0.010
e	0.025 BSC		
L	0.016	0.025	0.050
L1	0.041 BSC		
θ°	0	-	8

Package Information

2.20. QFN3*3-16(Pitch:0.50mm,Width:3x3mm,Thickness:0.75mm)

Lead of QFN3*3-16	Pitch=0.5mm Body width=3x3mm Body thickness=0.75mm
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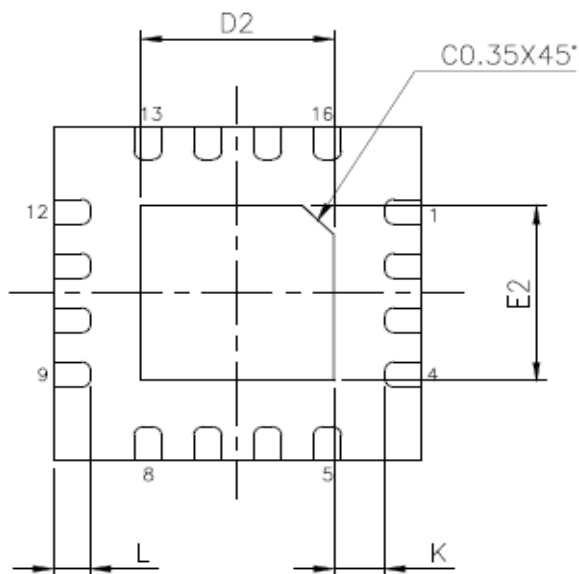
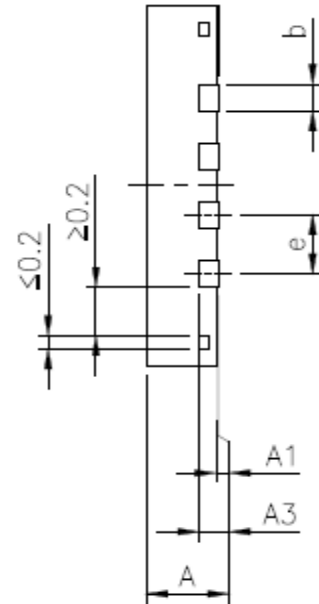
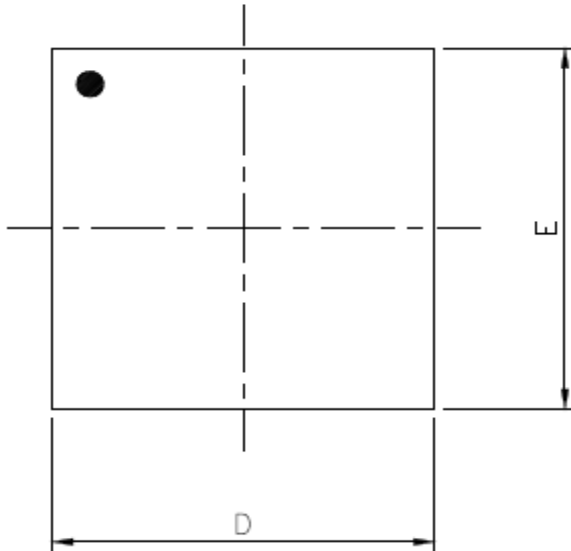
SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A3	0.203 REF		
b	0.18	0.25	0.30
D	3.00 BSC		
E	3.00 BSC		
e	0.50 BSC		
K	0.20	-	-
D2	1.65	1.70	1.75
E2	1.65	1.70	1.75
L	0.35	0.40	0.45

PKG CODE: WQFN

Package Information

2.21. QFN4*4-16(Pitch:0.65mm,Width:4x4mm,Thickness:0.75mm)

Lead of QFN4*4-16	Pitch=0.65mm Body width=4x4mm Body thickness=0.75mm
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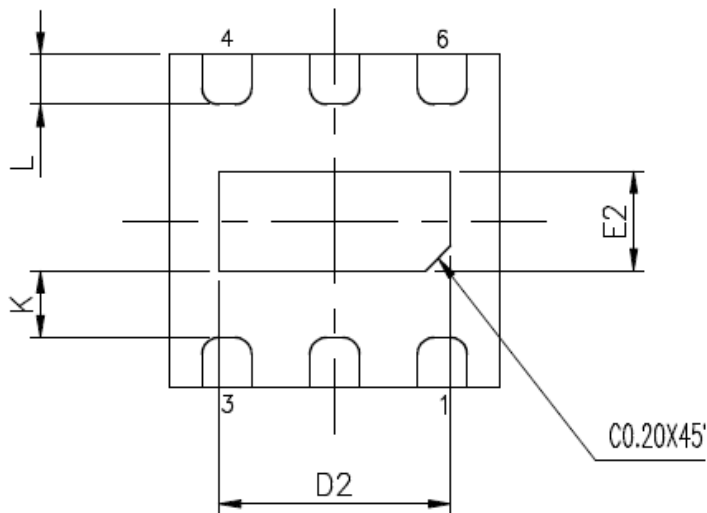
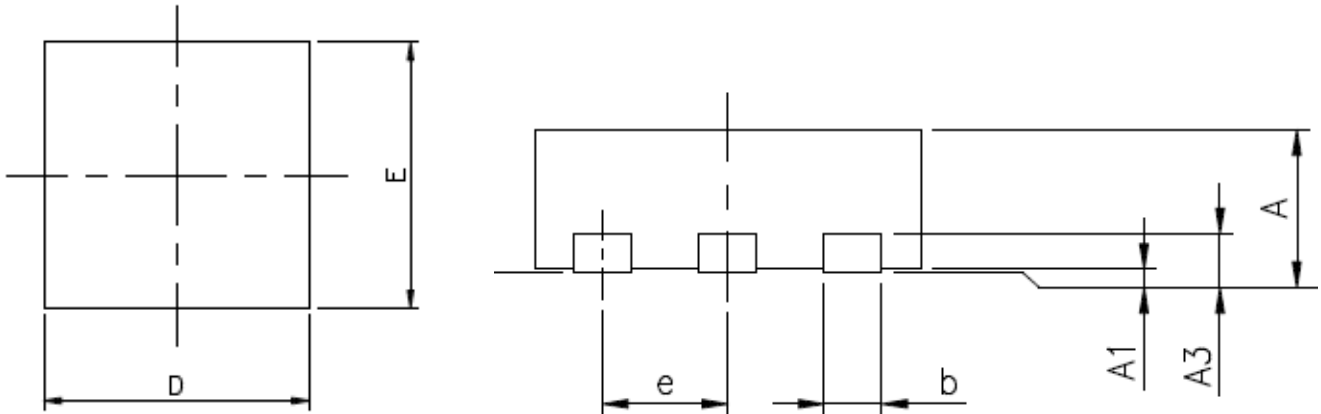
SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A3	0.203 REF		
b	0.25	0.30	0.35
D	4.00 BSC		
E	4.00 BSC		
e	0.65 BSC		
K	0.20	-	-
D2	2.05	2.10	2.15
E2	2.05	2.10	2.15
L	0.35	0.40	0.45

PKG CODE: WQFN

Package Information

2.22. DFN2*2-6(Pitch:0.65mm,Width:2x2mm,Thickness:0.75mm)

Lead of DFN2*2-6	Pitch=0.65mm Body width=2x2mm Body thickness=0.75mm
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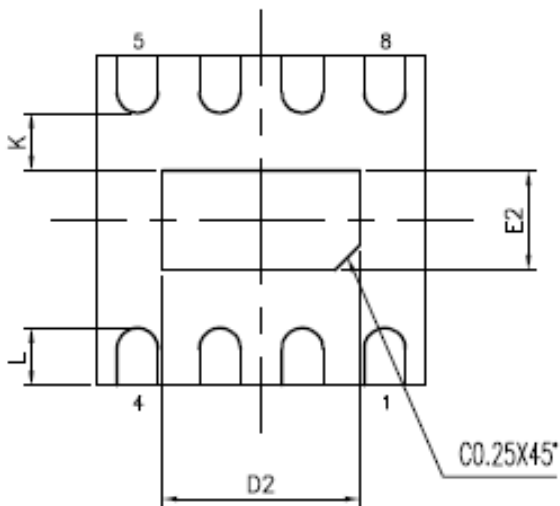
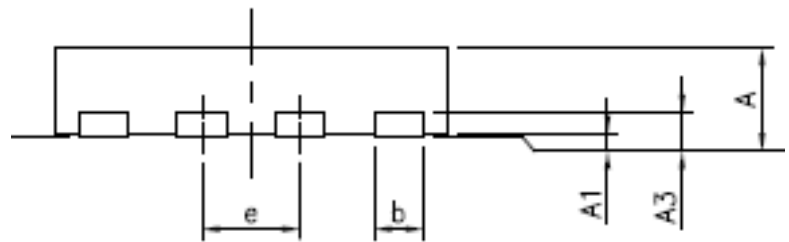
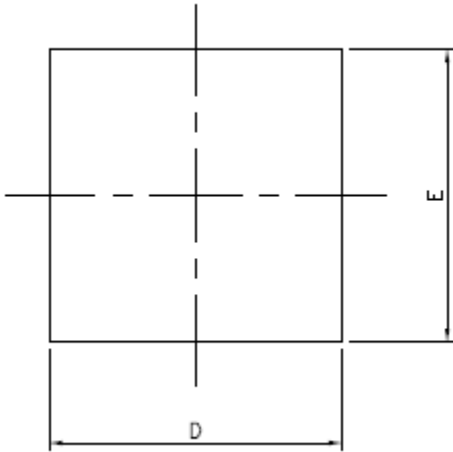
SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A3	0.20 REF		
b	0.25	0.30	0.35
D	2.00 BSC		
E	2.00 BSC		
e	0.65 BSC		
K	0.20	-	-
E2	0.55	0.60	0.65
D2	1.35	1.40	1.45
L	0.25	0.30	0.35

PKG CODE: WDFN

Package Information

2.23. DFN2*2-8(Pitch:0.50mm, Width:2x2mm,Thickness:0.75mm)

Lead of DFN2*2-8	Pitch=0.5mm Body width=2x2mm Body thickness=0.75mm
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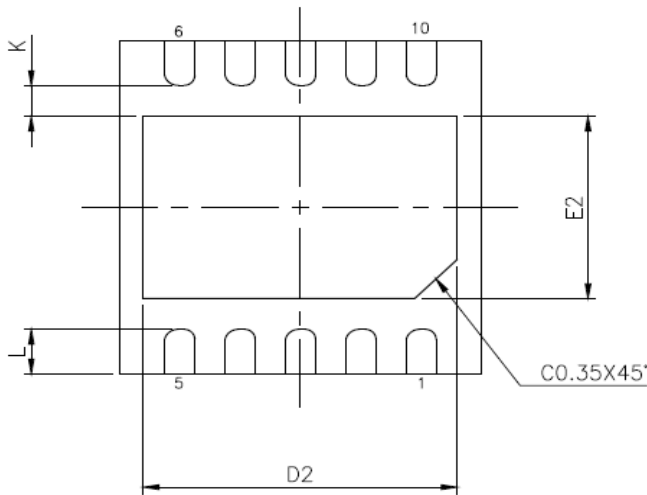
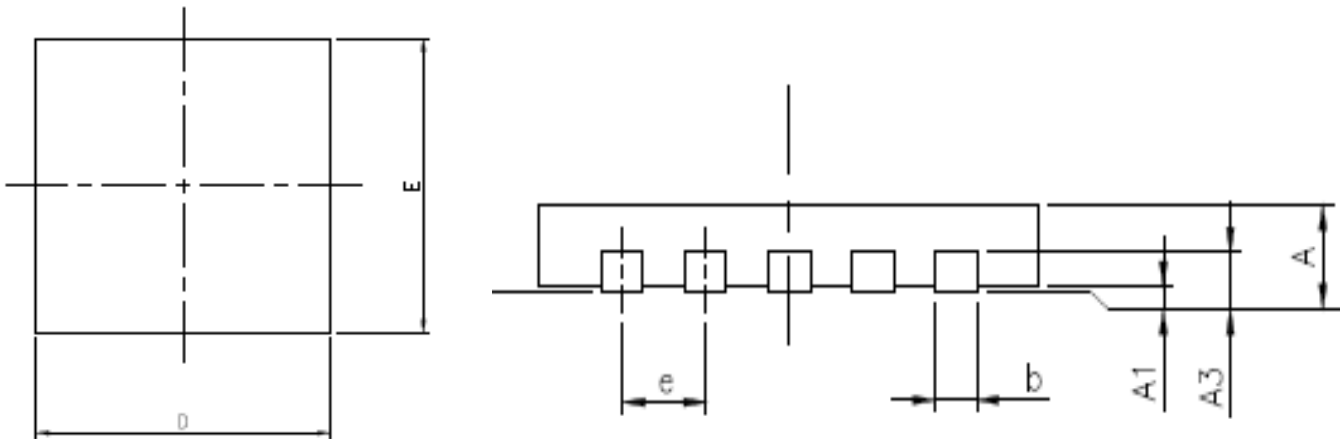
WDFN SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A3	0.203 REF		
b	0.20	0.25	0.30
D	2.00 BSC		
E	2.00 BSC		
e	0.50 BSC		
K	0.20	-	-
D2	1.15	1.20	1.25
E2	0.60	0.65	0.70
L	0.25	0.30	0.35

PKG CODE: WDFN

Package Information

2.24. DFN3*3-10(Pitch:0.50mm, Width:3x3mm,Thickness:0.75mm)

Lead of DFN3*3-10	Pitch=0.5mm Body width=3x3mm Body thickness=0.75mm
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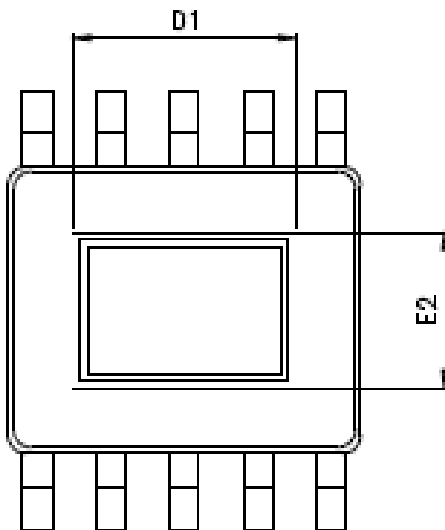
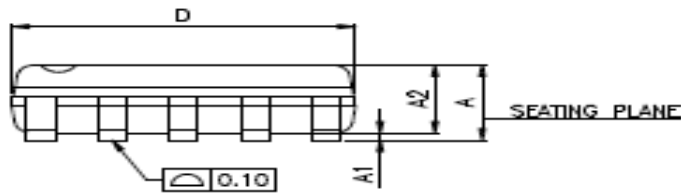
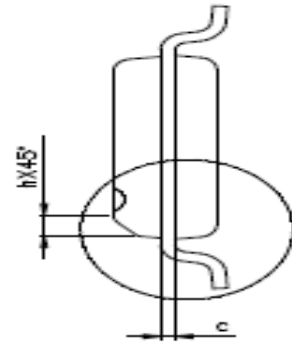
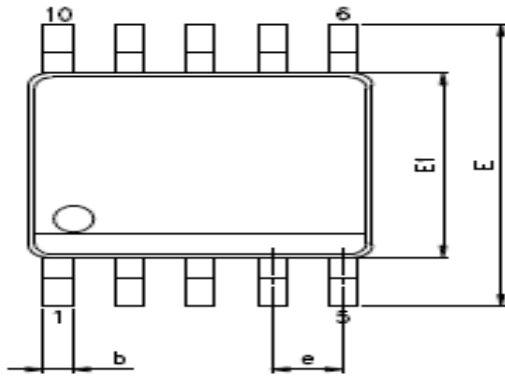
SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A3	0.203 REF		
b	0.18	0.25	0.30
D	3.00 BSC		
E	3.00 BSC		
e	0.50 BSC		
K	0.20	-	-
D2	2.20	2.30	2.35
E2	1.55	1.65	1.70
L	0.30	0.40	0.50

PKG CODE: WDFN

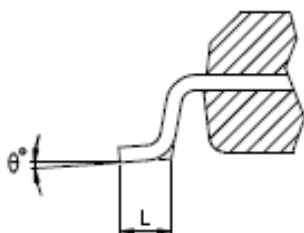
Package Information

2.25. ESSOP10(Pitch:1mm,Width:150mil)

Lead of ESSOP10	Pitch=1mm Body Width=150 mil=3.9 mm
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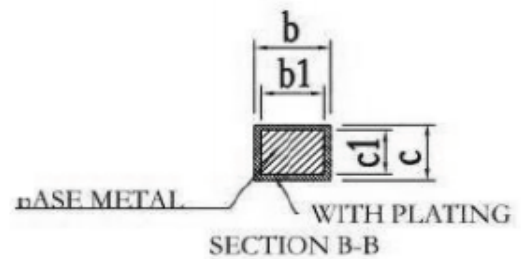
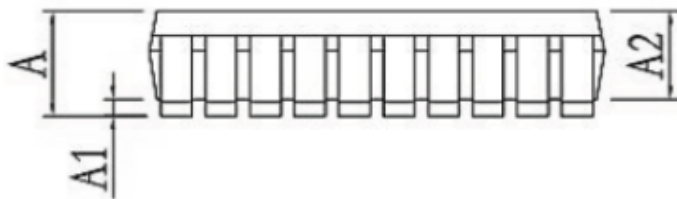
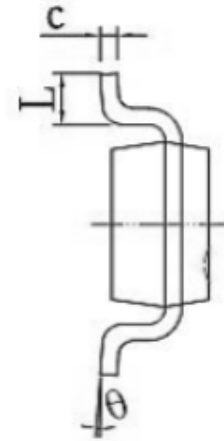
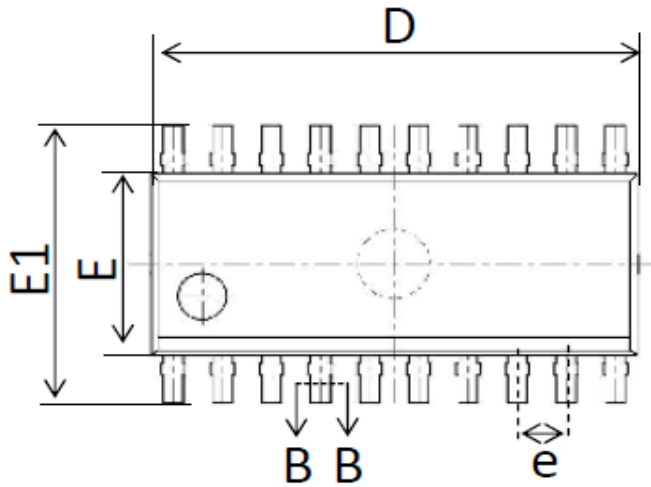
SYMBOLS	MILLIMETERS		
	MIN	TYP	MAX
A	1.50	1.60	1.70
A1	0.04	-	0.12
A2	1.35	1.45	1.55
A3	0.65	0.70	0.75
b	0.30	-	0.50
c	0.19	-	0.25
D	4.80	4.90	5.00
D1	3.20	3.30	3.40
E	5.90	6.00	6.10
E1	3.84	3.94	4.04
E2	2.00	2.10	2.20
e	1.00		
h	0.25	-	0.50
L	0.52	-	0.72
θ°	0	-	8



Package Information

2.26. HTSOP20(Pitch:1mm,Width:150mil)

Lead of HTSOP20	Pitch=1mm Body Width=150 mil =3.9 mm
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SYMBOLS	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
b1	0.32	0.50
c	0.17	0.25
c1	0.16	0.24
D	9.80	10.20
E	3.80	4.00
E1	5.80	6.20
e	1.0 BSC	
L	0.40	0.80
θ °	0	8