

## Packaging Information

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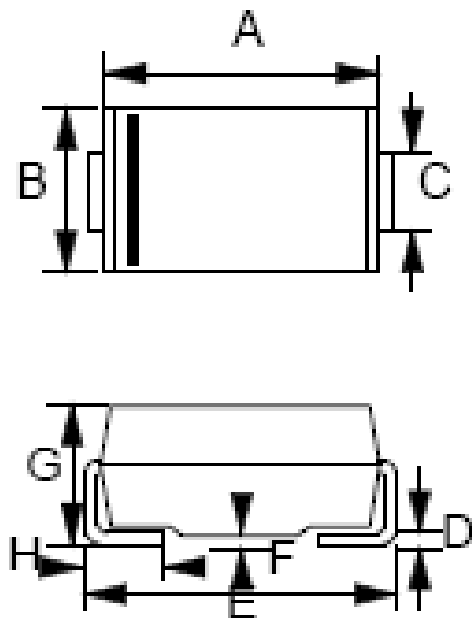
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**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**SMA**

**Unit: mm**



<b>SMA</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52
All Dimensions in millimeter		

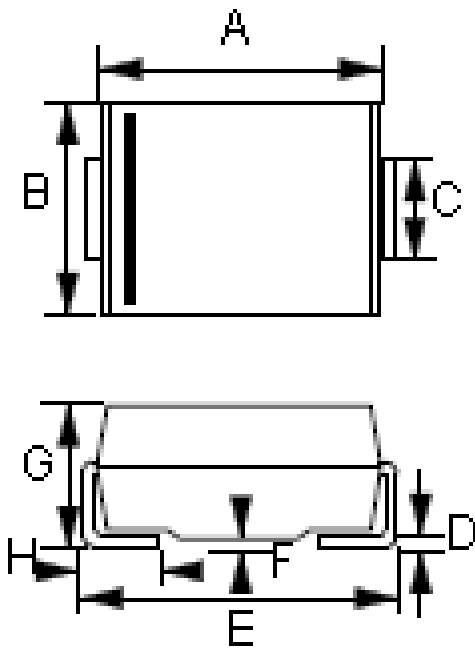
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**SMB**

**Unit: mm**



<b>SMB</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All Dimensions in millimeter		

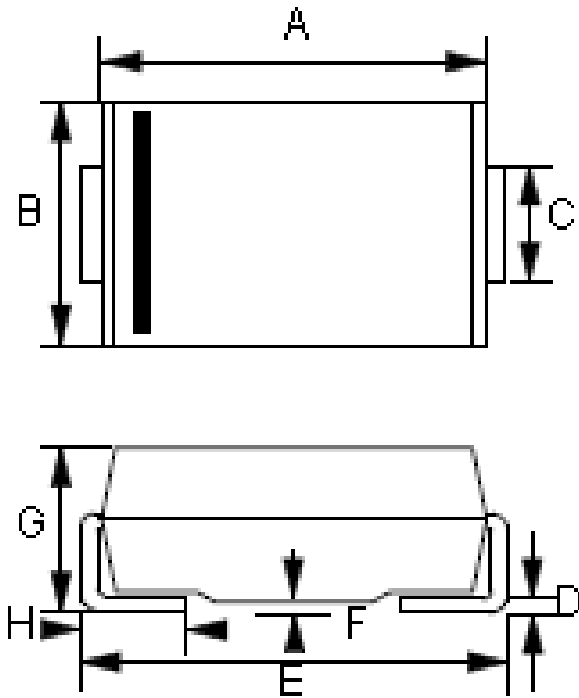
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**SMC**

**Unit: mm**



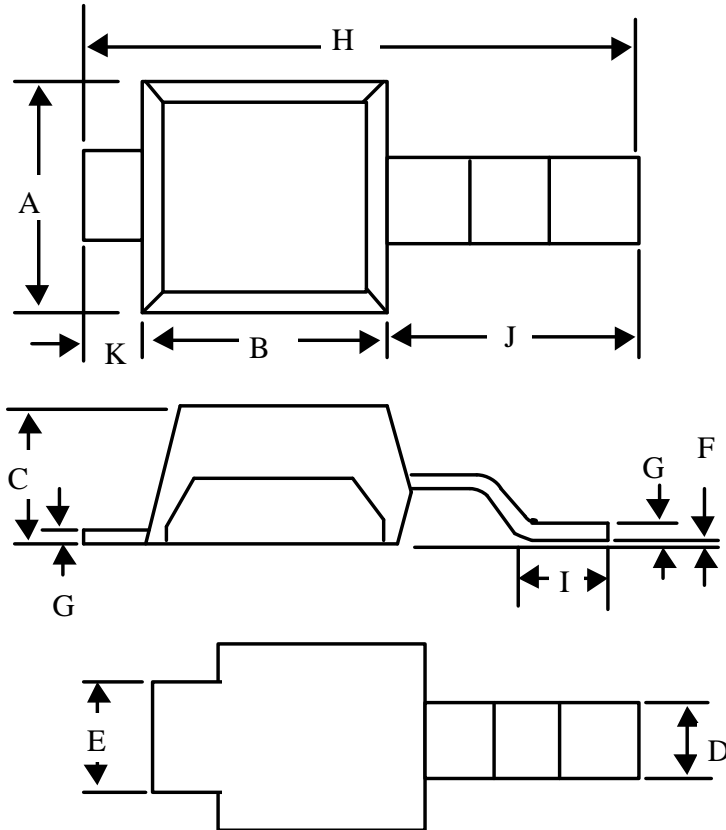
<b>SMC</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
A	6.60	7.11
B	5.59	6.22
C	2.92	3.18
D	0.15	0.31
E	7.75	8.13
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**DO-216AA**

**Unit: mm**



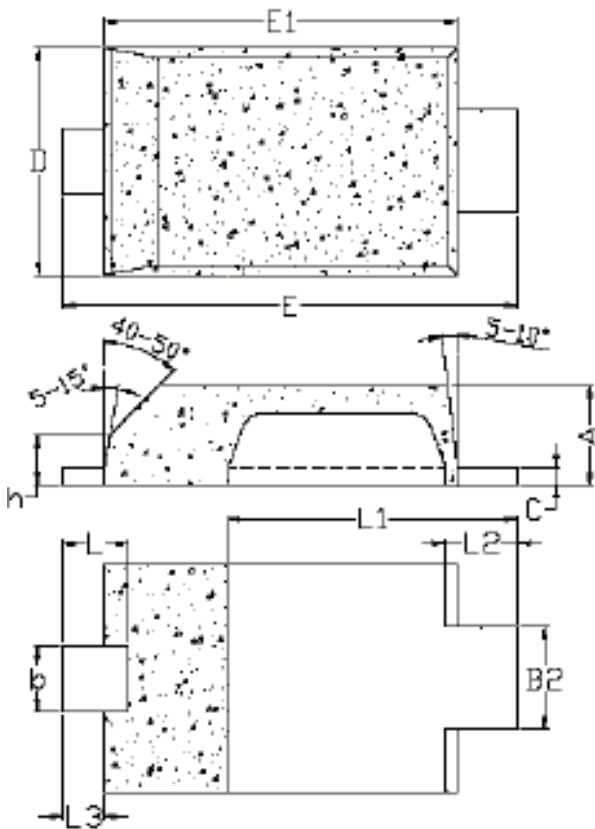
DO-216AA		
DIM.	MIN.	MAX.
A	1.75	2.05
B	1.80	2.20
C	0.95	1.25
D	0.42	0.68
E	0.70	1.00
F	-0.05	+0.1
G	0.10	0.25
H	3.65	3.95
I	0.40	0.70
J	1.10	1.50
K	0.20	0.80
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**DO-222AA**

**Unit: mm**



<b>DO-222AA</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
A	0.80	0.95
b	0.40	0.65
b2	0.70	1.00
C	0.10	0.25
D	1.75	2.05
E	3.60	3.90
E1	2.80	3.10
h	0.35	0.50
L	0.50	0.80
L1	2.10	2.60
L2	0.45	0.75
L3	0.20	0.50

**All Dimensions in millimeter**

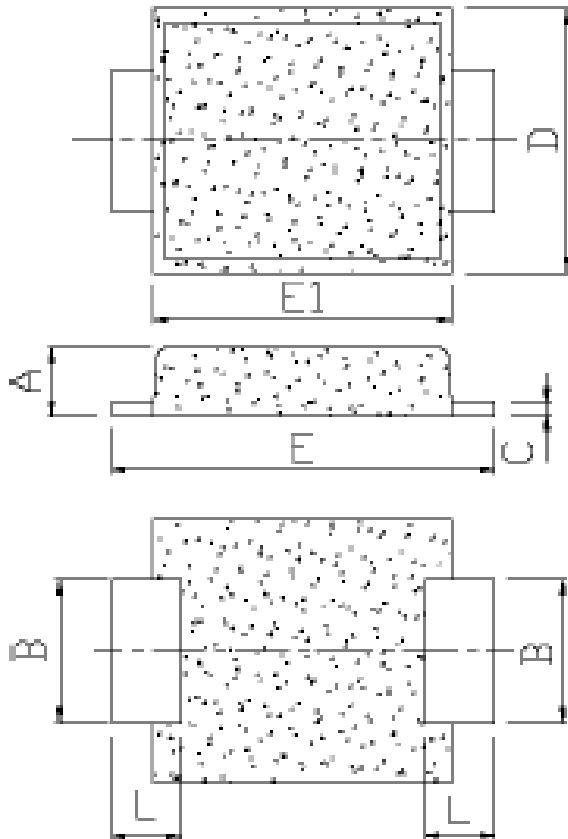
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**DO-221AA**

**Unit: mm**



DO-221AA		
DIM.	MIN.	MAX.
A	0.90	1.10
B	1.95	2.20
C	0.15	0.40
D	3.30	3.95
E	5.10	5.60
E1	4.05	4.60
L	0.75	1.50
All Dimensions in millimeter		

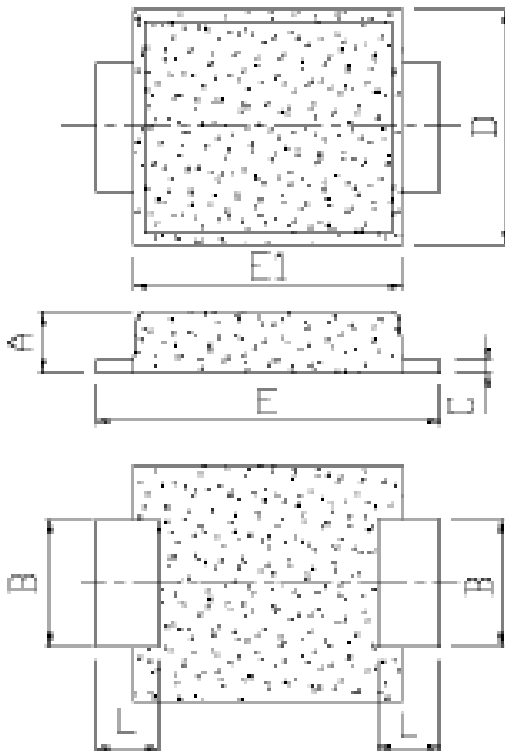
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**SMA FLAT**

**Unit: mm**



SMA FLAT		
DIM.	MIN.	MAX.
A	0.90	1.10
B	1.25	1.65
C	0.15	0.40
D	2.25	2.95
E	4.80	5.60
E1	3.95	4.60
L	0.75	1.50
All dimension in millimeter		



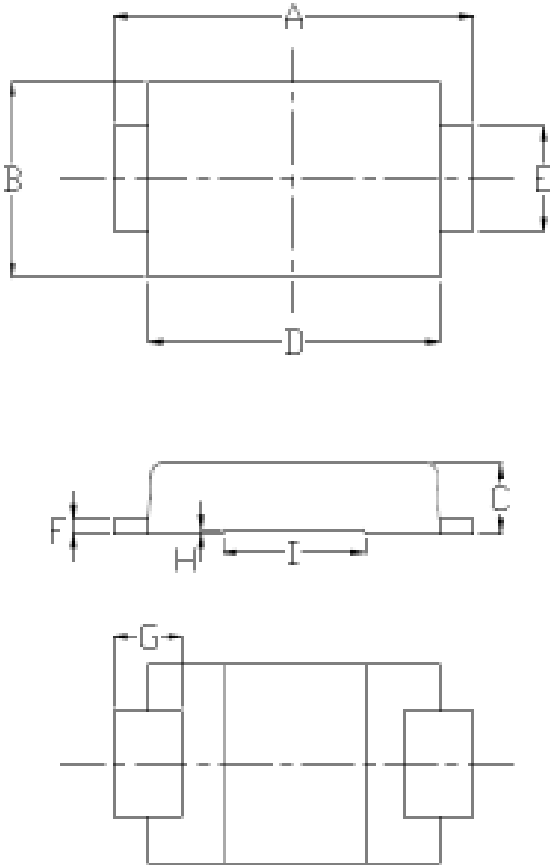
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**F3-D**

**Unit: mm**



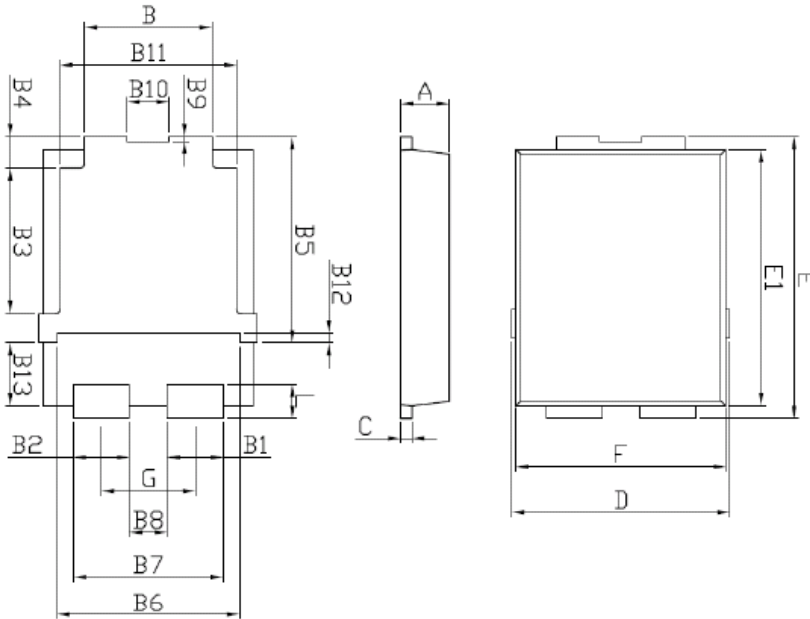
<b>F3-D</b>			
<b>DIM</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>
<b>A</b>	<b>4.80</b>	<b>5.20</b>	<b>5.60</b>
<b>B</b>	<b>2.25</b>	<b>2.80</b>	<b>2.95</b>
<b>C</b>	<b>0.90</b>	<b>1.00</b>	<b>1.10</b>
<b>D</b>	<b>3.95</b>	<b>4.20</b>	<b>4.60</b>
<b>E</b>	<b>1.25</b>	<b>1.50</b>	<b>1.65</b>
<b>F</b>	<b>0.15</b>	<b>0.20</b>	<b>0.40</b>
<b>G</b>	<b>0.75</b>	<b>1.00</b>	<b>1.50</b>
<b>H</b>	<b>0.025</b>	<b>0.05</b>	<b>0.075</b>
<b>I</b>	<b>1.90</b>	<b>2.05</b>	<b>2.20</b>
<b>All dimension in millimeter</b>			

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**F4**

**Unit: mm**



F4			
DIM.	MIN.	TYP.	MAX
A	1.05	1.15	1.25
B	2.90	3.05	3.20
B1	1.20	1.34	1.50
B2	1.20	1.34	1.50
B3	3.30	3.45	3.60
B4	0.60	0.75	0.90
B5	4.75	4.90	5.05
B6	4.19	4.34	4.49
B7	3.42	3.57	3.72
B8	0.72	0.90	1.08
B9	0.02	0.10	0.20
B10	0.85	1.00	1.15
B11	4.05	4.20	4.35
B12	0.08	0.23	0.38
B13	1.30	1.50	1.70
C	0.15	0.25	0.35
D	5.05	5.20	5.35
E	6.55	6.70	6.85
E1	5.95	6.10	6.25
F	4.85	5.00	5.15
G	2.10	2.24	2.40
L	0.68	0.82	1.00
All dimension in millimeter			

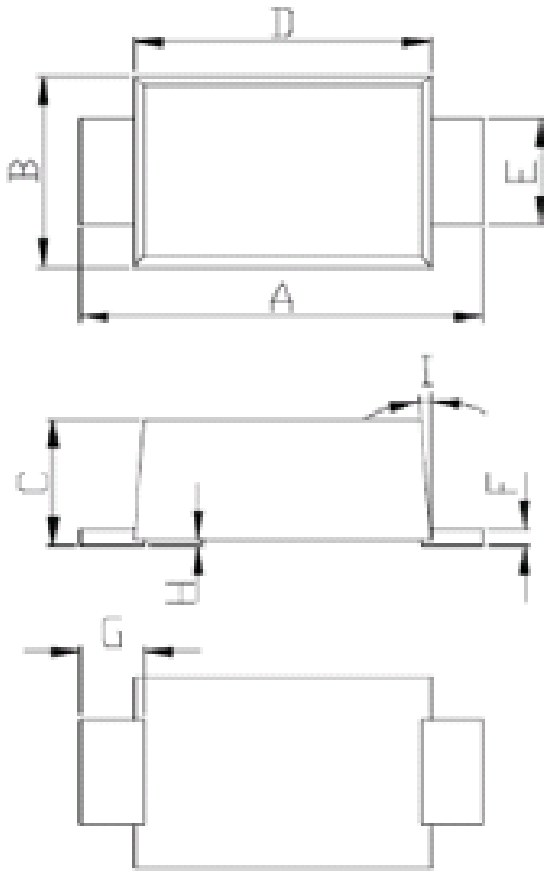
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

F1A

Unit: mm



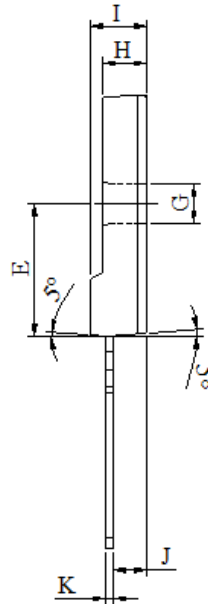
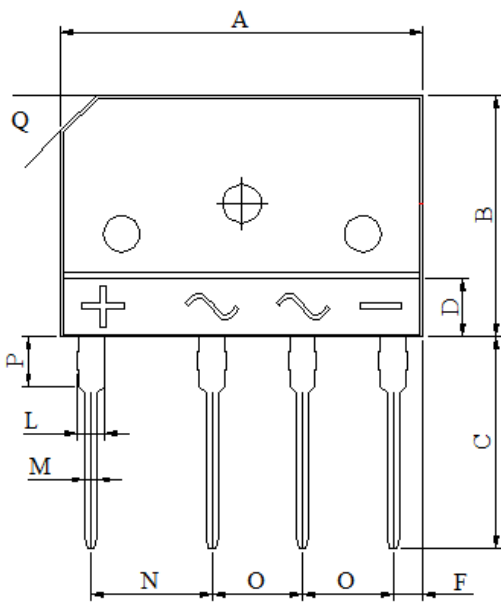
F1A			
DIM.	MIN.	TYP	MAX.
A	3.50	3.80	3.90
B	1.70	1.90	2.00
C	0.81	1.18	1.20
D	2.70	2.80	2.90
E	0.80	1.00	1.35
F	0.05	0.15	0.30
G	0.35	0.60	0.85
H	0.03	0.07	0.10
I	0°	5°	8°
All dimension in millimeter.			

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**GBJ (S)**

**Unit: mm**



GBJ(S)		
DIM.	MIN.	MAX.
A	29.70	30.30
B	19.70	20.30
C	17.0	18.0
D	4.70	4.90
E	10.80	11.20
F	2.30	2.70
G	3.10 $\varnothing$	3.40 $\varnothing$
H	3.40	3.80
I	4.40	4.80
J	2.50	2.90
K	0.60	0.80
L	2.00	2.40
M	0.90	1.10
N	9.80	10.20
O	7.30	7.70
P	3.80	4.20
Q	(3.0)x45°	
All Dimensions in millimeter		

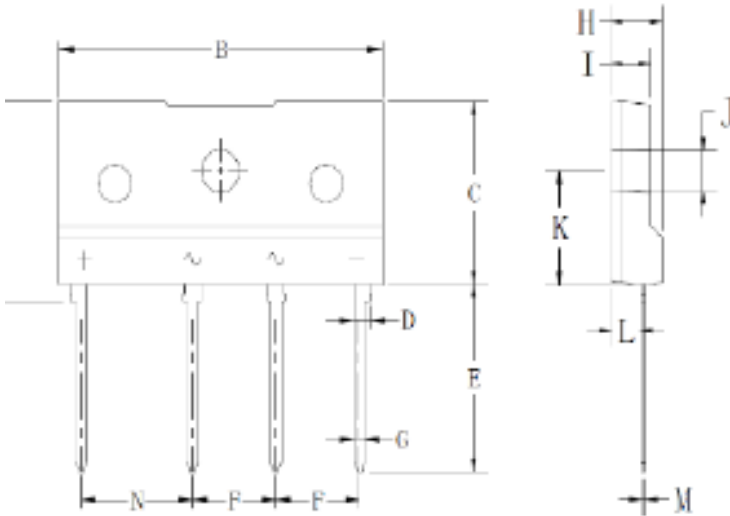
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**GBJL**

**Unit: mm**



GBJL		
DIM	MIN	MAX
A	15.6	16.2
B	28.7	29.3
C	14.2	14.8
D	1.5	1.7
E	14.6	15.2
F	7.3	7.7
G	0.9	1.1
H	4.3	4.9
I	3.3	3.9
J	3.1	3.4
K	8.7	9.3
L	2.5	2.9
M	0.4	0.6
N	9.8	10.2
<b>All dimension in millimeter</b>		

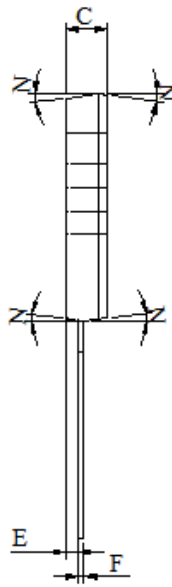
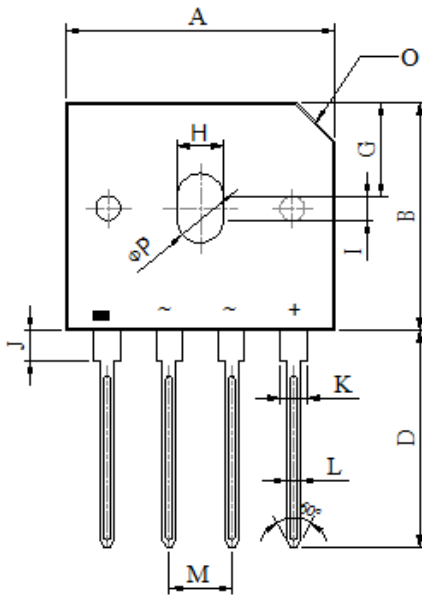
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**GBU**

**Unit: mm**



GBU		
DIM.	MIN.	MAX.
A	21.8	22.3
B	18.3	18.8
C	3.30	3.56
D	17.50	18.00
E	0.76	1.00
F	0.46	0.56
G	7.40	7.90
H	3.50	4.10
I	1.62	2.16
J	2.25	2.75
K	1.95	2.35
L	1.02	1.27
M	4.83	5.33
N	7.0° Typ.	
O	3.2×45°	
P	3.8Φ	
All Dimensions in millimeter		

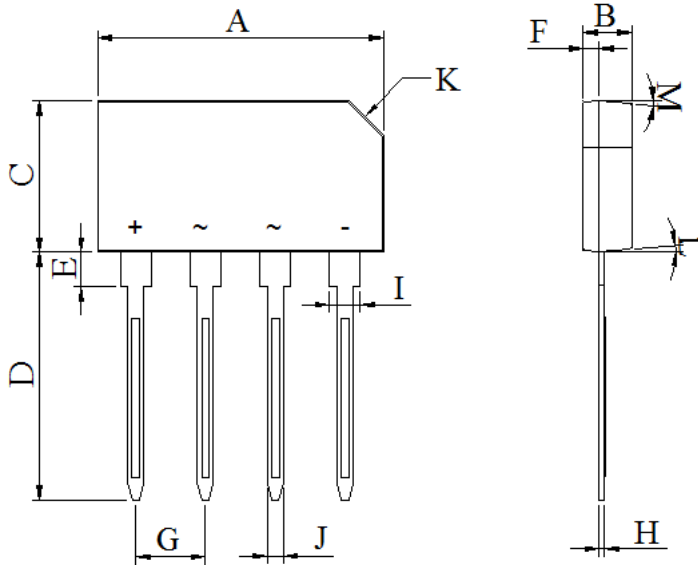
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**GBL**

**Unit: mm**



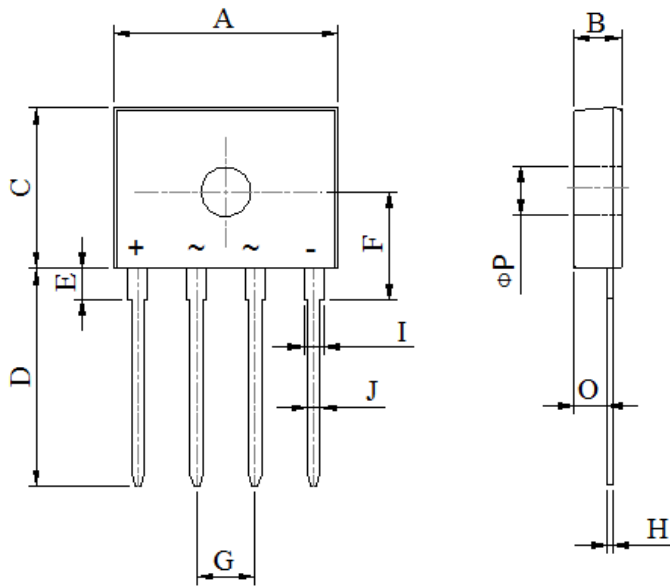
GBL		
DIM.	MIN.	MAX.
A	20.2	20.8
B	3.30	3.70
C	10.70	11.30
D	17.50	18.00
E	2.30	2.7
F	0.80	1.20
G	4.83	5.33
H	0.40	0.60
I	1.95	2.35
J	1.02	1.27
K	2.5x45°	
L	-	5°
M	-	5°
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**GBP**

**Unit: mm**



GBP		
DIM.	MIN.	MAX.
A	14.2	14.7
B	2.9	3.3
C	10.1	10.7
D	13.8	14.4
E	1.8	2.2
F	6.65	7.25
G	3.71	3.91
H	0.4	0.6
I	1.2	1.4
J	0.64	0.84
O	1.8	2.4
P	3.1Φ	3.3Φ
All Dimensions in millimeter		

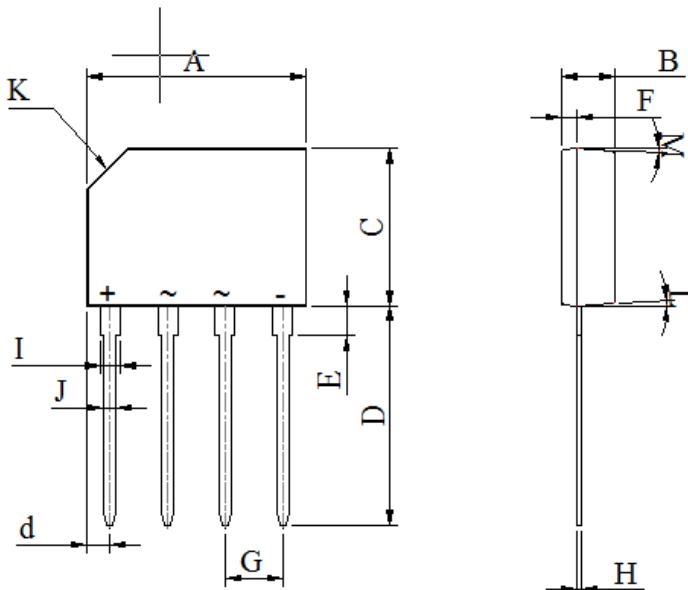


**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**KBP**

**Unit: mm**



KBP		
DIM.	MIN.	MAX.
A	14.5	14.75
B	3.35	3.65
C	10.2	10.6
D	14.25	14.73
E	1.4	1.7
F	1.8	2.2
G	0.8	1.1
H	3.56	4.06
I	1.22	0.55
J	0.76	1.42
K	2.7x45° TYP.	
L	-	3°
M	-	3°
All Dimensions in millimeter		

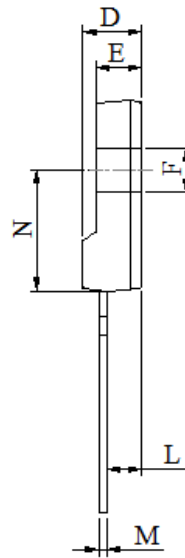
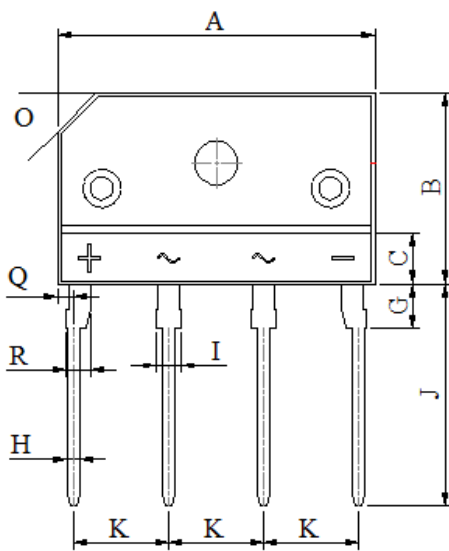
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**KBJ**

**Unit: mm**



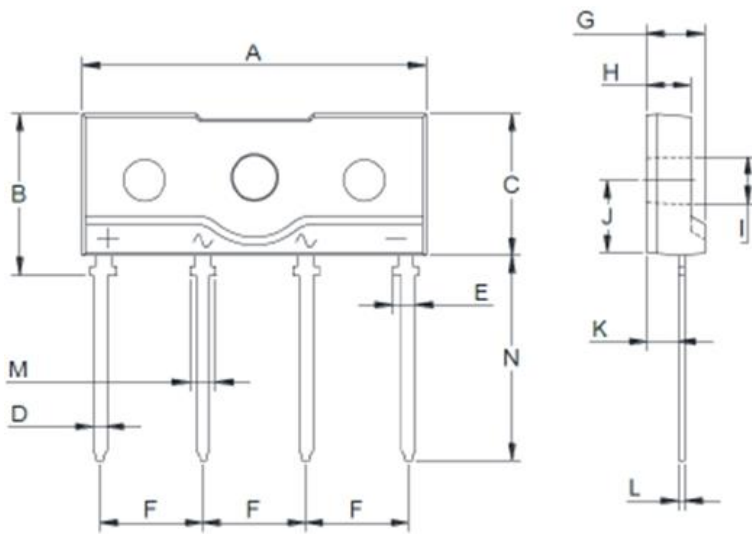
KBJ		
DIM.	MIN.	MAX.
A	24.80	25.20
B	14.70	15.30
C	3.90	4.10
D	4.40	4.80
E	3.40	3.80
F	3.10Ø	3.40Ø
G	3.30	3.70
H	0.90	1.10
I	1.50	1.90
J	17.20	17.80
K	7.30	7.70
L	2.50	2.90
M	0.60	0.80
N	9.30	9.70
O	3.0x45°	
Q	1.05	1.45
R	1.70	2.10
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**KBJL**

**Unit: mm**



KBJL		
DIM	MIN	MAX
A	24.7	25.3
B	11.4	12.0
C	10.0	10.6
D	0.9	1.1
E	1.75(MAX)	
F	7.3	7.7
G	3.9	4.5
H	2.9	3.9
I	3.1	3.4
J	5.4	6.0
K	2.0	2.6
L	0.4	0.6
M	2.1	2.3
N	14.6	15.2
All dimension in millimeter		

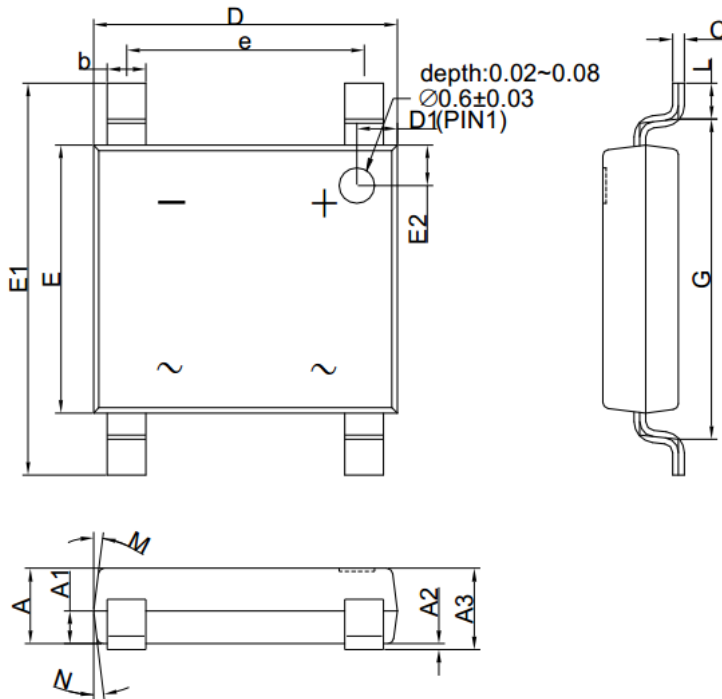
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**ABS**

**Unit: mm**



ABS		
DIM.	MIN.	MAX.
A	1.20	1.30
A1	0.43	0.63
A2	0.00	0.15
A3	1.20	1.40
b	0.50	0.80
C	0.10	0.30
D	4.85	5.25
D1	0.45	0.85
e	3.80	4.20
E	4.25	4.65
E1	6.40	6.80
E2	0.45	0.85
G	5.20	5.60
L	0.40	0.80
M	7° TYP	
N	7° TYP	
All Dimensions in millimetres.		

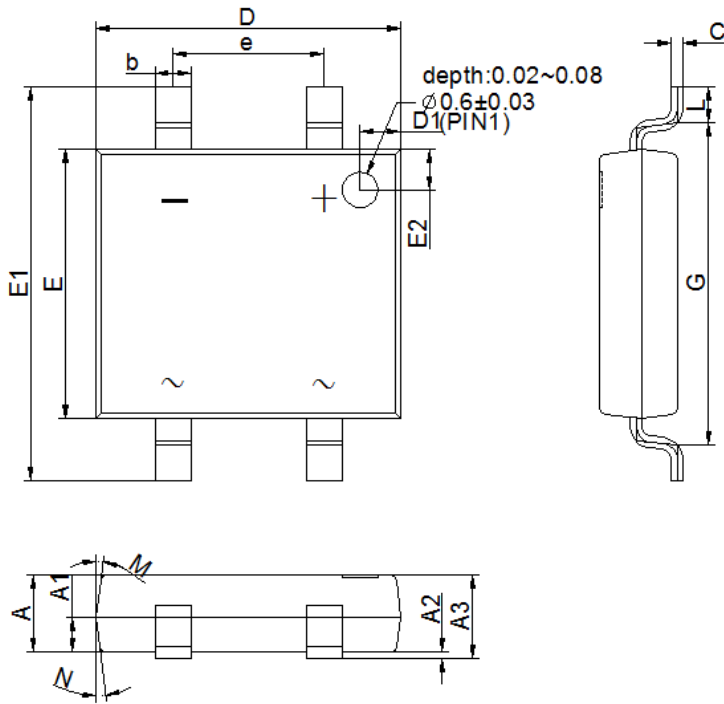
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**HDS**

**Unit: mm**



HDS		
DIM.	MIN.	MAX.
A	1.20	1.30
A1	0.43	0.63
A2	0.00	0.15
A3	1.20	1.40
b	0.45	0.75
C	0.10	0.30
D	4.85	5.25
D1	0.45	0.85
e	2.54 TYP.	
E	4.25	4.65
E1	6.40	6.80
E2	0.45	0.85
G	5.20	5.60
L	0.40	0.80
M	7° TYP	
N	7° TYP	
All Dimensions in millimetres.		

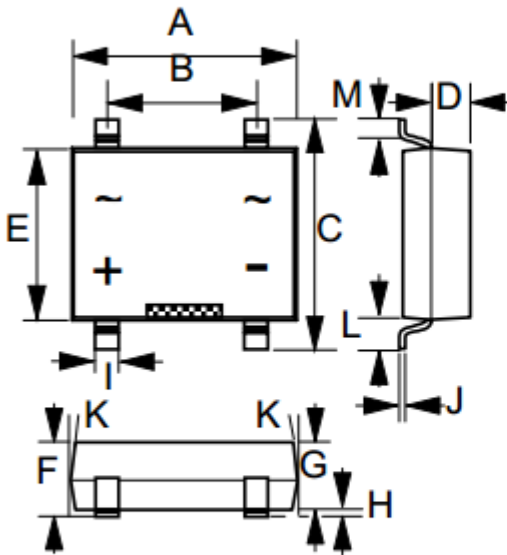
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**HDDF**

**Unit: mm**



<b>HDDF</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
A	4.50	4.90
B	2.30	2.70
C	—	7.00
D	1.20	1.60
E	3.60	4.00
F	—	3.00
G	2.30	2.70
H	—	0.20
I	0.50	0.80
J	0.15	0.35
K	5° TYPICAL	
L	1.30	1.70
M	0.70	1.10
<b>All Dimensions in millimeter</b>		

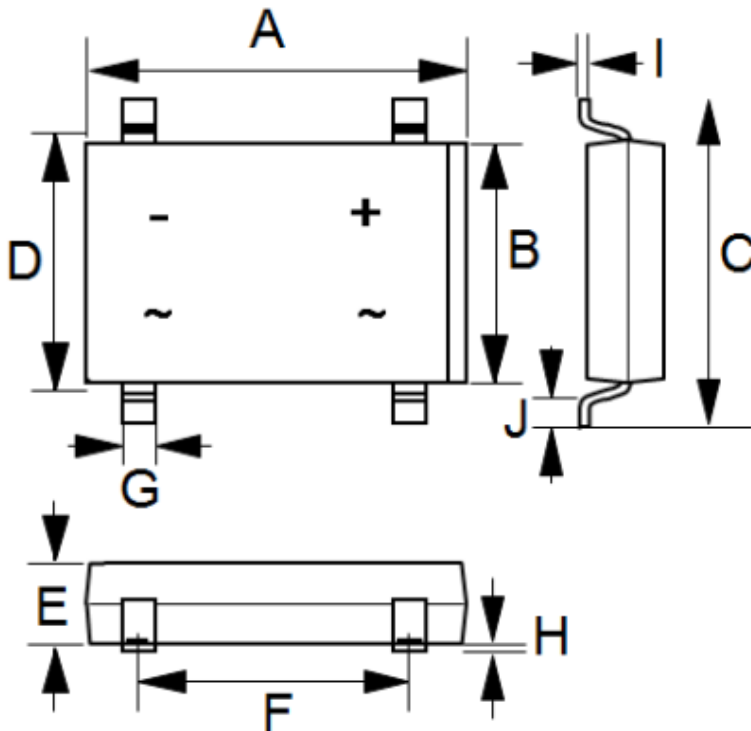
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

DFS

Unit: mm



DF-S		
DIM	MIN	MAX
A	8.20	8.50
B	6.20	6.50
C	9.80	10.30
D	7.40	7.90
E	2.40	2.60
F	5.00	5.20
G	1.00	--
H	.076	.330
I	.220	.300
J	1.02	1.53
All dimension in millimeter		

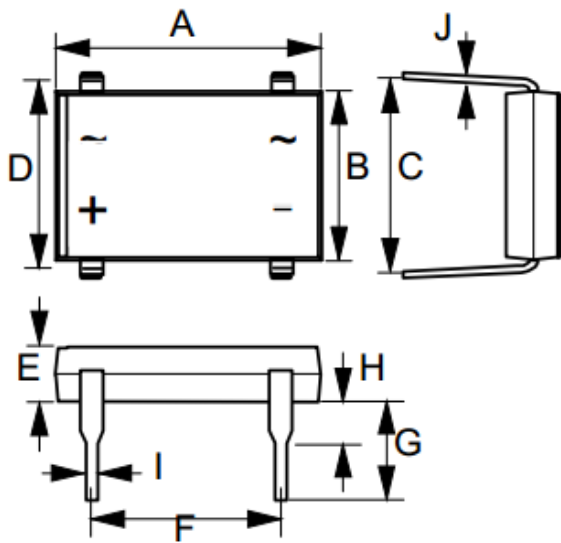
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

DFM

Unit: mm



DF		
DIM.	MIN.	MAX.
A	8.20	8.50
B	6.20	6.50
C	7.60	8.90
D	7.40	7.60
E	2.40	2.60
F	5.00	5.20
G	4.10	4.60
H	1.27	2.03
I	0.46	0.56
J	0.22	0.30
All Dimensions in millimeter		

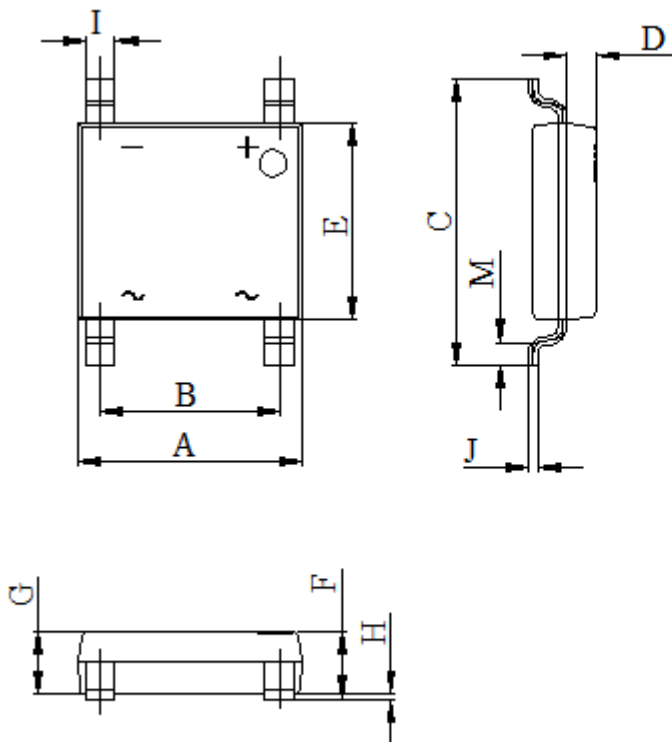


**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TD**

**Unit: mm**



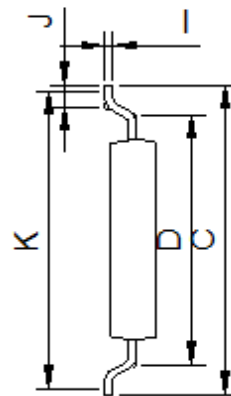
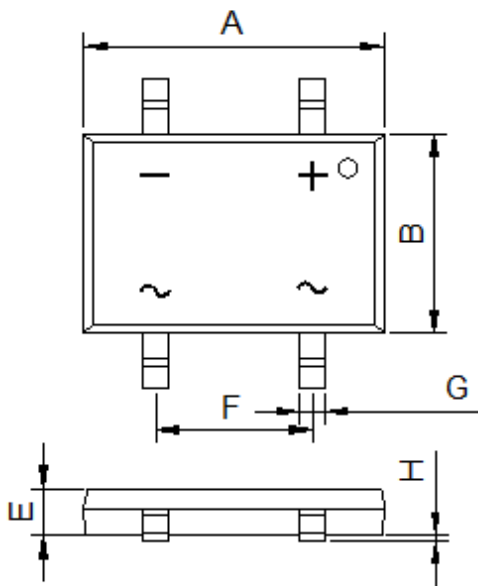
TD		
DIM.	MIN.	MAX.
A	4.90	5.10
B	3.95	4.05
C	6.30	6.45
D	0.60	0.70
E	4.30	4.50
F	1.40	1.60
G	1.35	1.45
H	0.05	0.15
I	0.60	0.70
J	0.15	0.25
M	0.50	0.70
All Dimensions in millimetres.		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

TT

Unit: mm



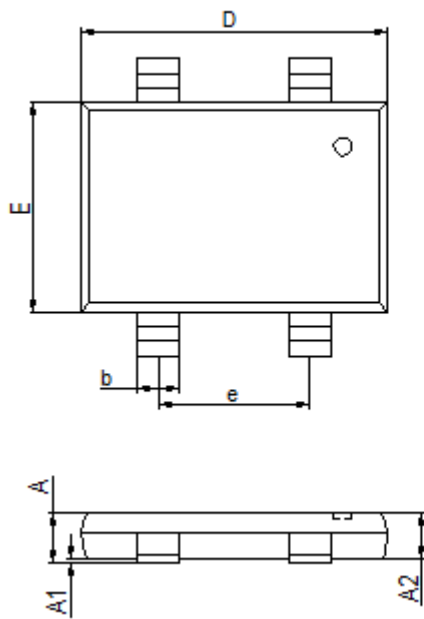
TT		
DIM .	MIN .	MAX .
A	9.45	9.75
B	6.30	6.75
C	9.75	10.05
D	7.85	8.15
E	1.40	1.60
F	4.90	5.10
G	0.70	0.90
H	0.10	0.20
I	0.15	0.35
J	0.45	0.95
K	9.30	9.70
All Dimensions in millimeters.		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

NTT

Unit: mm



NTT		
DIM .	MIN .	MAX .
A	1.45	1.80
A1	0.00	0.15
A2	1.45	1.65
C	0.15	0.35
D	10.05	10.35
E	6.85	7.15
E1	9.75	10.05
L	0.45	0.95
b	1.30	1.50
e	4.90	5.10
All Dimensions in millimetres.		

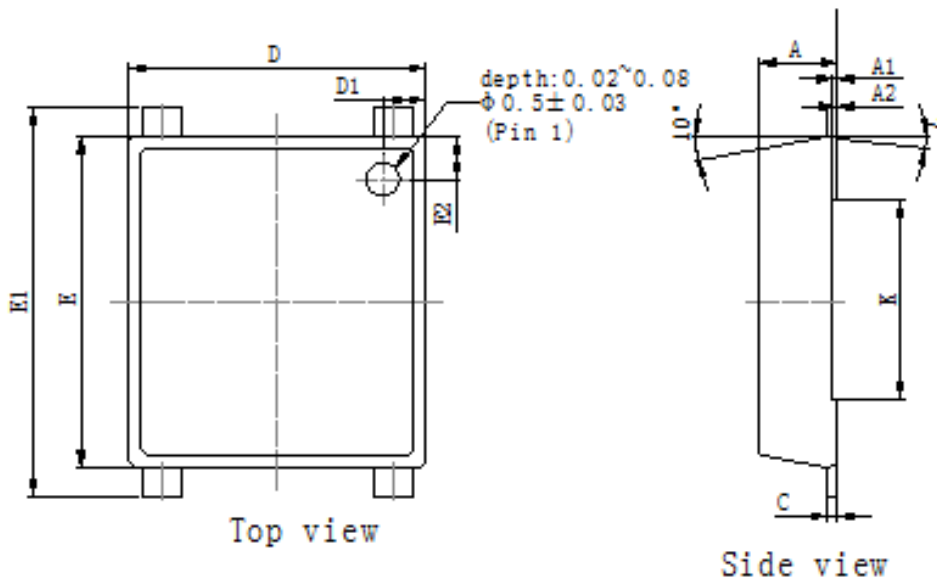
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**M1**

**Unit: mm**



M1		
DIM.	MIN.	MAX.
A	1.10	1.30
A1	0.05	0.08
A2	0.00	0.05
C	0.12	0.18
D	4.40	4.60
D1	0.60	0.70
E	4.90	5.10
E1	5.80	6.10
E2	0.60	0.70
L	0.70	1.00
b	0.55	0.70
e	3.45	3.55
K	2.95	3.05
All Dimensions in millimetres. Angles are in degrees.		

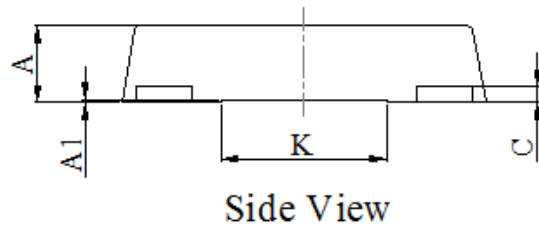
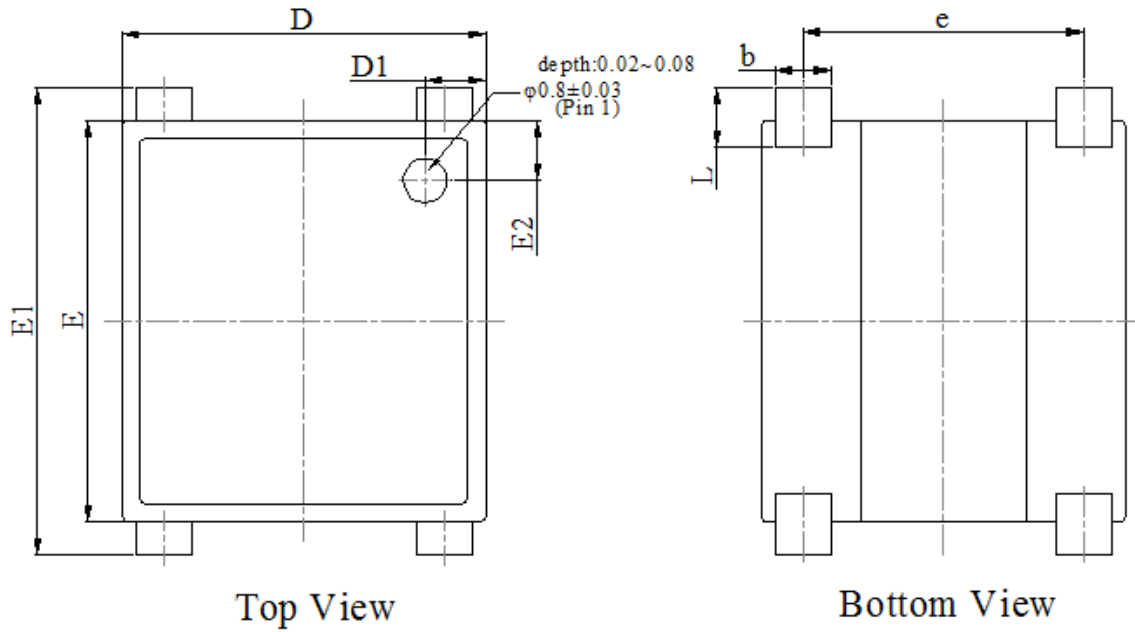
**Packaging Information**

**Mechanical Dimensions**

**For Discrete**

**M2**

**Unit: mm**



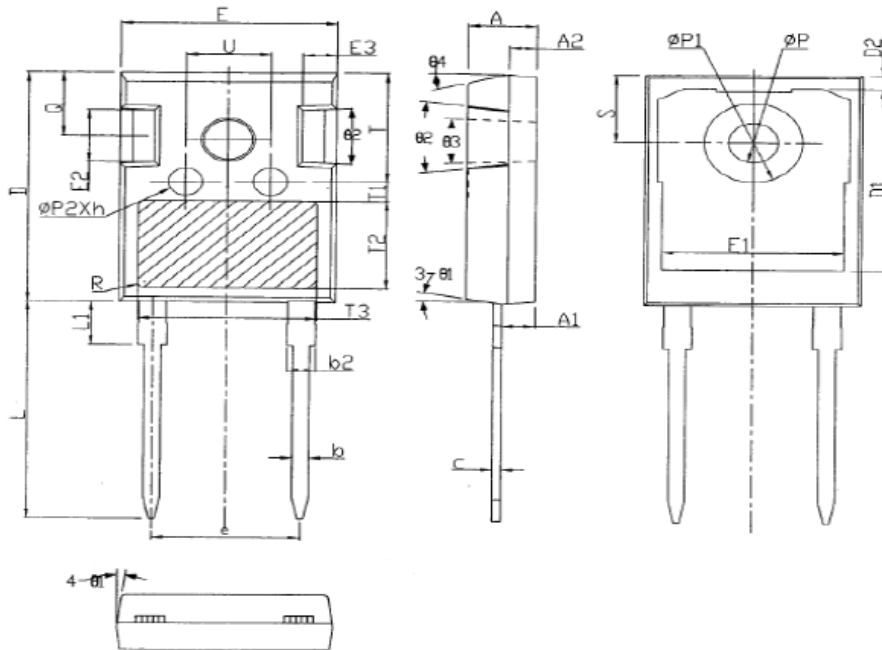
M2		
DIM.	MIN.	MAX.
A	1.30	1.50
A1	0.04	0.08
C	0.27	0.40
D	6.50	6.70
D1	0.95	1.25
E	7.20	7.40
E1	8.20	8.80
E2	0.95	1.25
L	0.90	1.15
b	0.95	1.15
e	5.00	5.20
K	2.90	3.10
All Dimensions in millimetres.		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TO-247-2L**

**Unit: mm**



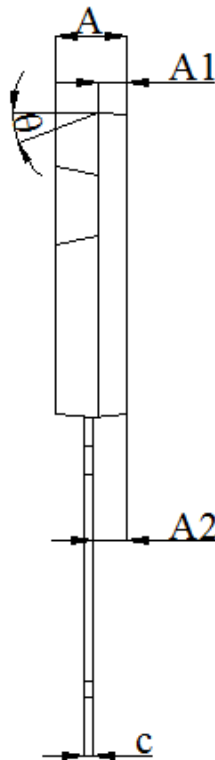
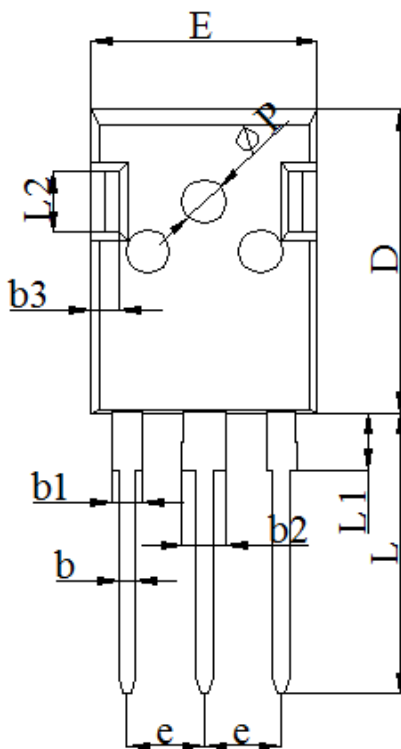
TO-247-2L							
DIM.	MIN.	TYP	MAX	DIM	MIN	TYP	MAX
A	4.90	5.00	5.10	$\Phi P$	3.50	3.60	3.70
A1	2.31	2.41	2.51	$\Phi P1$	--	--	7.30
A2	1.90	2.00	2.10	$\Phi P2$	2.40	2.50	2.60
b	1.16	1.21	1.26	Q	5.60	5.80	6.00
b2	1.91	2.01	2.21	S	6.15BSC		
c	0.59	0.61	0.66	R	0.50REF		
D	20.90	21.0	21.10	T	9.80	--	10.20
D1	16.25	16.55	16.85	T1	1.65REF		
D2	1.05	1.20	1.35	T2	8.00REF		
E	15.70	15.80	15.90	T3	12.80REF		
E1	13.10	13.30	13.50	U	6.00	--	6.40
E2	4.90	5.00	5.10	$\theta 1$	6°	7°	8°
E3	2.40	2.50	2.60	$\theta 2$	1°	5°	6°
e	10.88BSC			$\theta 3$	1°	--	1.5°
h	0.05	0.10	0.15	$\theta 4$	14°	15°	16°
L	19.80	19.92	20.10				
L1	--	--	4.30				
All dimension in millimeter							

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TO247**

**Unit: mm**



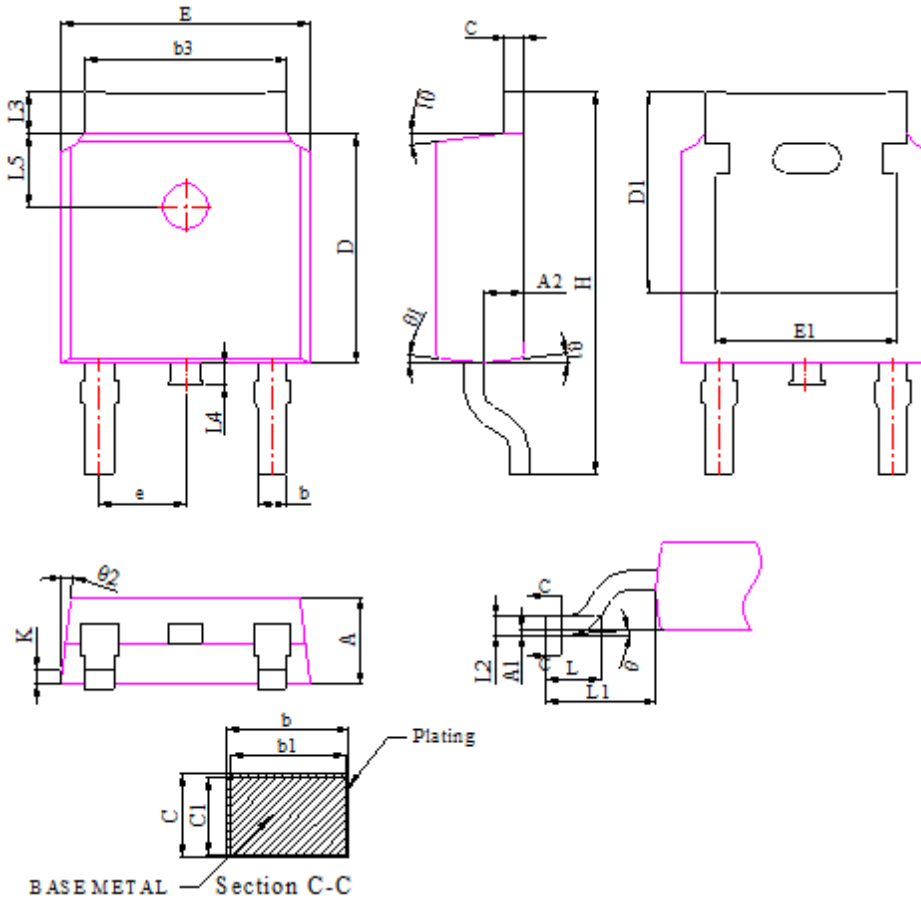
TO247		
DIM.	MIN.	MAX.
A	4.87	5.13
A1	1.88	2.08
A2	2.10	2.40
b	1.12	1.22
b1	1.90	2.16
b2	2.93	3.22
b3	1.93	2.18
c	0.51	0.76
D	21.25	21.75
E	15.75	16.25
e	5.20	5.70
L	19.60	20.10
L1	3.78	4.38
L2	4.40 TYP	
P	Ø2.90	Ø3.20
$\theta$	20° TYP	
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TO252**

**Unit: mm**



TO252		
DIM.	MIN.	MAX.
A	2.20	2.40
A1	0.00	0.15
A2	0.97	1.17
b	0.68	0.90
b1	0.66	0.88
b3	5.20	5.50
C	0.43	0.63
C1	0.41	0.61
D	5.98	6.22
D1	5.30REF	
E	6.40	6.80
E1	4.63	5.03
e	2.286REF	
H	9.40	10.50
L	1.38	1.75
L1	2.90REF	
L2	0.51BSC	
L3	0.88	1.28
L4	-	
L5	1.65	1.95
θ	0°	8°
θ1	5°	9°
θ2	5°	9°
K	0.40REF	

All dimensions in millimeter



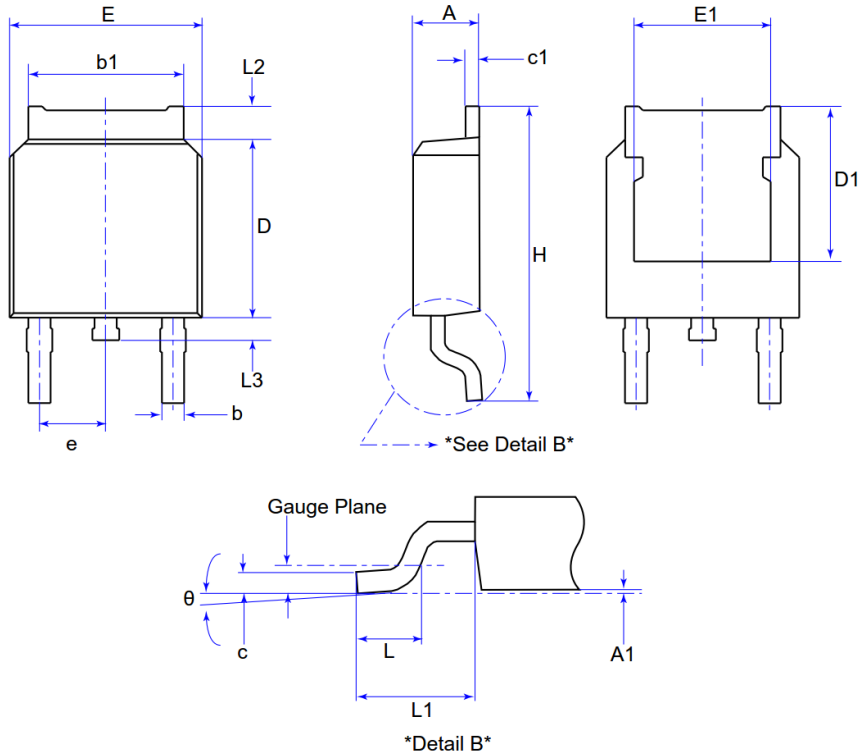
**Packaging Information**

**Mechanical Dimensions**

**For Analog**

**DRW-000035 (02) TO252 Series**

**TO252-2L**



Unit: mm

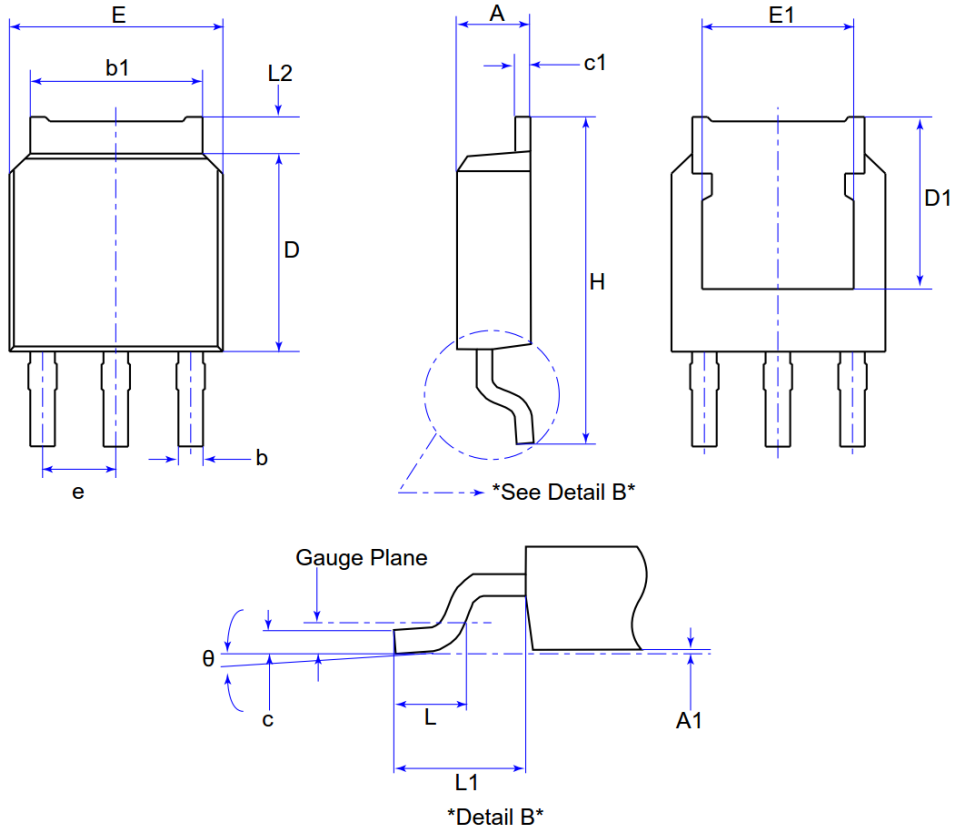
Symbol	Min	Max
A	2.200	2.400
A1	-	0.127
b	0.660	0.860
b1		5.334 REF
c	0.460	0.600
c1	0.460	0.580
D	6.000	6.200
D1		5.300 REF
E	6.500	6.700
E1		4.830 REF
e	2.186	2.400
H	9.800	10.400
L	1.400	1.700
L1		2.900 REF
Gauge Plane		0.508 REF
L2	0.900	1.300
L3	0.600	1.000
θ	0°	8°

**Packaging Information**

**Mechanical Dimensions**

**For Analog**

**TO252-3L**



Unit: mm

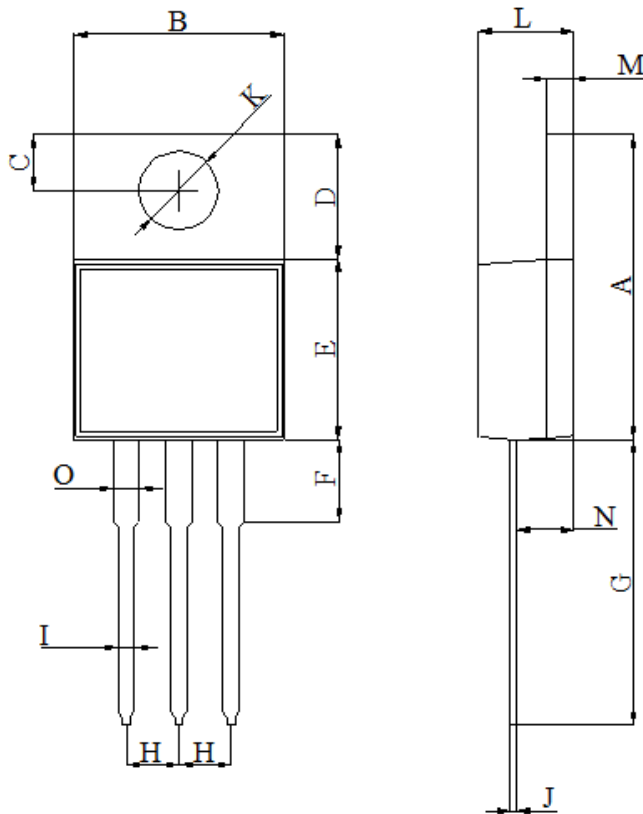
Symbol	Min	Max
A	2.200	2.400
A1	-	0.127
b	0.660	0.860
b1	5.334 REF	
c	0.460	0.600
c1	0.460	0.580
D	6.000	6.200
D1	5.300 REF	
E	6.500	6.700
E1	4.830 REF	
e	2.186	2.400
H	9.800	10.400
L	1.400	1.700
L1	2.900 REF	
Gauge Plane	0.508 REF	
L2	0.900	1.300
θ	0°	8°

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TO220AB**

**Unit: mm**



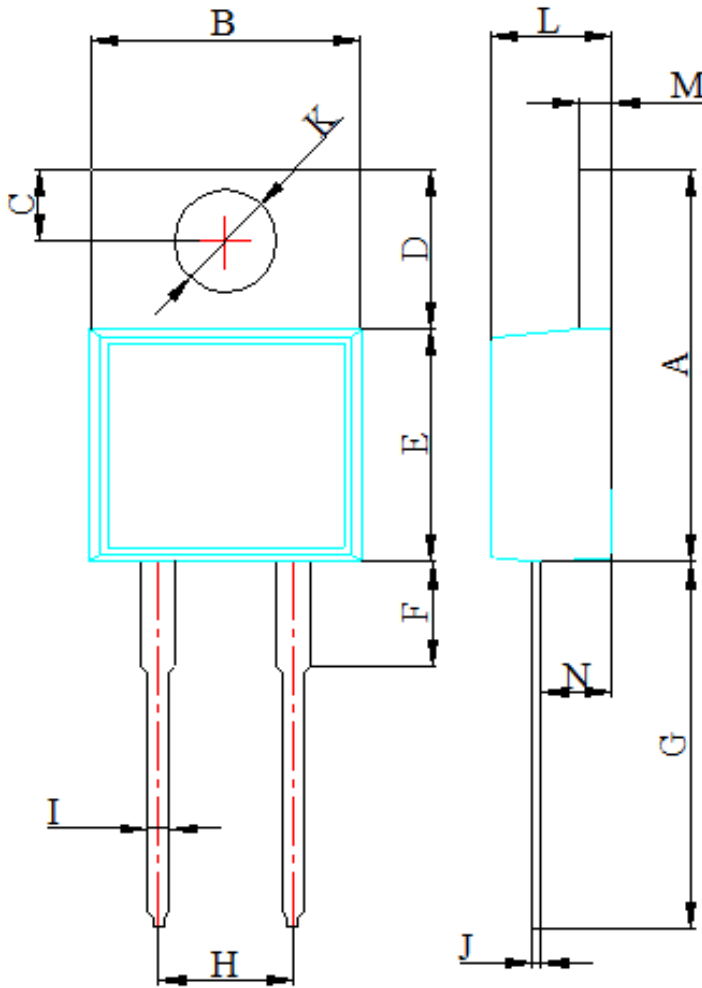
TO-220AB		
DIM.	MIN.	MAX.
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	4.20
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.30	0.64
K	3.53Ø	4.09Ø
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.70
All Dimensions in millimeter		

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**TO220AC**

**Unit: mm**



<b>TO-220AC</b>		
DIM.	MIN.	MAX.
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	4.20
G	12.70	14.73
H	4.83	5.33
I	0.51	1.14
J	0.30	0.64
K	3.53 $\phi$	4.09 $\phi$
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
All Dimensions in millimeter		

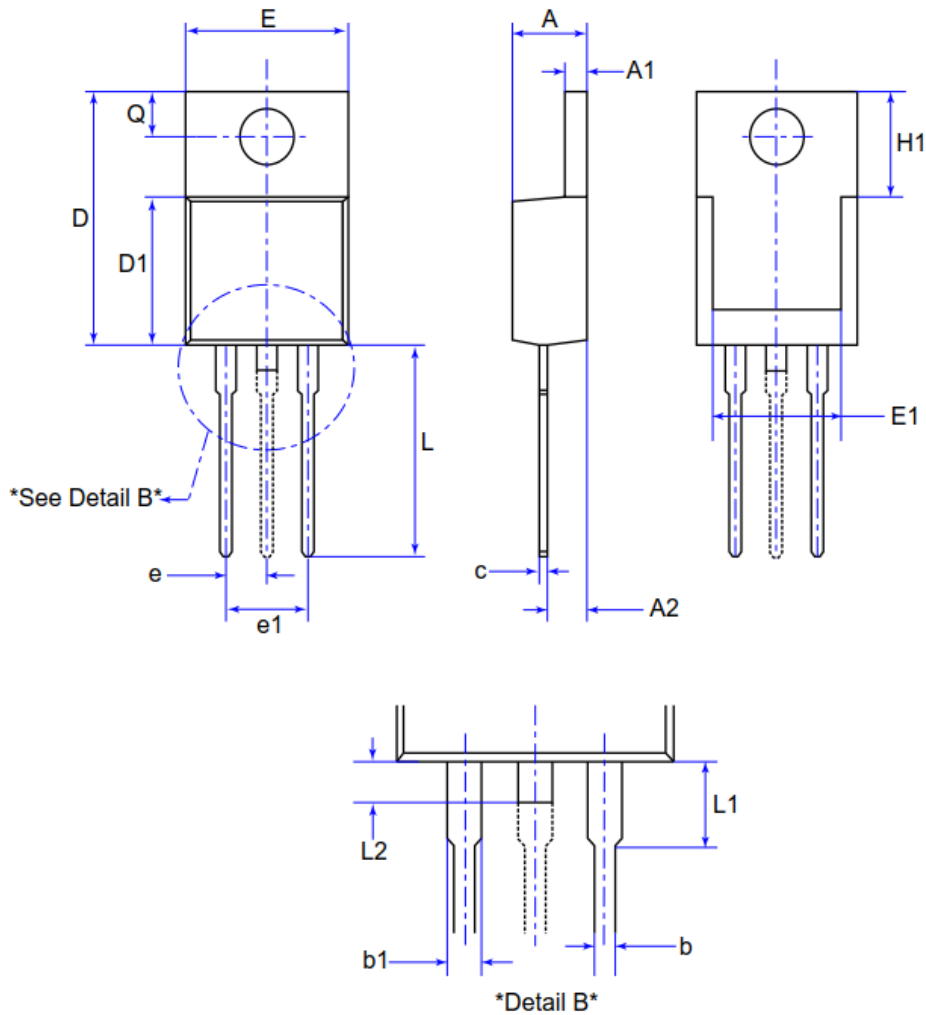
**Packaging Information**

**Mechanical Dimensions**

**For Analog**

**DRW-000066 (02) TO220 Series**

**TO220-2L & TO220-3L**



Package schematic drawing for reference.  
Unit: mm

Symbol	Min	Max
A	4.064	4.826
A1	1.143	1.400
A2	2.032	2.921
b	0.700	0.910
b1	1.170	1.550
c	0.305	0.610
D	14.224	15.950
D1	8.382	9.398

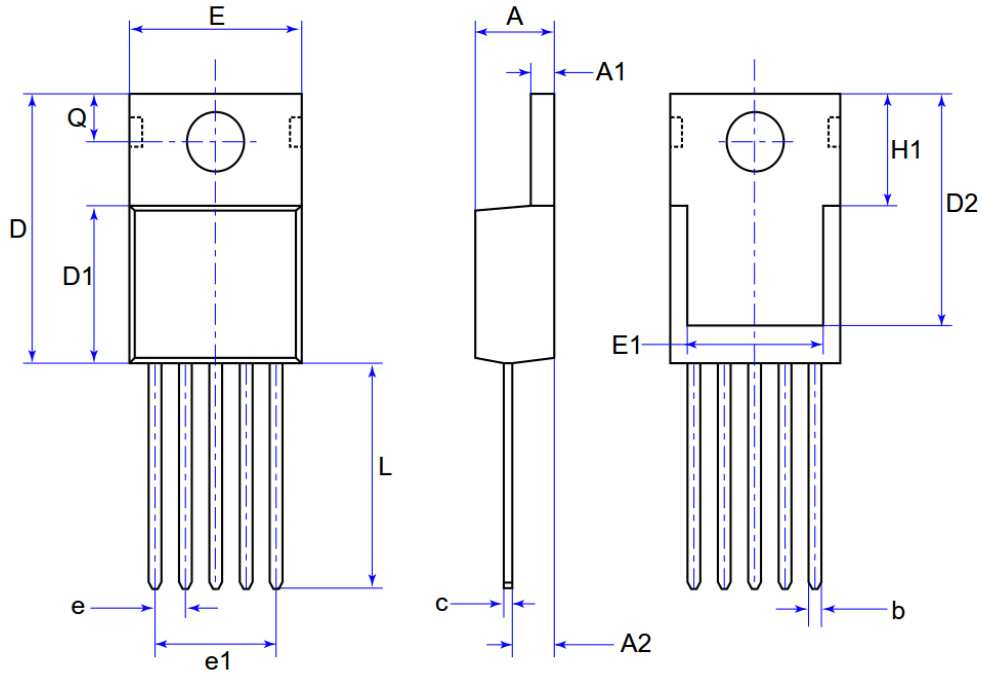
Symbol	Min	Max
E	9.850	10.668
E1	6.858	8.890
e	2.540 REF	
e1	5.080 REF	
H1	5.842	6.858
L	12.700	14.000
L1	-	3.960
L2	-	1.778
Q	2.600	2.900

**Packaging Information**

**Mechanical Dimensions**

**For Analog**

**TO220-5L**



Unit: mm

Symbol	Min	Max
A	4.350	4.670
A1	1.170	1.370
A2	-	2.820
B	0.710	0.910
C	0.310	0.530
D	14.350	15.650
D1	8.300	9.350

Symbol	Min	Max
E	9.850	10.360
E1	6.858	8.890
e	1.700 REF	
e1	6.800 REF	
H1	5.842	6.858
L	13.15	14.732
Q	2.59	2.89

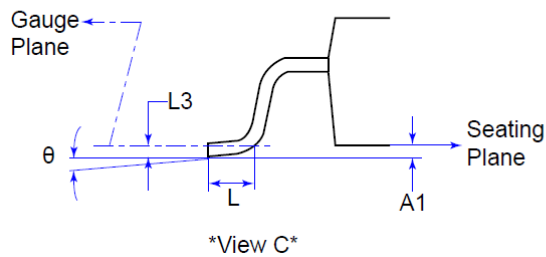
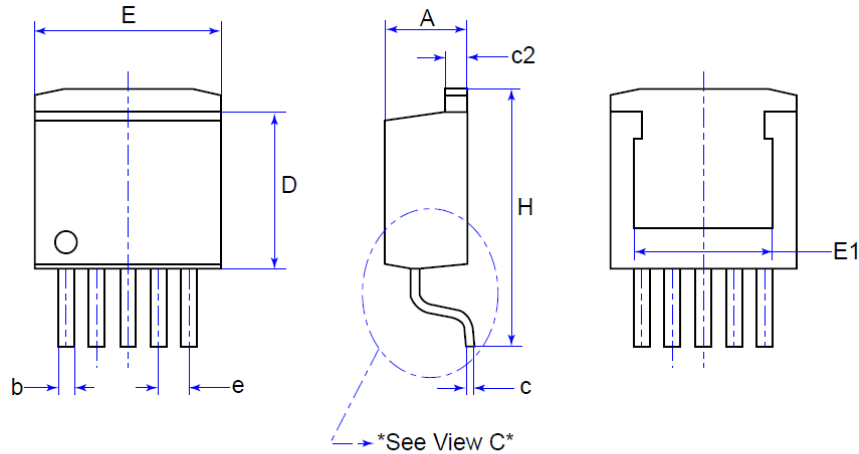
**Packaging Information**

**Mechanical Dimensions**

**For Analog**

**DRW-000082 (01) TO263 Series**

**TO263-5L (VARIATION – A)**



Unit: mm

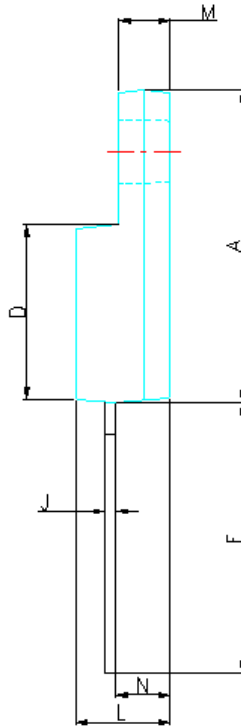
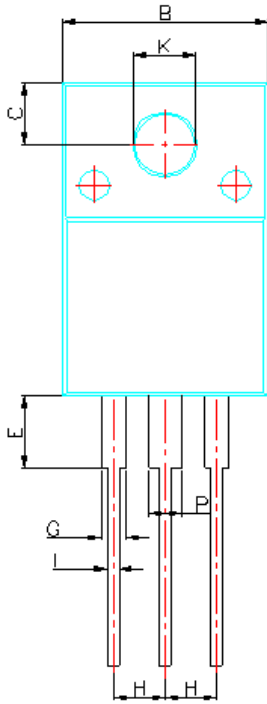
Symbol	Min	Max
A	4.065	4.825
A1	-	0.250
b	0.508	0.991
c	0.310	0.760
c2	1.143	1.651
D	8.200	9.650
E	9.650	10.670
E1	6.225	-
e	1.700 TYP	
H	-	15.875
L	1.520	2.740
L3	0.254 BSC	
θ	0°	8°

**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**ITO220AB**

**Unit: mm**



ITO-220AB (WB)		
DIM.	MIN.	MAX.
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	3.30	3.90
F	13.0	13.7
G	1.15	1.70
H	2.40	2.70
I	0.50	0.80
J	0.45	0.70
K	3.00	3.30
L	4.46	4.87
M	2.48	2.80
N	2.50	2.80
P	1.50	1.90
All Dimensions in millimeter		

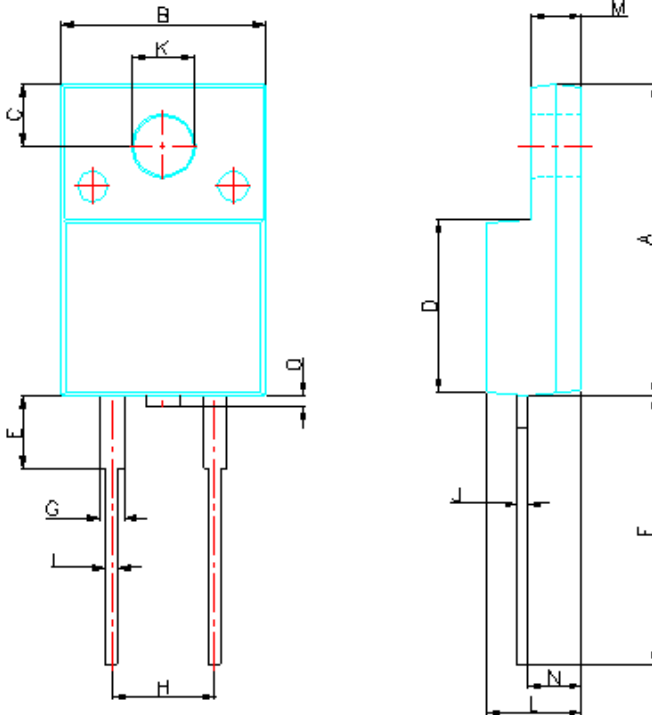


**Packaging Information**

**Mechanical Dimensions**  
**For Discrete**

**ITO220AC**

**Unit: mm**



ITO-220A C (WB)		
DIM.	MIN.	MAX.
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	3.30	3.90
F	13.0	13.7
G	1.15	1.70
H	4.95	5.25
I	0.50	0.80
J	0.45	0.70
K	3.00	3.30
L	4.46	4.87
M	2.48	2.80
N	2.50	2.80
O	0.00	0.50
All Dimensions in millimeter		

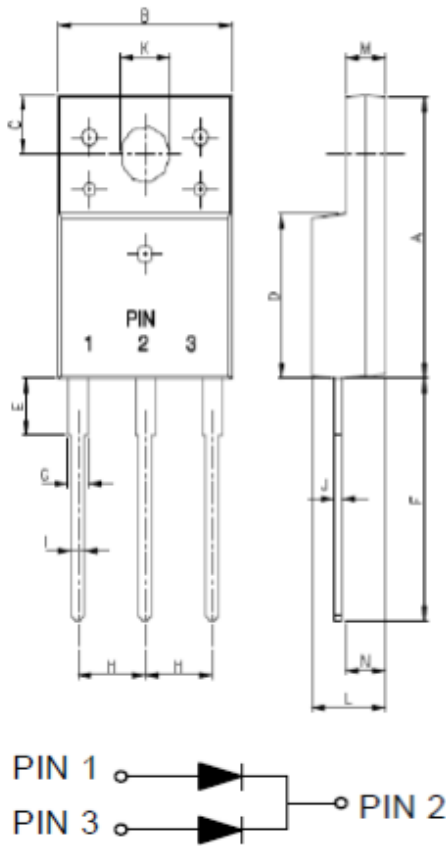
**Packaging Information**

**Mechanical Dimensions**

For Discrete

**ITO-220PW**

**Unit: mm**



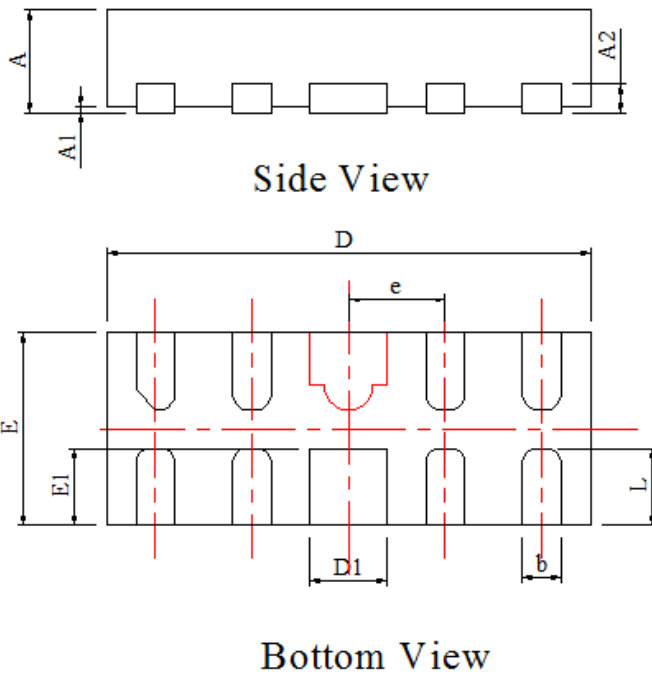
ITO-220PW		
DIM	MIN	MAX
A	15.47	16.27
B	10.70	11.30
C	3.10	3.50
D	8.81	9.41
E	1.70	2.30
F	12.58	13.38
G	0.98	1.26
H	3.95	4.55
I	0.75	0.90
J	0.40	0.60
K	2.98 Ø	3.38Ø
L	4.50	4.90
M	2.34	2.74
N	2.65	2.95
All dimension in millimeter		

**Packaging Information**

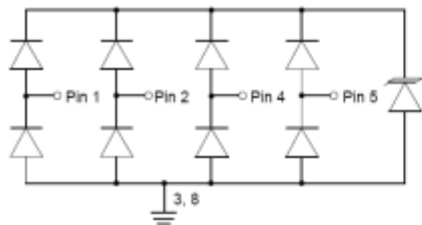
**Mechanical Dimensions**  
**For Discrete**

**SLP2510P8**

**Unit: mm**



SLP2510P8		
DIM.	MIN.	MAX.
A	0.495	0.555
A1	0.00	0.05
A2	0.152REF	
D	2.464	2.55
E	0.964	1.05
D1	0.35	0.45
E1	0.35	0.45
b	0.17	0.23
e	0.50BSC	
L	0.35	0.45
All Dimensions in millimetre		



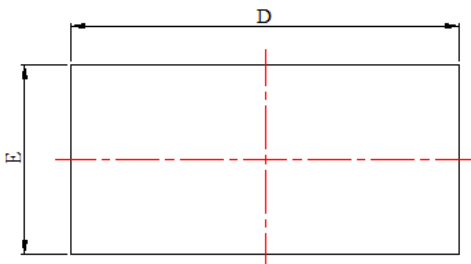
PIN ASSIGNMENT	
<b>1,2,4,5</b>	<b>Input lines</b>
<b>6,7,9,10</b>	<b>NC</b>
<b>3,8</b>	<b>Ground</b>

**Packaging Information**

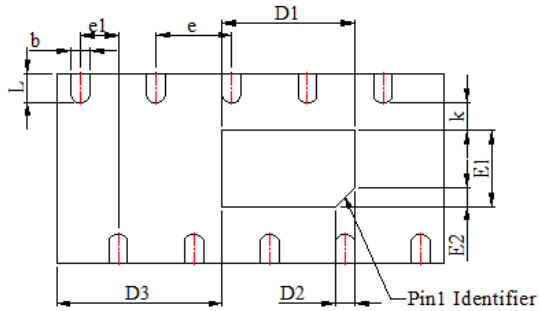
**Mechanical Dimensions**  
**For Discrete**

**SLP4120P10**

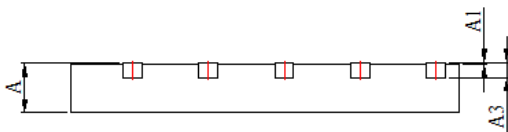
**Unit: mm**



Top View



Bottom View



Side View

SLP4120P10		
DIM.	MIN.	MAX.
A	0.47	0.58
A1	0.00	0.05
A3	0.152REF	
b	0.15	0.25
D	4.05	4.15
D1	1.35	1.45
D2	0.20REF	
D3	1.70	1.80
E	1.95	2.05
E1	0.75	0.85
E2	0.20REF	
k	0.25	0.35
L	0.25	0.35
e	0.80TYP.	
e1	0.35	0.45
All Dimensions in millimetre		

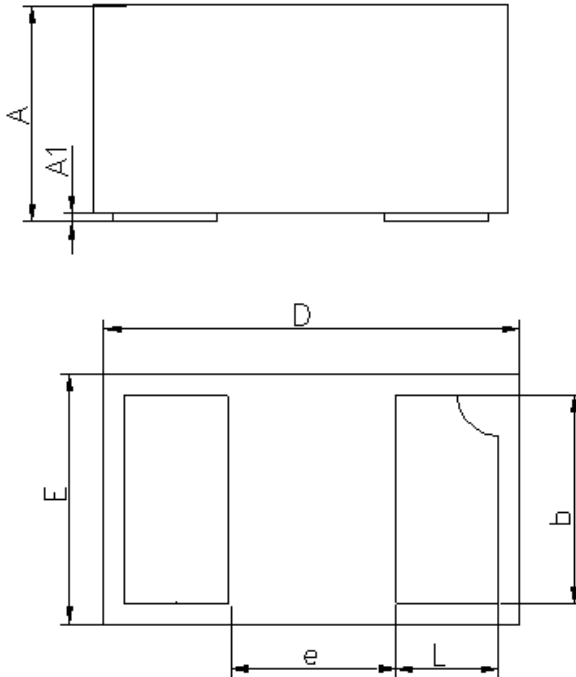
**Packaging Information**

**Mechanical Dimensions**

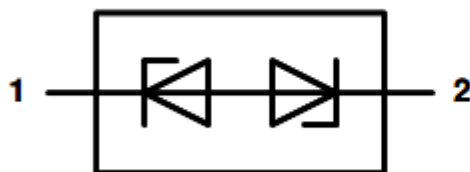
**For Discrete**

**SOD882**

**Unit: mm**



Dim	Min	Max
D	0.95	1.075
E	0.55	0.675
A	0.47	0.53
A1	0	0.05
b	0.25	0.55
L	0.20	0.45



PIN ASSIGNMENT	
1	Cathode
2	Cathode

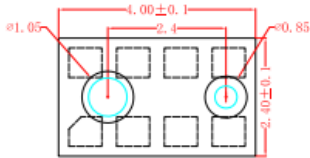
**Package Outline Drawing**

**Mechanical Dimensions**

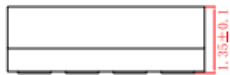
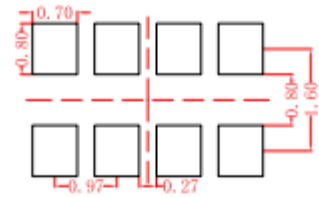
**For Discrete**

**ODFN2440**

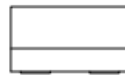
**Unit: mm**



Top View



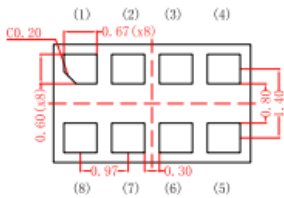
Front View



Right Side View

PINOUT

- 1. VDD
- 2. SCL
- 3. GND
- 4. LEDA
- 5. LEDC
- 6. LDR
- 7. INT
- 8. SDA



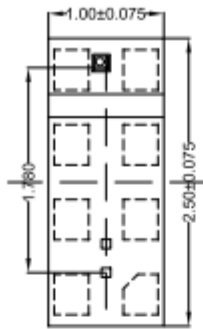
Bottom View

**Package Outline Drawing**

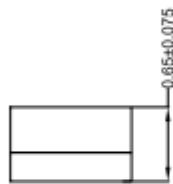
**Mechanical Dimensions**  
**For Discrete**

ODFN2510

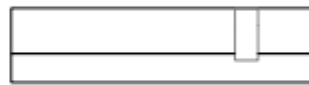
Unit: mm



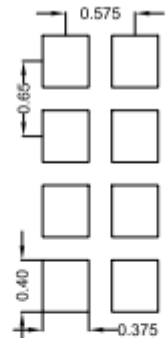
Top View



Front View

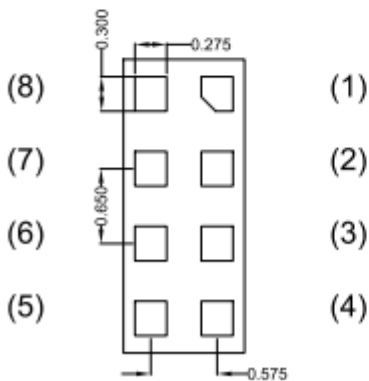


Right Side View



PINOUT

- 1. INT
- 2. GND
- 3. NC
- 4. LEDA
- 5. LEDC
- 6. VDD
- 7. SCL
- 8. SDA



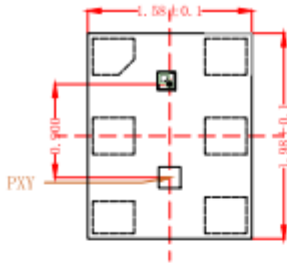
Bottom View

**Package Outline Drawing**

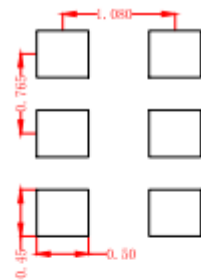
**Mechanical Dimensions**  
**For Discrete**

**ODFN2016**

**Unit: mm**



Top View



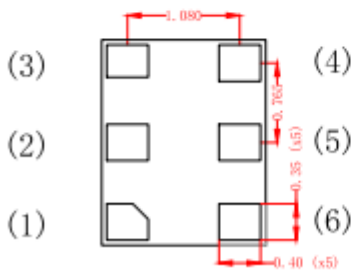
Front View



Right Side View

PINOUT

1.	VDD
2.	SCL
3.	VSS
4.	VSS
5.	INT
6.	SDA



Bottom View

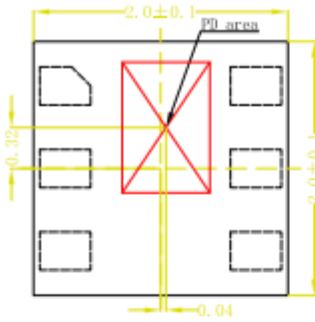


**Package Outline Drawing**

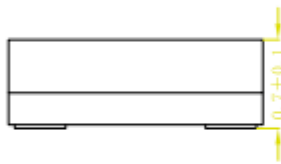
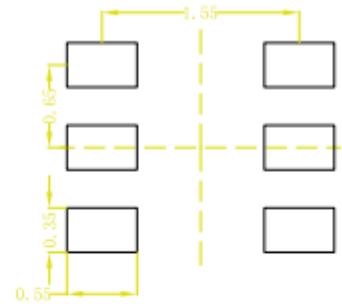
**Mechanical Dimensions**  
**For Discrete**

**ODFN2020**

**Unit: mm**



Top View

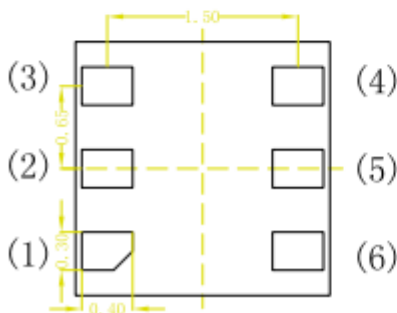


Front View



Right Side View

PINOUT	
1.	SDA
2.	LEDO
3.	LEDR
4.	GND
5.	SCL
6.	VDD



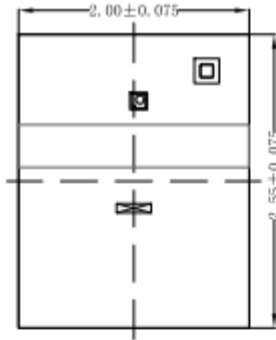
Bottom View

**Package Outline Drawing**

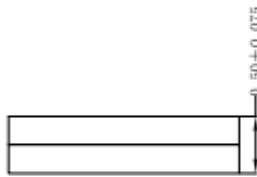
**Mechanical Dimensions**  
**For Discrete**

**ODFN20255**

**Unit: mm**



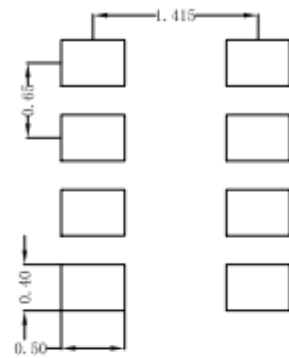
Top View



Front View

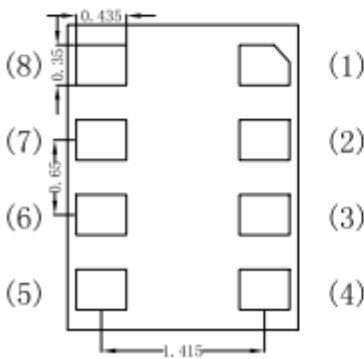


Right Side View



PINOUT

1. INT
2. SCL
3. SDA
4. LEDA
5. LEDC
6. VDD
7. SEL
8. GND



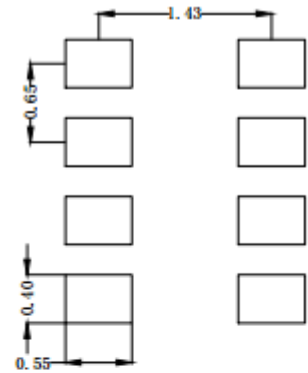
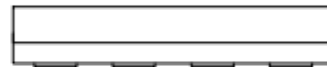
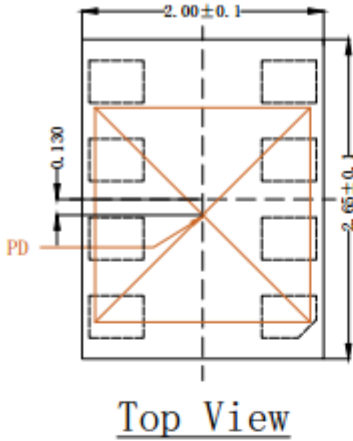
Bottom View

**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

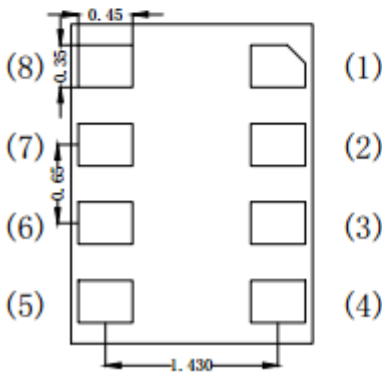
**ODFN20265**

**Unit: mm**



PINOUT

- 1. NA
- 2. NA
- 3. NA
- 4. PD-A
- 5. PD-C
- 6. NA
- 7. NA
- 8. NA

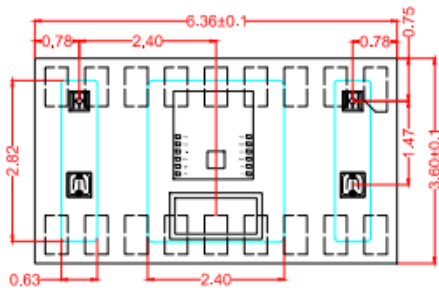


**Package Outline Drawing**

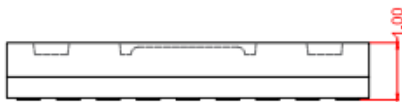
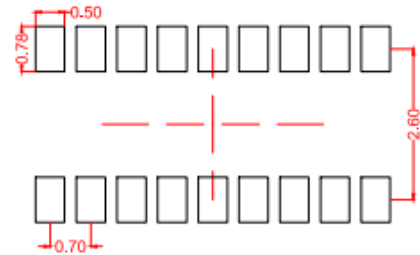
**Mechanical Dimensions**  
**For Discrete**

**ODFN63636**

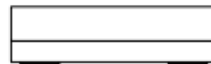
**Unit: mm**



Top View



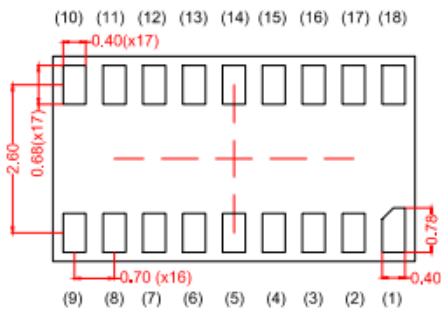
Front View



Right Side View

PINOUT

1. I2C_SCL	10. NC
2. I2C_SDA	11. NC
3. NC	12. NC
4. INT	13. NC
5. VSSA	14. NC
6. VP25	15. NC
7. VSSLED	16. NC
8. VDDA	17. NC
9. LEDA	18. NC



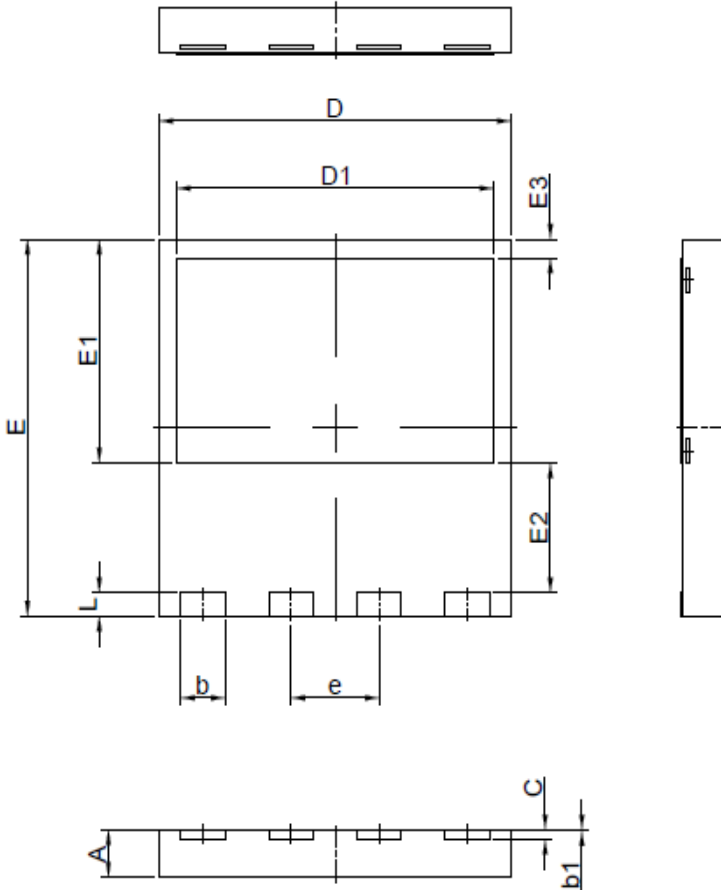
Bottom View

**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

**DFN8080**

**Unit: mm**



DFN8080			
DIM.	MIN.	MAX.	TYP.
A	0.90	1.10	1.00
b	0.90	1.10	1.00
b1	0	0.05	0.02
C	0.20 REF.		
D	7.90	8.10	8.00
D1	7.10	7.30	7.20
E	7.90	8.10	8.00
E1	4.65	4.85	4.75
E2	2.65	2.85	2.75
E3	0.30	0.50	0.40
e	2.0 BSC		
L	0.40	0.60	0.50
All Dimension in millimeter			

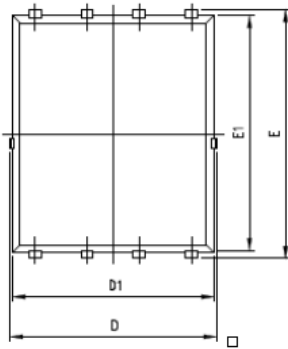
**Package Outline Drawing**

**Mechanical Dimensions**

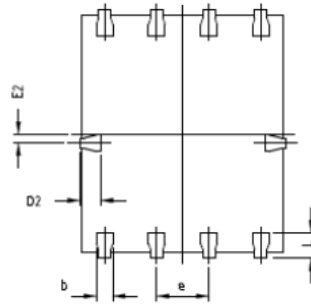
**For Discrete**

**DFN56-SO8**

**Unit: mm**



Top View



Bottom View



Side View

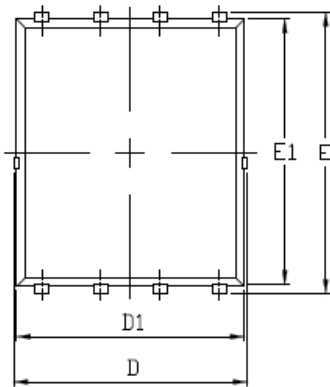
SO8			
DIM.	MIN.	MAX.	TYP.
A	0.95	1.05	1.00
b	0.30	0.50	0.40
C	0.254		
D	5.02		
D1	4.80	5.00	4.90
D2	0.51 REF.		
E	5.95	6.15	6.05
E1	5.60	5.90	5.75
E2	0.225 REF.		
e	1.27 REF.		
L	0.45	0.65	0.55
θ	10°		
All Dimension in millimeter			

**Package Outline Drawing**

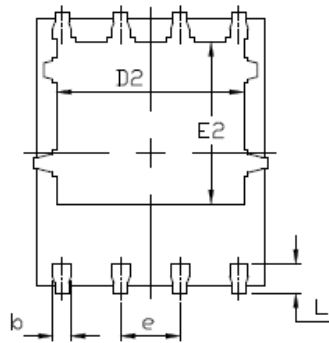
**Mechanical Dimensions**  
**For Discrete**

**DFN56**

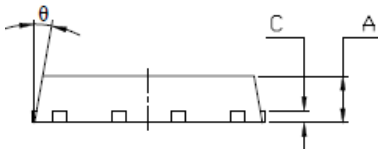
**Unit: mm**



Top View



Bottom View



Side View

Power56			
DIM.	MIN.	MAX.	TYP.
A	0.95	1.05	1.00
b	0.30	0.50	0.40
C	0.254		
D	5.02		
D1	4.80	5.00	4.90
D2	3.91	4.11	4.01
E	5.95	6.15	6.05
E1	5.60	5.90	5.75
E2	3.38	3.58	3.48
e	1.27REF		
L	0.45	0.65	0.55
θ	10°		
All Dimension in millimeter			

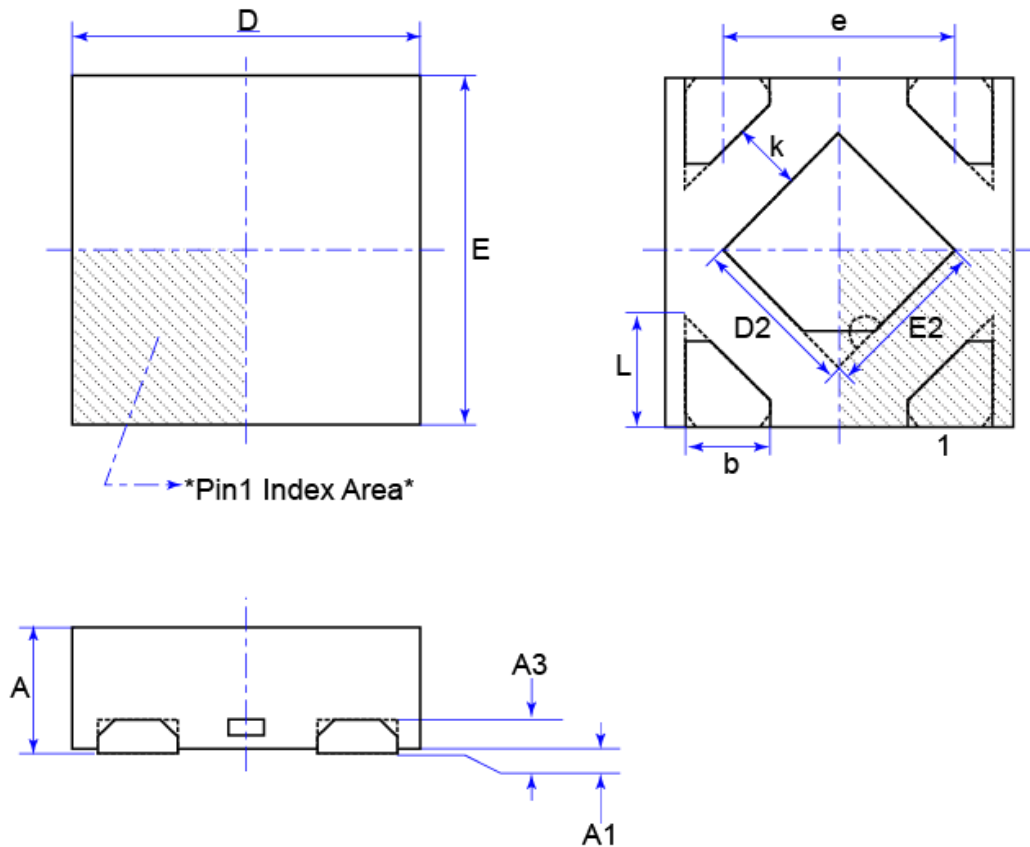
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

DRW-000088 (02) DFN Series

**X2DFN1010-4L**



Unit: mm

Symbol	Min	Max
A	0.300	0.400
A1	0.000	0.050
A3	0.102 REF	
b	0.180	0.300
D	0.950	1.050
D2	0.430	0.530
E	0.950	1.050
E2	0.430	0.530
e	0.650 BSC	
k	0.213 REF	
L	0.174	0.370

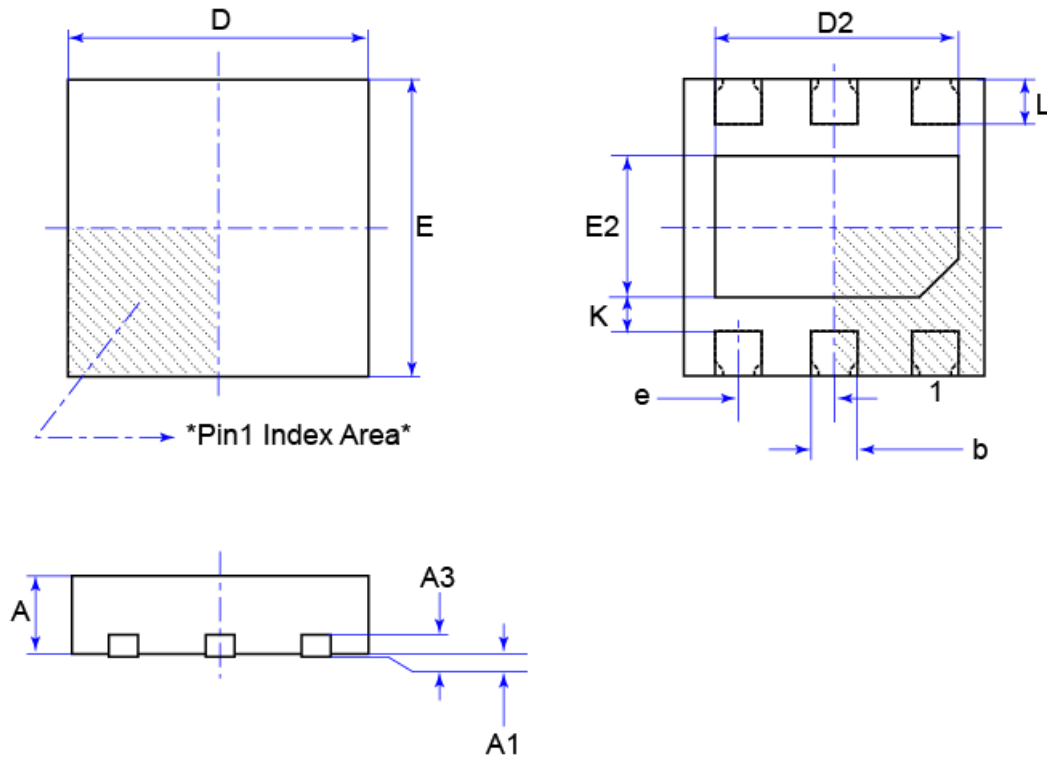


**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**UDFN2020-6L**



Unit: mm

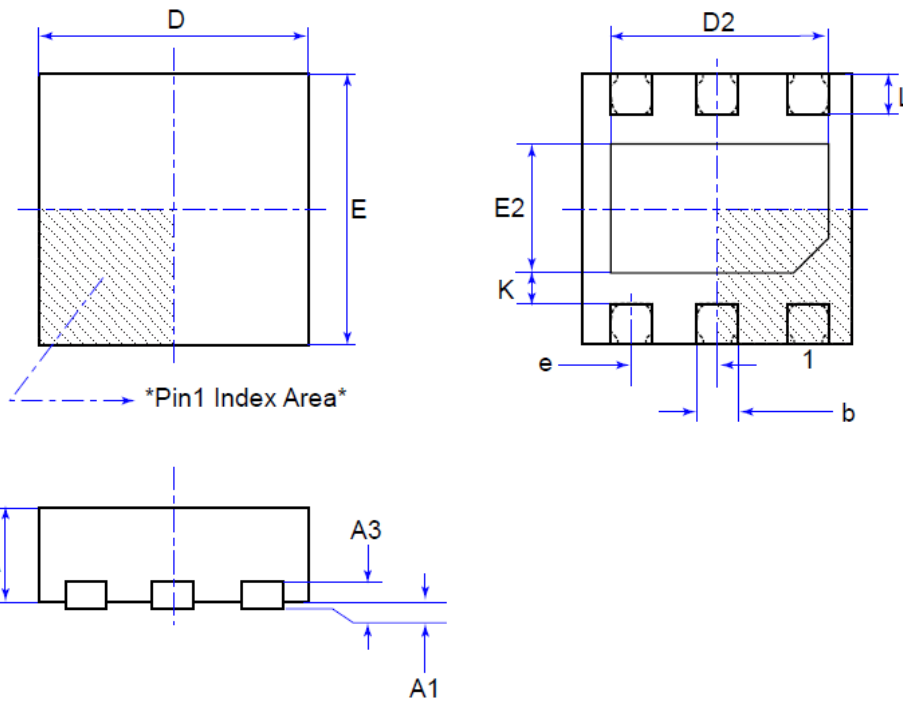
Symbol	Min	Max
A	0.500	0.650
A1	0.000	0.050
A3	0.152 REF	
b	0.250	0.350
D	1.900	2.100
D2	1.500	1.750
E	1.900	2.100
E2	0.850	1.060
e	0.650 TYP	
k	0.200	-
L	0.224	0.376

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**WDFN2020-6L**



Unit: mm

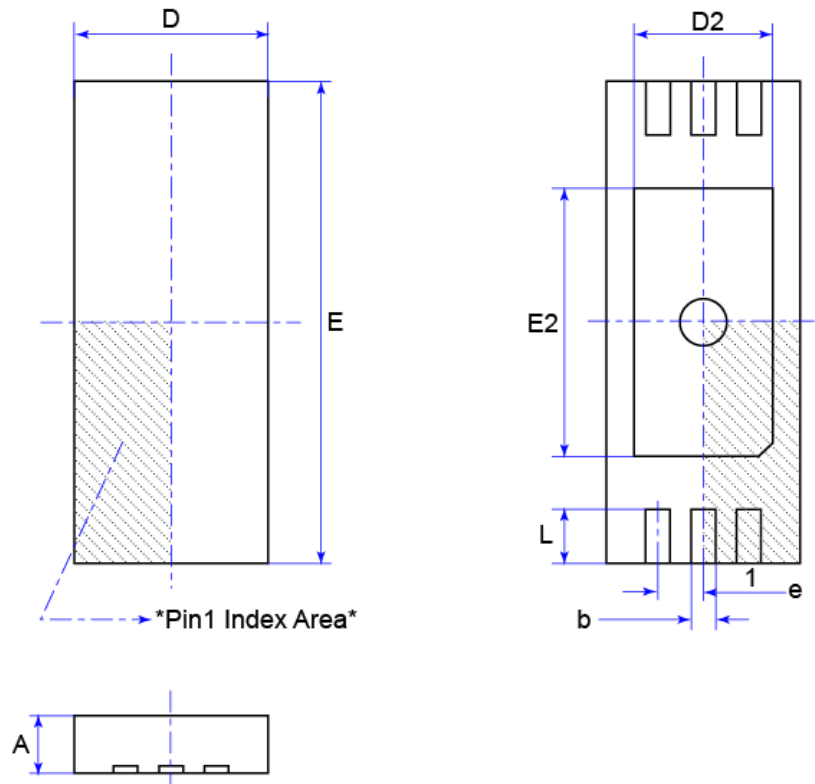
Symbol	Min	Max
A	0.650	0.800
A1	0.000	0.050
A3	0.203 REF	
b	0.250	0.350
D	1.900	2.100
D2	1.500	1.700
E	1.900	2.100
E2	0.900	1.100
e	0.650 TYP	
k	0.200	-
L	0.200	0.300

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**UDFN2050-6L**



Unit: mm

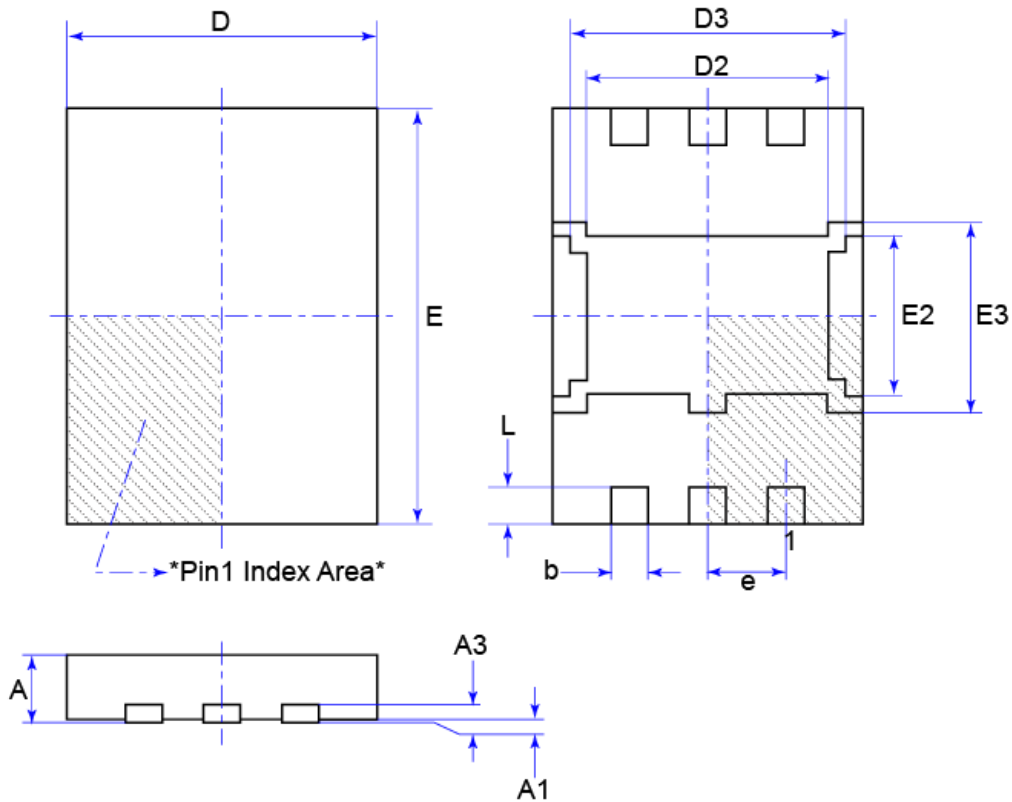
Symbol	Min	Max
A	0.500	0.650
b	0.250 REF	
D	1.950	2.050
D2	1.390	1.490
E	4.950	5.050
E2	2.730	2.830
e	0.500 REF	
L	0.550 REF	
∅	0.500 REF	

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**UDFN2534-6L**



Unit: mm

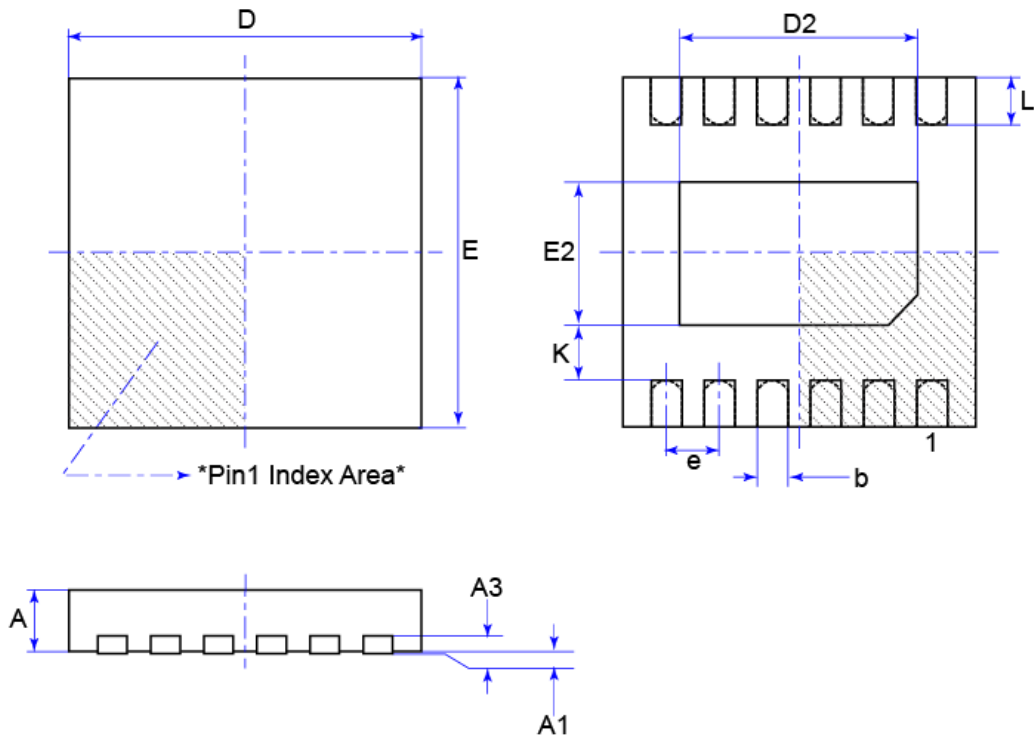
Symbol	Min	Max
A	0.500	0.650
A1	0.000	0.050
A3	0.152 REF	
b	0.220	0.420
D	2.380	2.680
D2	1.510	2.020
D3	2.180	2.280
E	3.250	3.550
E2	1.250	1.350
E3	1.510	1.610
e	0.650 BSC	
L	0.250	0.350

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**UDFN3030-12L**



Unit: mm

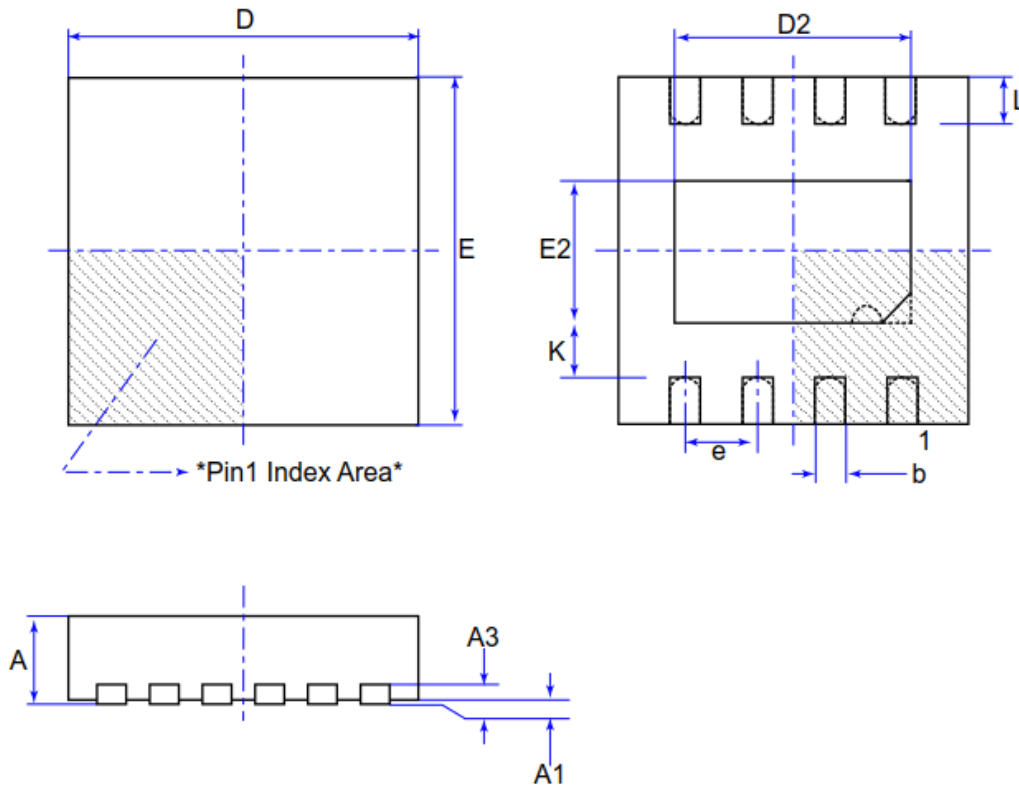
Symbol	Min	Max
A	0.500	0.650
A1	0.000	0.050
A3	0.152 REF	
b	0.200	0.300
D	2.924	3.076
D2	1.920	2.120
E	2.924	3.076
E2	1.110	1.310
e	0.450 TYP	
k	0.495 REF	
L	0.300	0.500

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**WDFN3030-8L**



Unit: mm

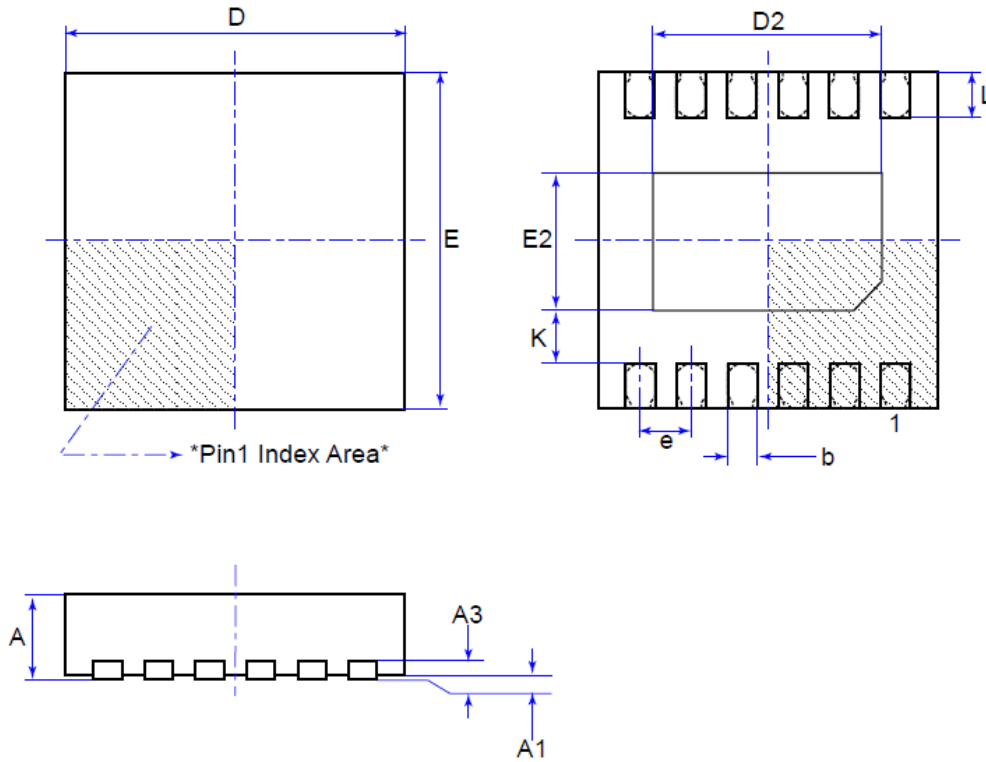
Symbol	Min	Max
A	0.700	0.800
A1	0.000	0.050
A3	0.200 REF	
D	3.000 BSC	
D2	1.600	2.500
E	3.000 BSC	
E2	1.350	1.750
b	0.200	0.350
e	0.650 TYP	
k	0.200	
L	0.300	0.525

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**WDFN3030-12L**



Unit: mm

Symbol	Min	Max
A	0.650	0.800
A1	0.000	0.050
A3	0.203 REF	
b	0.200	0.300
D	2.900	3.100
D2	2.400	2.650
E	2.900	3.100
E2	1.450	1.650
e	0.450 TYP	
k	0.200 MIN	
L	0.300	0.500

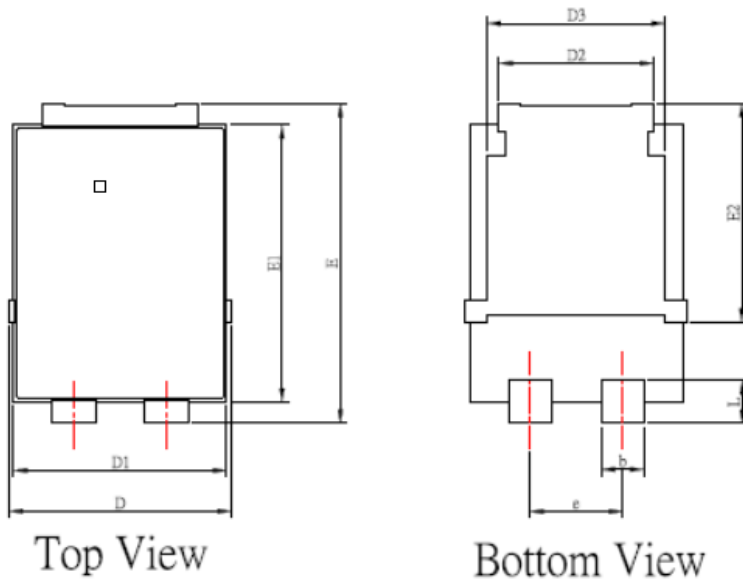
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**F5**

**Unit: mm**



F5			
DIM.	MIN.	MAX.	TYP.
A	1.60	2.00	1.80
b	1.80	2.30	2.00
C	---	---	0.70
D	---	---	10.40
D1	9.80	10.30	10.00
D2	7.00	7.50	7.25
D3	8.10	8.60	8.35
E	14.50	15.50	15.00
E1	12.70	13.30	13.00
E2	10.00	10.60	10.25
c	4.35 REF.		
L	1.70	2.30	2.00
θ	---	---	5°
All Dimension in millimeter			

Side View

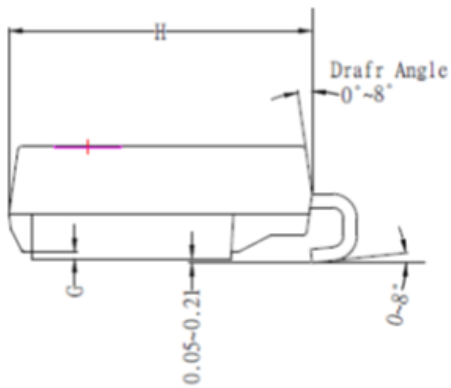
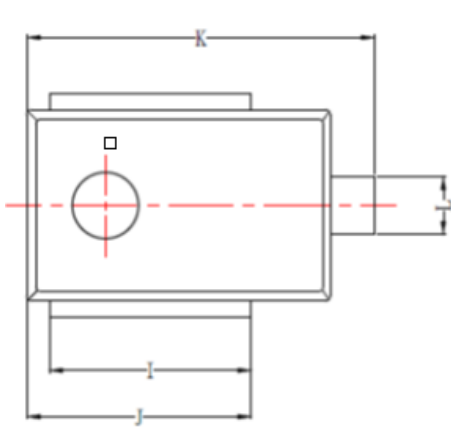


**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

**DO-218**

**Unit: mm**



DO-218			
DIM.	MIN.	TYP.	MAX.
A	4.75	5.00	5.25
B	3.66	3.96	4.26
C	1.80	2.00	2.20
D	2.58	2.88	3.18
E	8.20	8.50	8.80
F	9.50	—	10.50
G	—	0.30	—
H	13.20	13.50	13.80
I	8.70	9.00	9.30
J	9.70	10.00	10.25
K	15.00	15.50	16.00
L	2.30	—	3.00
All Dimension in millimeter			

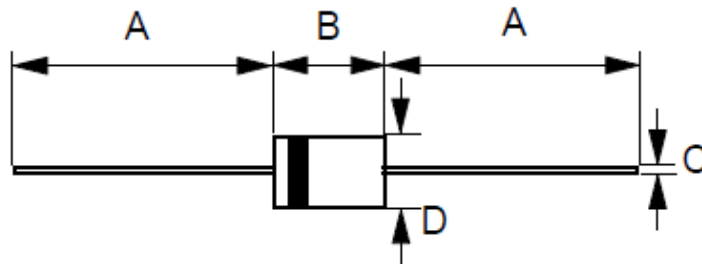
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

T1

Unit: mm



T1		
DIM.	MIN.	MAX.
A	25.4	--
B	2.60	3.20
C	0.53Ø	0.64Ø
D	2.20Ø	2.60Ø
All dimensions in millimeter		

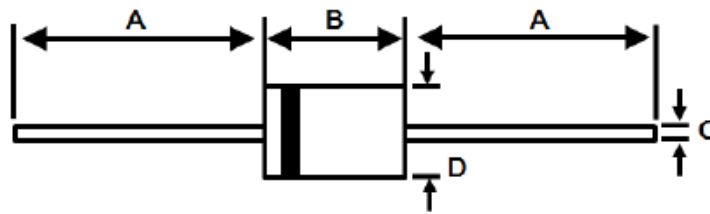
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**R6**

**Unit: mm**



R-6		
DIM.	MIN.	MAX
A	25.4	-
B	8.60	9.10
C	1.22Ø	1.32Ø
D	8.60Ø	9.10Ø
All Dimensions in millimeter		

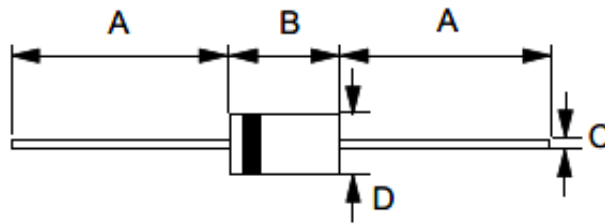
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**DO-41**

**Unit: mm**



DO-41		
Dim.	Min.	Max.
A	25.4	-
B	4.10	5.20
C	0.71 $\varnothing$	0.86 $\varnothing$
D	2.00 $\varnothing$	2.70 $\varnothing$
All Dimensions in millimeter		

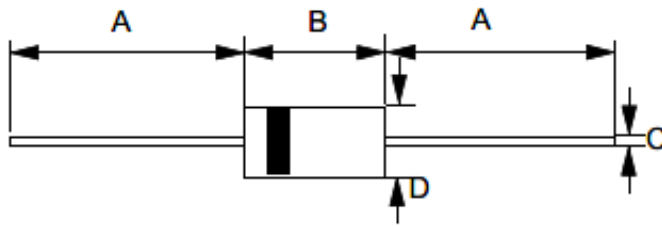
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**DO-15**

**Unit: mm**



DO-15		
Dim.	Min.	Max.
A	25.4	-
B	5.80	7.60
C	0.71 $\varnothing$	0.86 $\varnothing$
D	2.60 $\varnothing$	3.60 $\varnothing$
All Dimensions in millimeter		

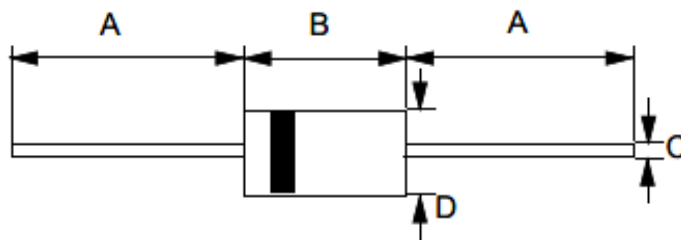
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**DO-201**

**Unit: mm**



DO-201		
Dim.	Min.	Max.
A	25.4	-
B	8.50	9.50
C	0.96 $\varnothing$	1.06 $\varnothing$
D	4.80 $\varnothing$	5.30 $\varnothing$
All Dimensions in millimeter		

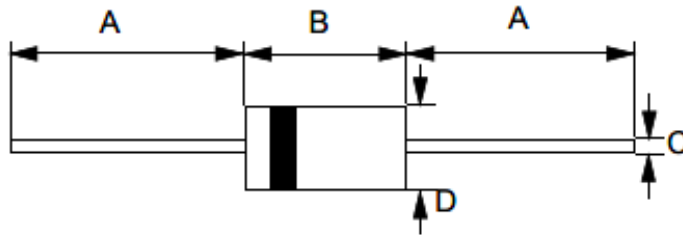
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**DO-201AD**

**Unit: mm**



DO-201AD		
Dim.	Min.	Max.
A	25.4	-
B	7.30	9.50
C	1.20 $\varnothing$	1.30 $\varnothing$
D	4.80 $\varnothing$	5.30 $\varnothing$
All Dimensions in millimeter		

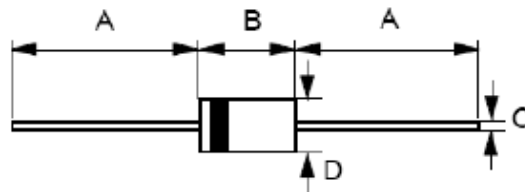
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**DO-35**

**Unit: mm**



DO-35		
DIM.	MIN.	MAX.
A	25.4	38.1
B	3.05	4.00
C	0.45	0.55
D	1.53 $\varphi$	2.00 $\varphi$
All Dimensions in millimeter		



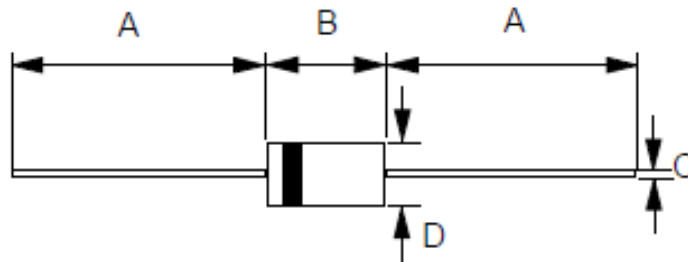
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**A-405**

**Unit: mm**



A - 405		
DIM	MIN	MAX
A	25.4	--
B	4.10	5.20
C	0.53 Ø	0.64 Ø
D	2.00 Ø	2.70 Ø
All dimension in millimeter		

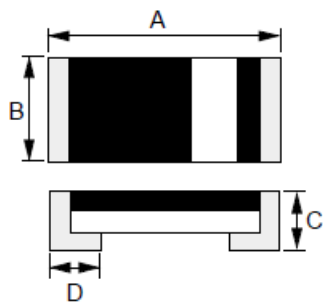
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**0603**

**Unit: mm**



0603		
Dim.	Min.	Max.
A	1.45	1.65
B	0.70	0.90
C	0.55	0.75
D	0.25	0.45
All Dimensions in millimeter		

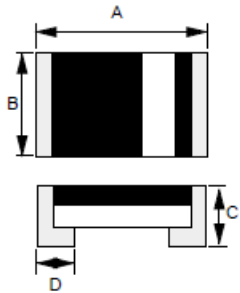
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**0805**

**Unit: mm**



0805		
Dim.	Min.	Max.
A	1.80	2.20
B	1.05	1.45
C	0.75	0.95
D	0.25	0.65
All Dimensions in millimeter		

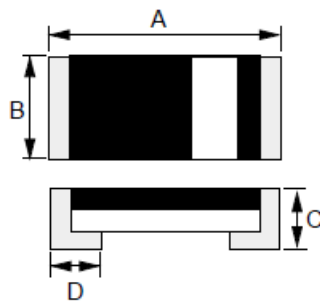
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**1206**

**Unit: mm**



1206		
Dim.	Min.	Max.
A	3.00	3.40
B	1.30	1.70
C	0.75	0.95
D	0.35	0.75
All Dimensions in millimeter		

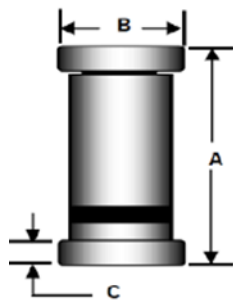
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**LL-34**

**Unit: mm**



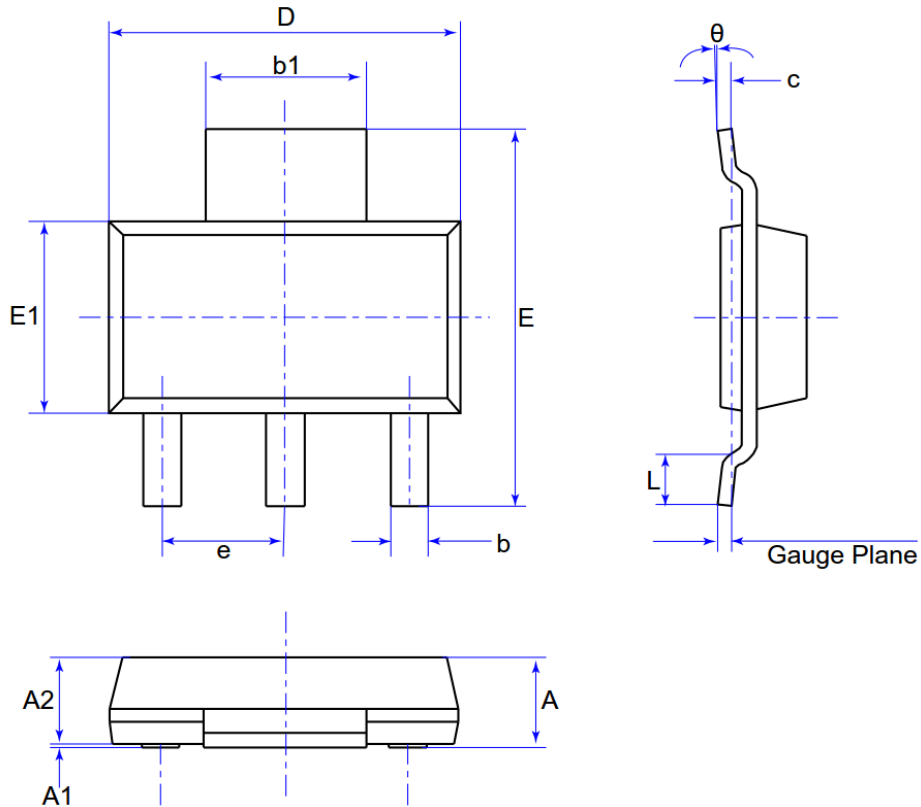
LL-34		
DIM.	MIN.	MAX.
A	3.30	3.60
B	1.40	1.50
C	0.35	0.5
All Dimensions in millimeter		

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**DRW-000036 (02) SOT223 Series**



Unit: mm

Symbol	Min	Max
A	-	1.80
A1	0.00	0.10
A2	1.45	1.75
b	0.66	0.84
c	0.23	0.35
D	6.20	6.70
b1	3.00 REF	
E	6.70	7.30
E1	3.30	3.70
e	2.30 BSC	
L	0.75	-
theta	0°	10°
Gauge Plane	0.30 REF	

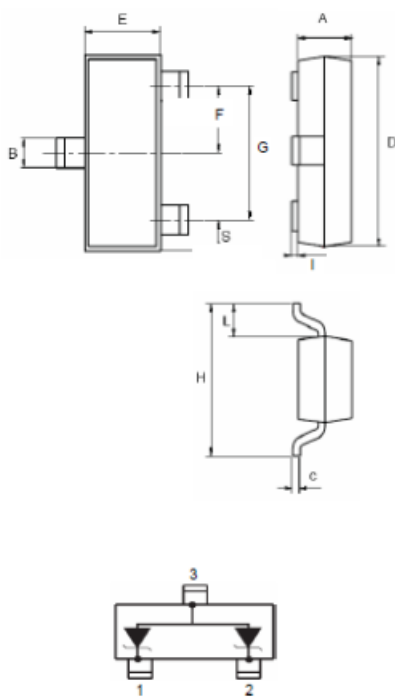
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOT23**

**Unit: mm**



SOT23		
DIM.	MIN.	MAX.
A	0.89	1.05
B	0.30	0.51
C	0.085	0.18
D	2.75	3.04
E	1.20	1.60
F	0.85	1.05
G	1.70	2.10
H	2.10	2.75
I	0.0	0.1
L	0.6 typ.	
S	0.35	0.65

All Dimensions in millimeter

PIN ASSIGNMENT	
1,2	Cathode
3	Ground

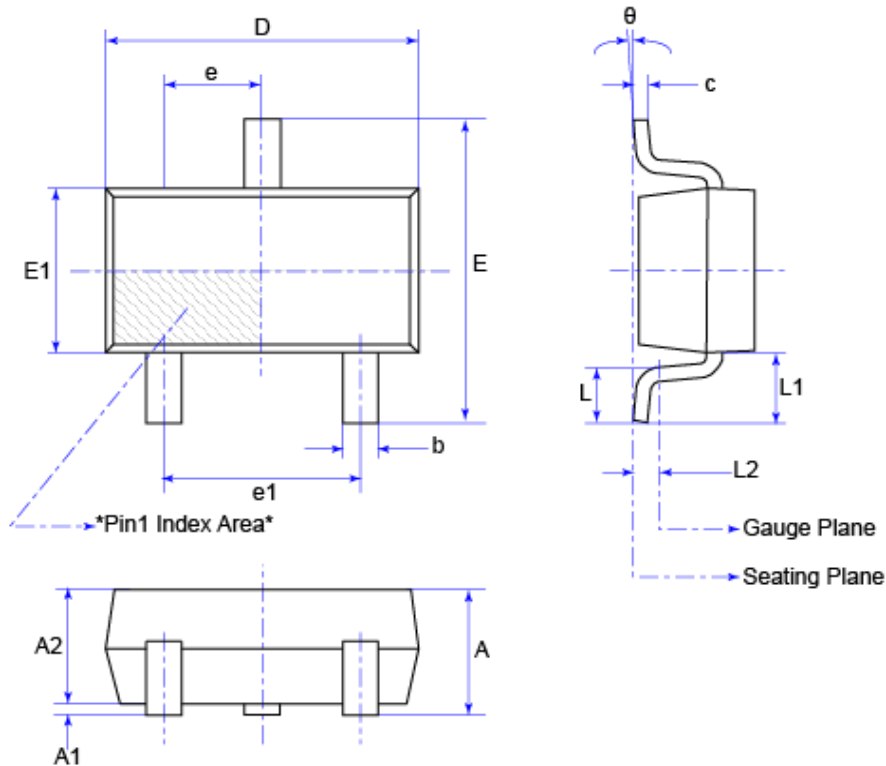
## Package Outline Drawing

### Mechanical Dimensions

#### For Analog

DRW-000037 (04) SOT23 Series

SOT23-3L



Unit: mm

Variations Symbol	( A )		( B )	
	Min	Max	Min	Max
A	0.900	1.150	-	1.350
A1	-	0.100	0.000	0.150
A2	0.890	1.100	1.000	1.200
b	0.300	0.500	0.300	0.500
c	0.070	0.202	0.080	0.210
D	2.800	3.040	2.720	3.120
E	2.100	2.640	2.600	3.000
E1	1.200	1.400	1.400	1.800
e	0.950 REF		0.950 BSC	
e1	1.800	2.000	1.900 REF	
L	0.300	0.500	0.300	0.600
L1	0.550 REF		0.600 REF	
L2	0.250 BSC		0.250 BSC	
θ	0°	8°	0°	8°



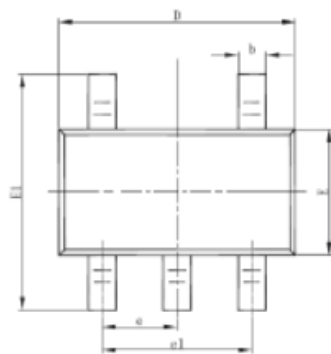
**Package Outline Drawing**

**Mechanical Dimensions**

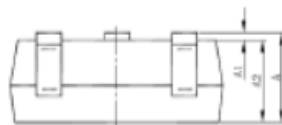
**For Discrete**

**SOT23-5L**

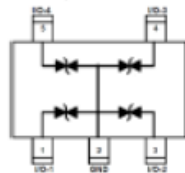
**Unit: mm**



SOT23-5L		
DIM.	MIN.	MAX.
A	1.05	1.25
A1	0.00	0.10
A2	1.05	1.15
b	0.30	0.50
D	2.82	3.02
E	1.50	1.70
E1	2.65	2.95
e	0.95(BSC)	
e1	1.80	2.00
All Dimensions in millimeter		



PIN ASSIGNMENT	
1, 3, 4, 5	I/O Lines
2	Ground



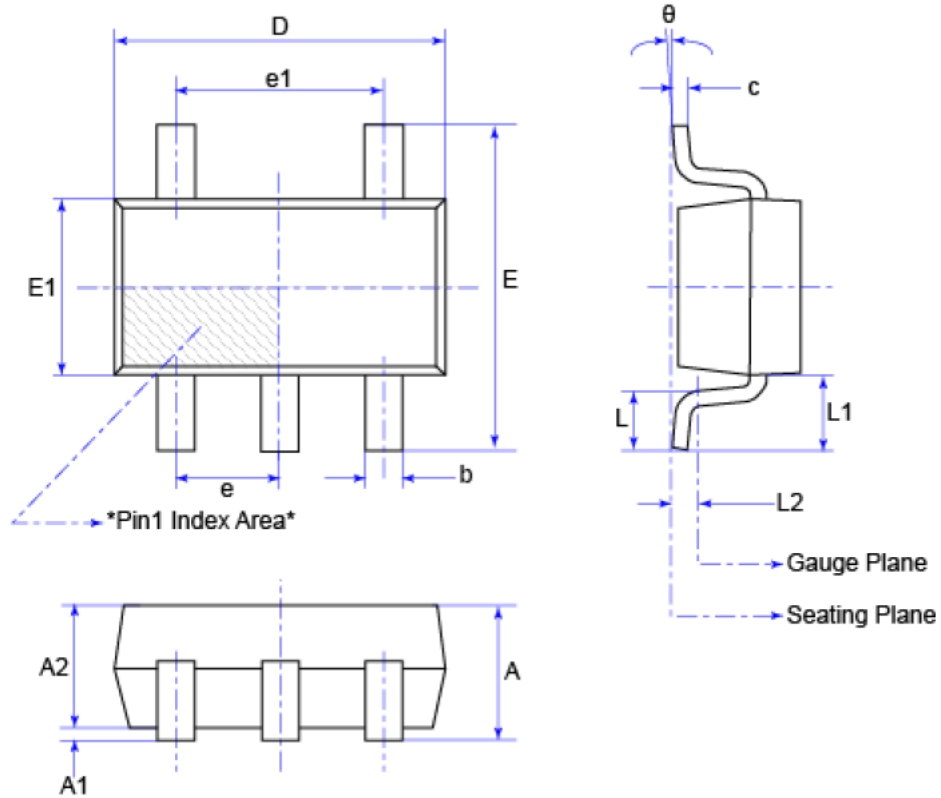
4 lines Protection

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**SOT23-5L**



Unit: mm

Symbol	Min	Max
A	-	1.35
A1	-	0.15
A2	1.00	1.20
b	0.30	0.50
c	0.08	0.21
D	2.72	3.12
E	2.60	3.00
E1	1.40	1.80
e	0.95 BSC	
e1	1.80	2.00
L	0.30	0.60
L1	0.60 REF	
L2	0.25 BSC	
theta	0°	8°

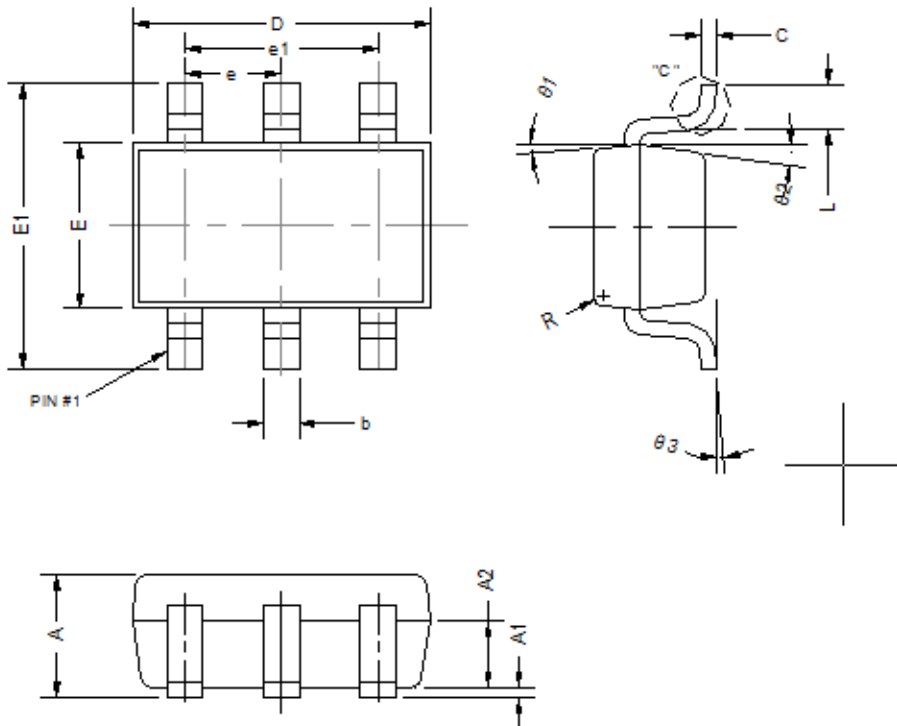
**Package Outline Drawing**

**Mechanical Dimensions**

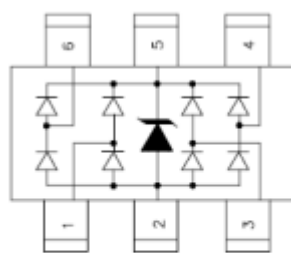
**For Discrete**

**SOT23-6L**

**Unit: mm**



SOT23-6L		
DIM.	MIN.	MAX.
A	0.90	1.45
A1	0.00	0.15
A2	0.90	1.3
b	0.30	0.5
c	0.08	0.22
D	2.45	3.00
E	1.50	1.75
E1	2.65	2.95
e	0.95 TYP.	
e1	1.90 TYP.	
L	0.30	0.60
All Dimensions in millimeter		



**4 lines Protection**

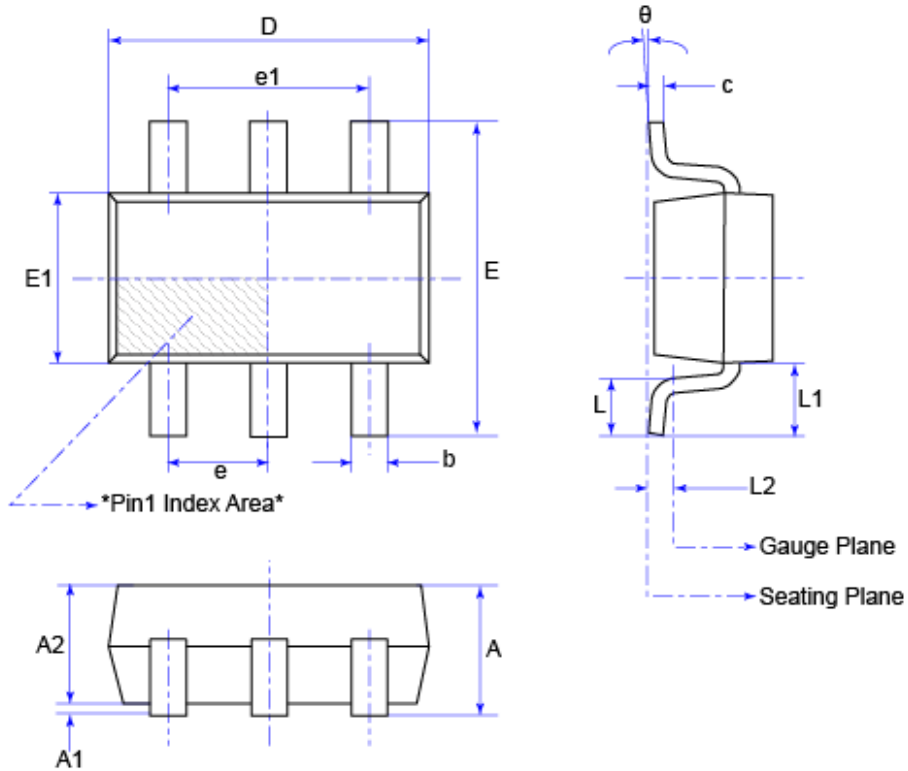
PIN ASSIGNMENT	
1, 3, 4, 6	I/O Lines
5	V <sub>CC</sub>
2	Ground

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**SOT23-6L**



Unit: mm

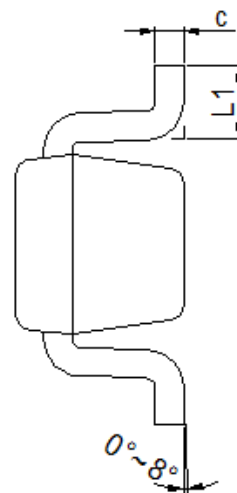
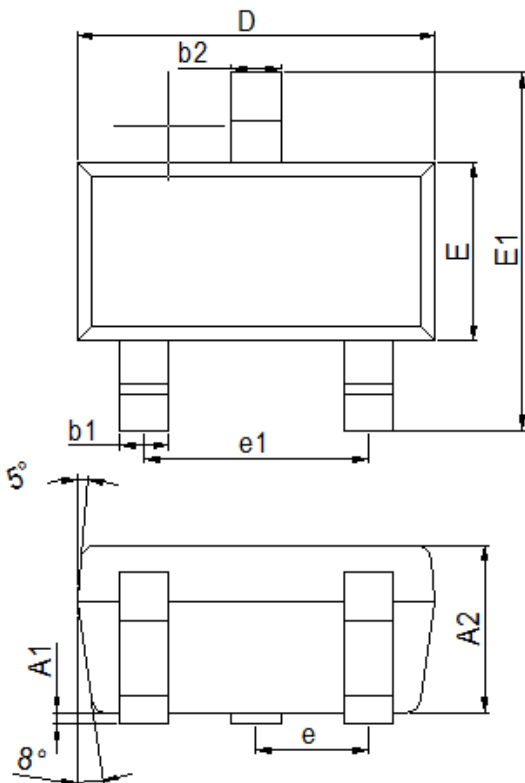
Symbol	Min	Max
A	-	1.35
A1	-	0.15
A2	1.00	1.20
b	0.30	0.50
c	0.08	0.21
D	2.72	3.12
E	2.60	3.00
E1	1.40	1.80
e	0.95 BSC	
e1	1.80	2.00
L	0.30	0.60
L1	0.60 REF	
L2	0.25 BSC	
θ	0°	8°

**Package Outline Drawing**

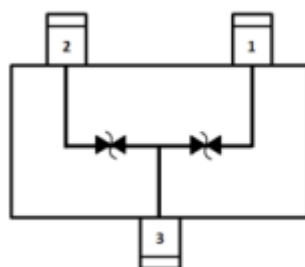
**Mechanical Dimensions**  
**For Discrete**

**SOT523**

**Unit: mm**



SOT523		
DIM.	MIN.	MAX.
A1	0.00	0.10
A2	0.60	0.80
b1	0.15	0.30
b2	0.15	0.32
c	0.10	0.20
D	1.50	1.70
E	0.75	0.85
E1	1.45	1.75
e	0.50 TYP.	
e1	0.90	1.10
L1	0.20	0.40
All Dimensions in millimetres.		



PIN ASSIGNMENT	
1,2	Input lines
3	Ground

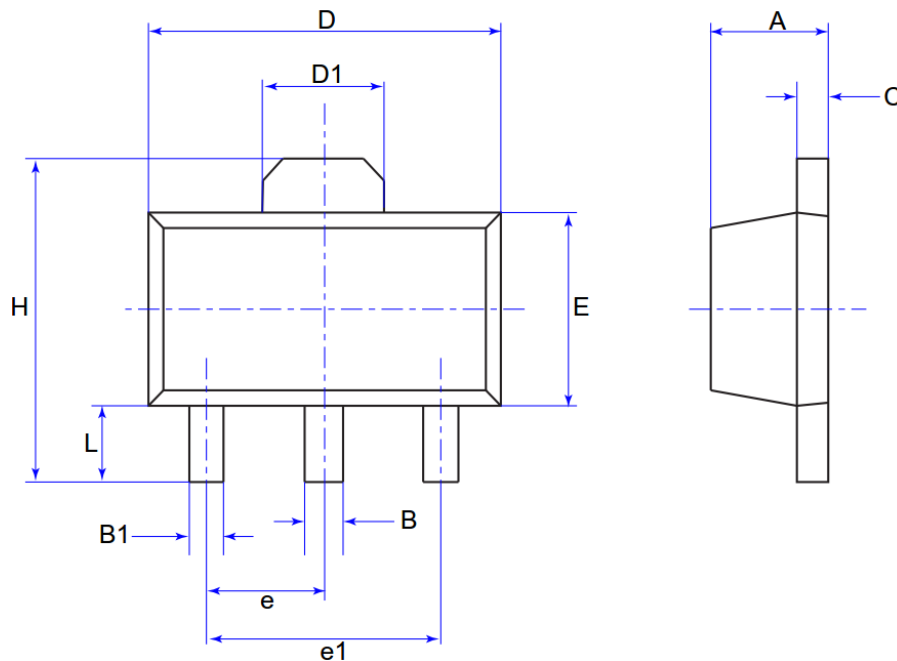
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**DRW-000033 (02) SOT89 Series**

**SOT89-3L**



Unit: mm

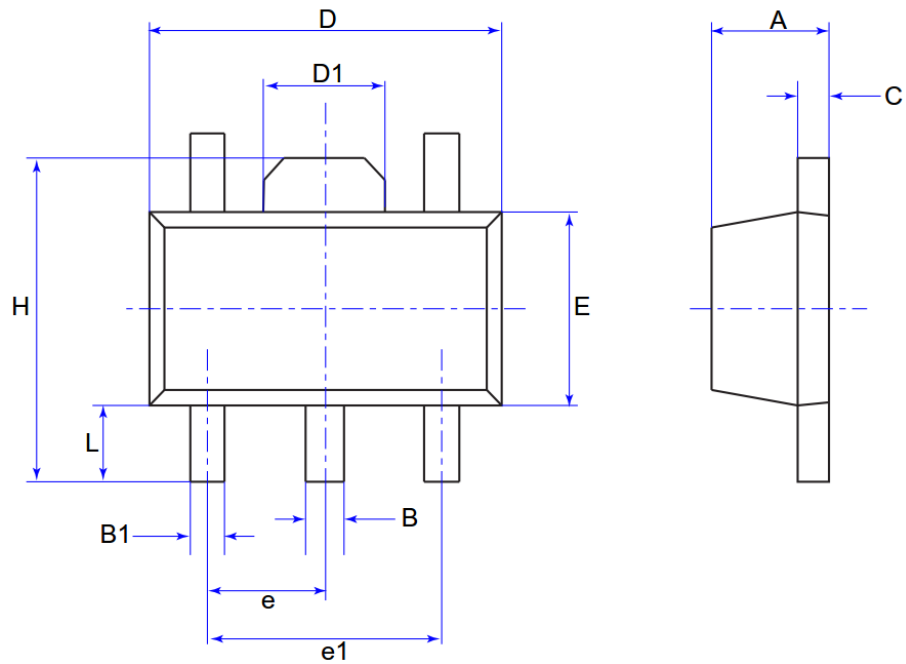
Symbol	Min	Max
A	1.40	1.60
B	0.35	0.58
B1	0.32	0.58
C	0.35	0.46
D	4.30	4.70
D1	1.60 REF	
E	2.30	2.70
e	1.50 TYP	
e1	3.00 TYP	
H	3.94	4.70
L	0.80	1.20

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**SOT89-5L**



Unit: mm

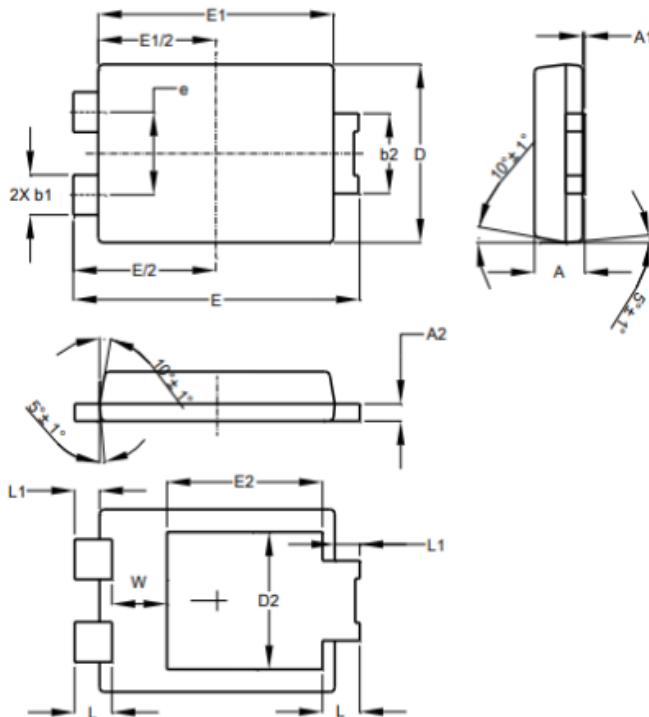
Symbol	Min	Max
A	1.40	1.60
B	0.35	0.58
B1	0.32	0.58
C	0.35	0.46
D	4.30	4.70
D1	1.60 REF	
E	2.30	2.70
e	1.50 TYP	
e1	3.00 TYP	
H	3.94	4.70
L	0.80	1.20

**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

**POEWRD15**

**Unit: mm**



PowerDI5			
DIM.	MIN.	MAX	TYP
A	1.05	1.15	1.10
A1	0	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.05
E	6.40	6.60	6.51
e	1.84 NOM		
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All dimension in millimeter			



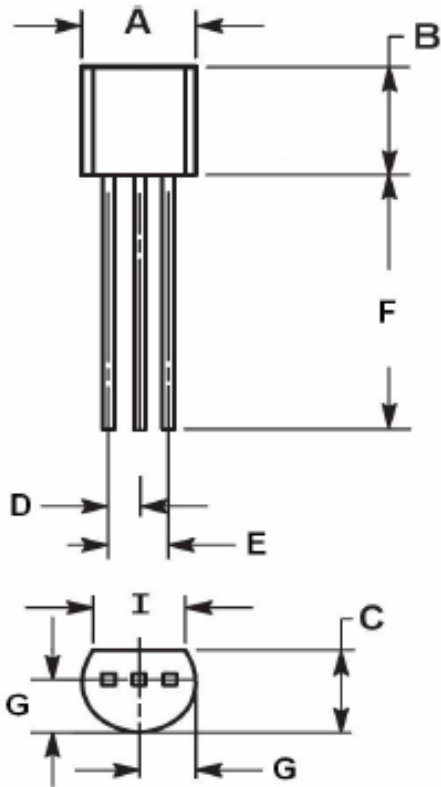
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**TO-92**

**Unit: mm**



<b>TO-92</b>		
DIM.	MIN.	MAX.
A	4.45	4.70
B	4.32	5.33
C	3.18	4.19
D	1.15	1.39
E	2.42	2.66
F	12.7	-----
G	2.04	2.66
I	3.43	-----
All Dimensions in millimeter		

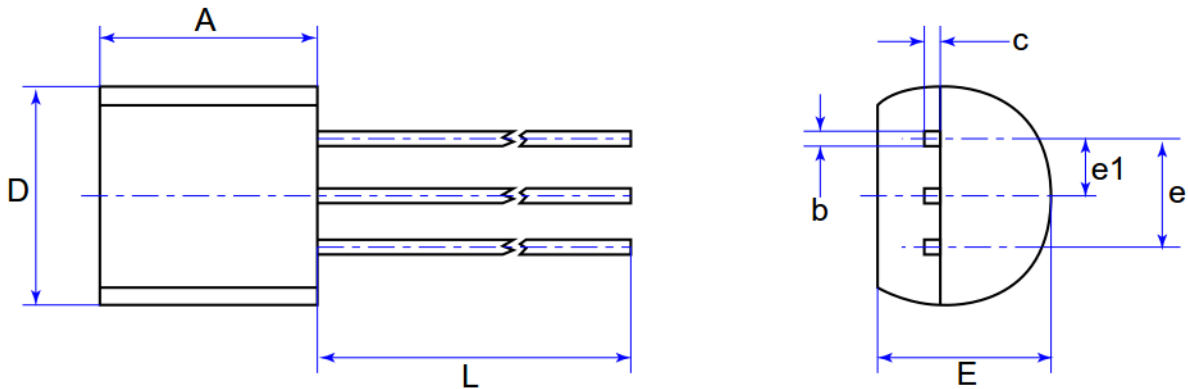
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**DRW-000039 (03) TO-92 Series**

**TO92 (Unformed)**



Unit: mm

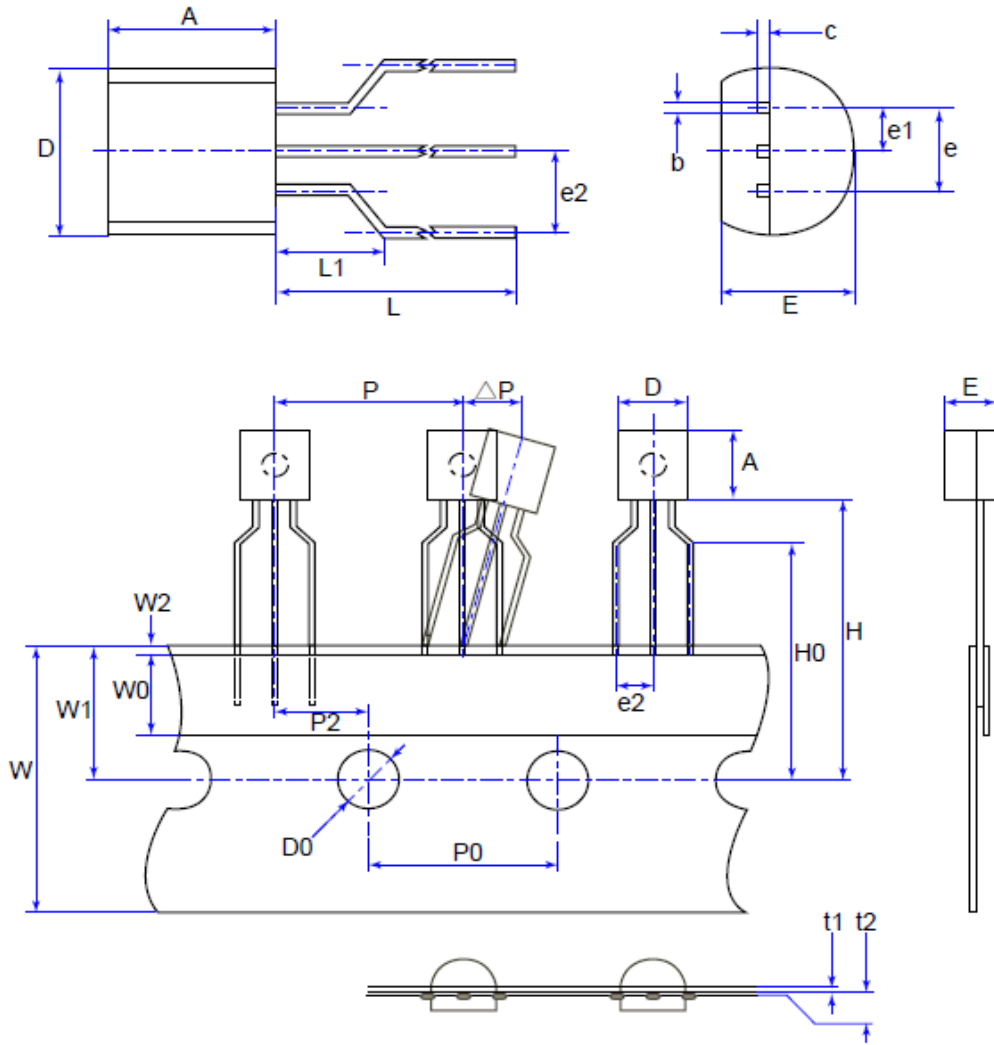
Symbol	Min	Max
A	4.30	4.70
b	0.38	0.55
c	0.36	0.51
D	4.30	4.70
E	3.30	3.70
e	2.40	2.64
e1	1.27 REF	
L	12.70	-

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**TO92 (Formed)**



Unit: mm

Symbol	Min	Max
A	4.30	4.70
b	0.38	0.55
c	0.36	0.51
D	4.30	4.70
D0	3.80	4.20
E	3.30	3.70
e	2.44	2.64
e1	1.27 TYP	
e2	2.20	2.96
H	18.00	21.00
H0	15.50	16.50

**Package Outline Drawing**

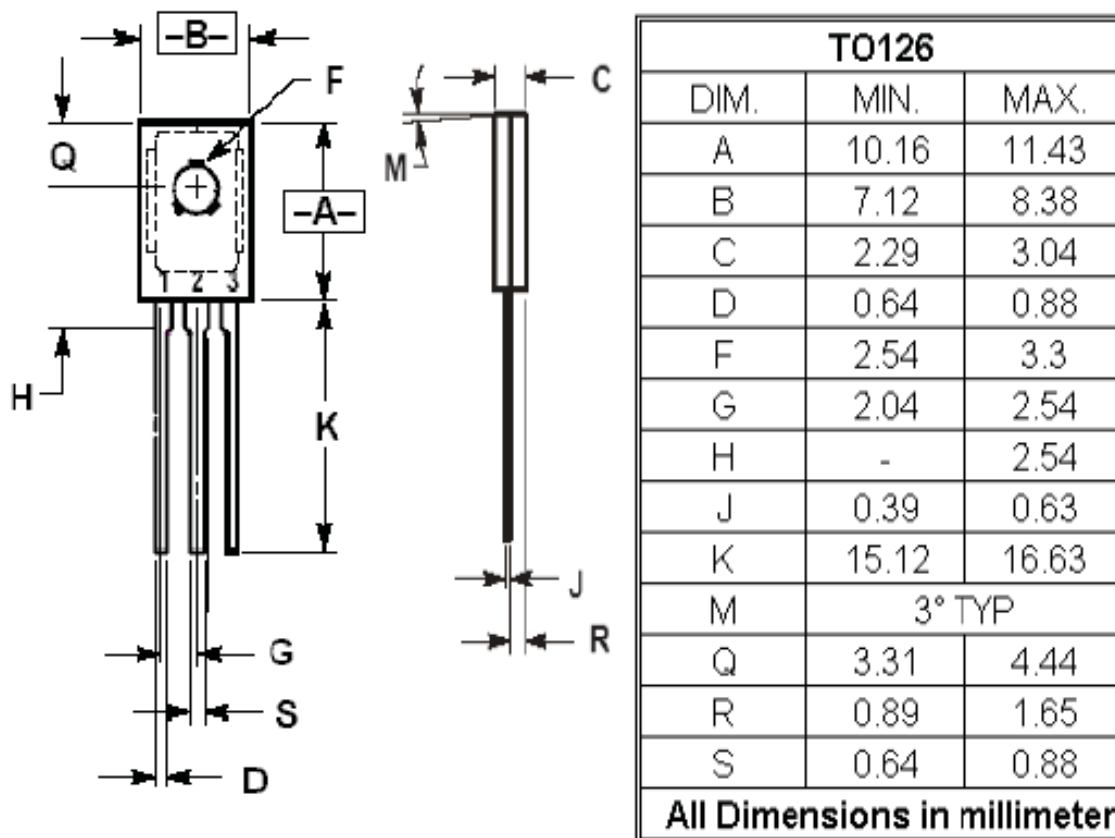
Symbol	Min	Max
L	12.70	-
L1	2.50	4.50
P	12.40	13.00
P0	12.50	12.90
P2	6.05	6.65
t1	0.35	0.45
t2	0.15	0.25
W	17.50	19.00
W0	5.50	6.50
W1	8.50	9.50
W2	-	1.00
△P	-	1.00

**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

**TO-126**

**Unit: mm**

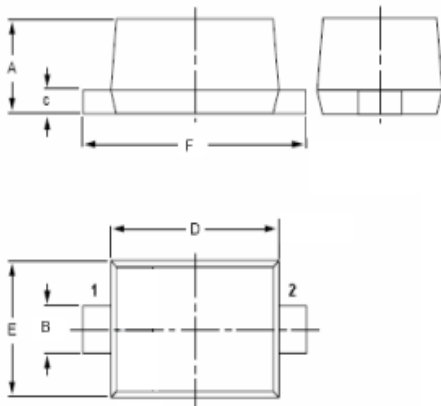


**Package Outline Drawing**

**Mechanical Dimensions**  
**For Discrete**

**SOD-523**

**Unit: mm**



<b>SOD-523</b>		
<b>DIM.</b>	<b>MIN.</b>	<b>MAX.</b>
<b>A</b>	0.51	0.77
<b>B</b>	0.25	0.35
<b>C</b>	0.08	0.15
<b>D</b>	1.10	1.30
<b>E</b>	0.75	0.85
<b>F</b>	1.50	1.70
<b>All Dimensions in millimeter</b>		

**Package Outline Drawing**

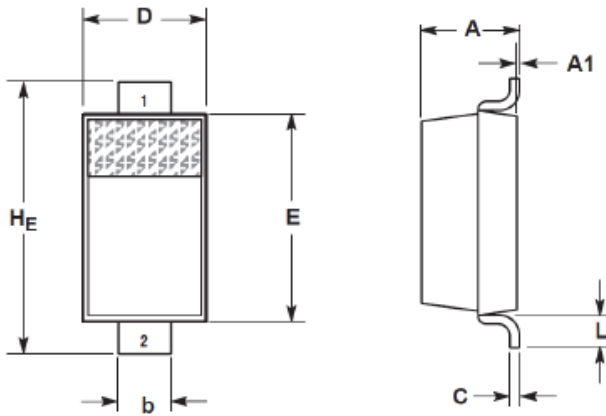
**Mechanical Dimensions**

**For Discrete**

**SOD-123**

**Unit: mm**

**SOD-123**



Dim.	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	0.037	0.053	0.94	1.35
A1	0.000	0.004	0.00	0.10
b	0.020	0.028	0.51	0.71
C	--	0.006	--	0.15
D	0.055	0.071	1.40	1.80
E	0.100	0.112	2.54	2.84
HE	0.140	0.152	3.56	3.86
L	0.010	--	0.25	--

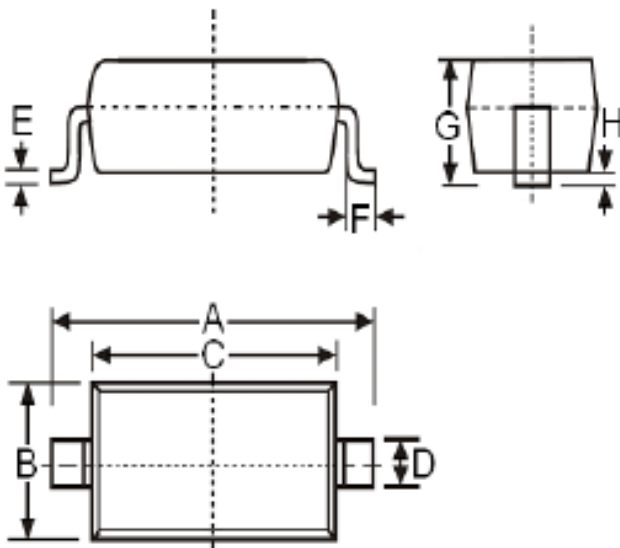
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOD-323**

**Unit: mm**



SOD-323		
Dim.	Min.	Max.
A	2.50	2.70
B	1.20	1.40
C	1.60	1.80
D	0.25	0.35
E	0.08	0.15
F	0.25	0.40
G	---	1.0
H	0.00	0.10
Dimensions in millimeter		



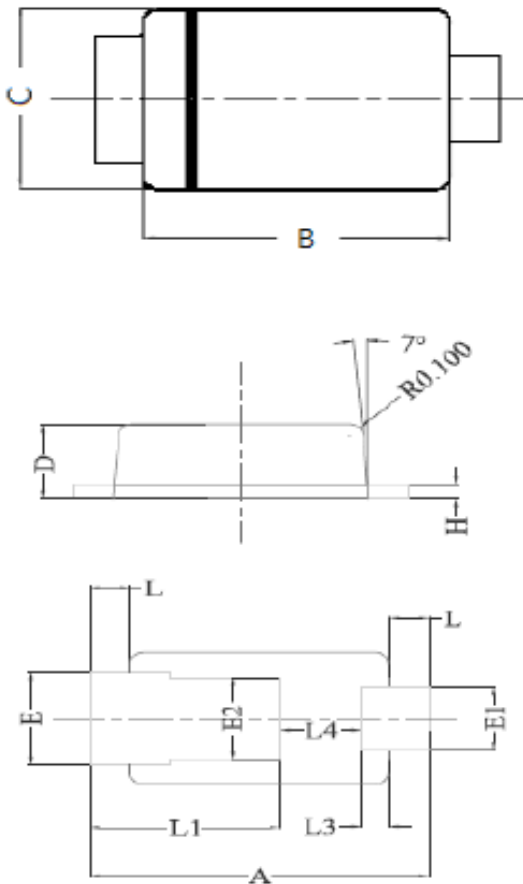
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOD-323EP**

**Unit: mm**



SOD-323EP		
DIM	MIN	MAX
A	2.40	2.60
B	1.85	1.95
C	1.20	1.30
D	0.60	0.70
E	0.78	0.98
E1	0.50	0.70
E2	0.60	1.00
H	0.08	0.18
L	0.20	0.40
L1	1.40(TYP)	
L3	0.20(TYP)	
L4	0.40	0.80
<b>All dimension in millimeter</b>		

**Package Outline Drawing**

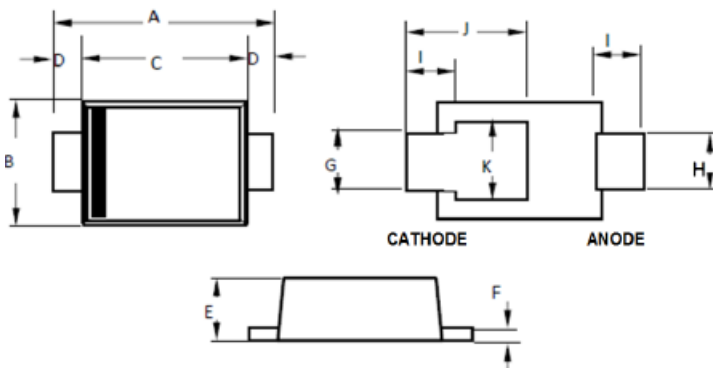
**Mechanical Dimensions**

**For Discrete**

**SOD-323HE**

**Unit: mm**

SOD-323HE



Dim.	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	0.091	0.106	2.30	2.70
B	0.047	0.053	1.20	1.35
C	0.069	0.077	1.75	1.95
D	0.012 Typ.		0.30 Typ.	
E	0.022	0.030	0.55	0.75
F	0.004	0.008	0.10	0.20
G	0.020	0.022	0.50	0.55
H	0.020	0.022	0.50	0.55
I	0.016	0.024	0.40	0.60
J	0.045	0.061	1.15	1.55
K	0.032 Typ.		0.80 Typ.	

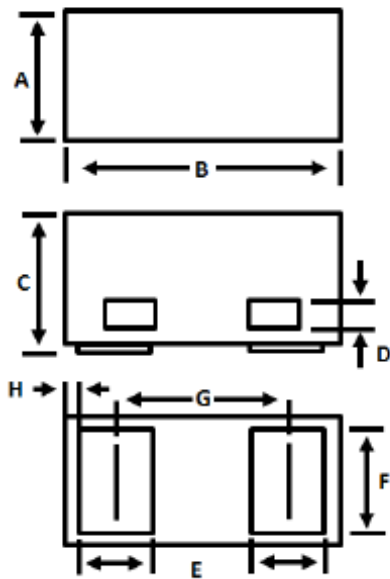
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SLP0603P2**

**Unit: mm**



SLP0603P2		
DIM.	MIN.	MAX
A	0.27	0.37
B	0.57	0.67
C	0.275	0.34
D	0.06 (Typ.)	
E	0.105	0.175
F	0.205	0.275
G	0.365	0.435
H	0.04 (Typ.)	
All dimension in millimeter		

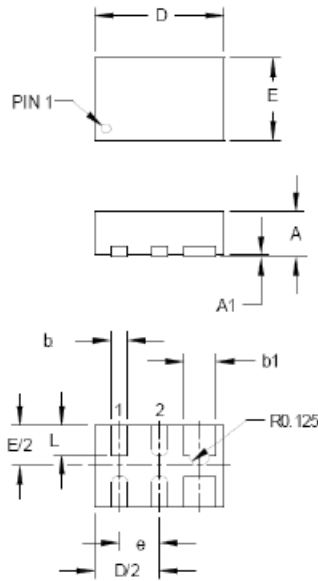
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SLP1610P4**

**Unit: mm**



SLP1610P4		
DIM.	MIN.	MAX.
A	0.50	0.65
A1	0.00	0.05
b	0.15	0.25
b1	0.35	0.45
D	1.50	1.70
E	0.90	1.10
e	0.50 BSC	
L	0.30	0.43
All Dimensions in millimeter		

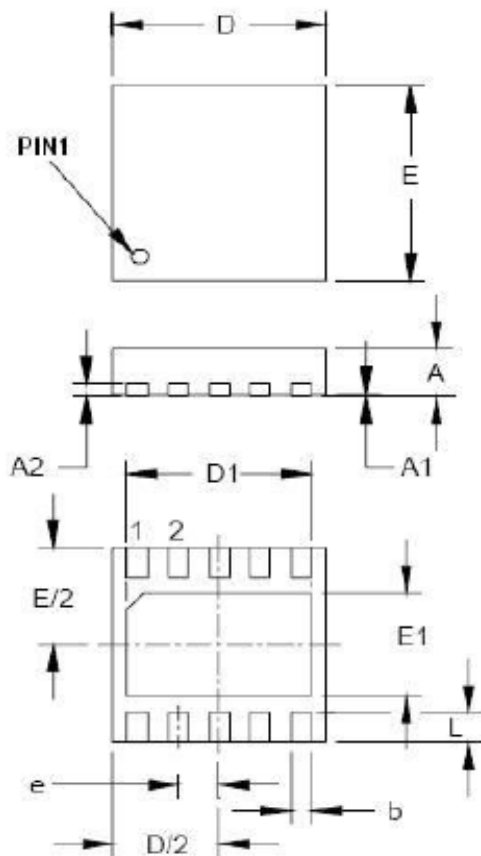
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SLP2626P10**

**Unit: mm**



<b>SLP2626P10</b>		
DIM.	MIN.	MAX.
A	0.50	0.65
A1	0.00	0.05
A2	0.17 Typ.	
b	0.20	0.30
D	2.50	2.70
D1	2.00	2.25
E	2.50	2.70
E1	1.11	1.36
e	0.5 Typ.	
L	0.30	0.40
All Dimensions in millimeter		

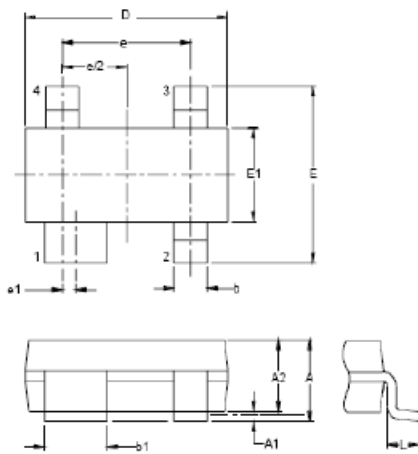
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOT-143**

**Unit: mm**



SOT-143		
DIM.	MIN.	MAX.
A	0.80	1.22
A1	0.013	0.15
A2	0.75	1.07
b	0.30	0.51
b1	0.76	0.94
D	2.80	3.04
E	2.10	2.64
E1	1.20	1.4
e	1.92 BSC	
e1	0.20 BSC	
L	0.40	0.60
All Dimensions in millimeter		

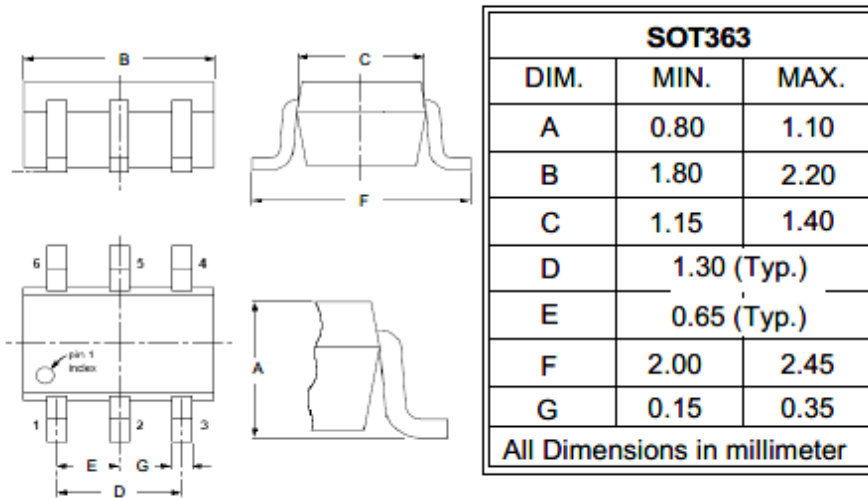
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOT-363**

**Unit: mm**



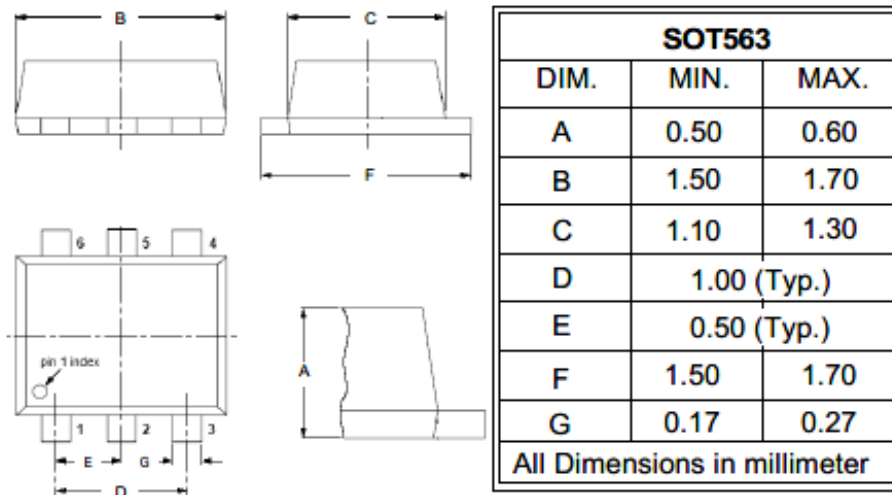
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOT563**

**Unit: mm**





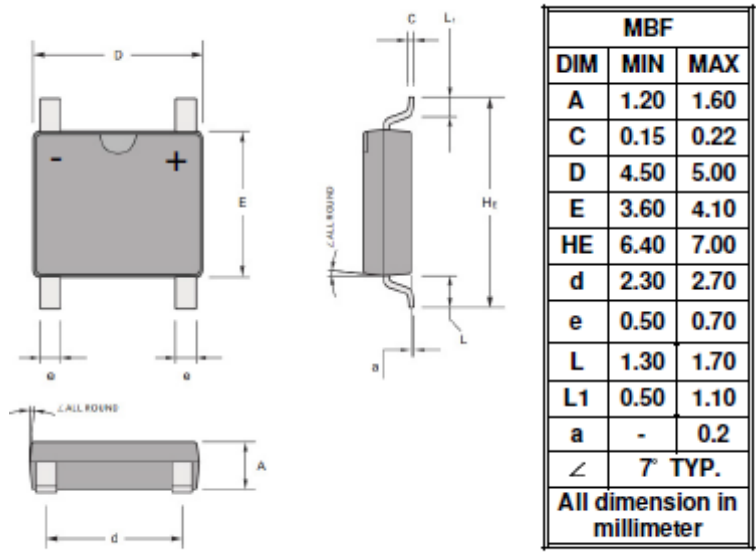
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**MBF**

**Unit: mm**



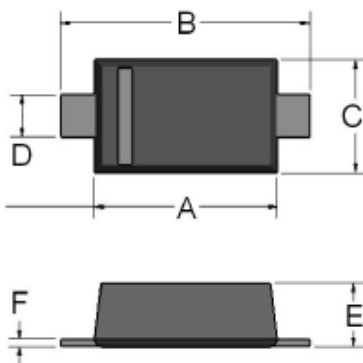
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SOD-123F**

**Unit: mm**



SOD-123F		
DIM.	MIN.	MAX.
A	2.50	2.70
B	3.30	3.70
C	1.50	1.70
D	0.50	0.70
E	0.80	1.00
F	0.05	0.20
All Dimensions in millimeter		

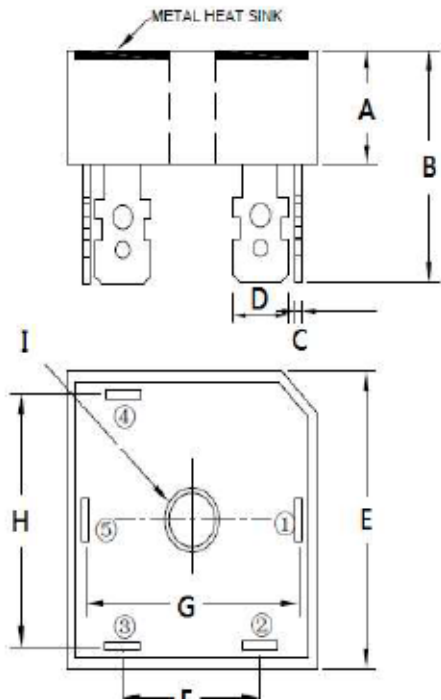
**Package Outline Drawing**

**Mechanical Dimensions**

**For Discrete**

**SBR**

**Unit: mm**



SBR		
Dim.	Min.	Max.
A	10.5	11.5
B	22.2	23.8
C	0.7	0.9
D	6.15	6.45
E	28.3	28.8
F	14.2	15.8
G	22.5	24.1
H	22.5	24.1
I	4.9	
All Dimensions in millimeter		

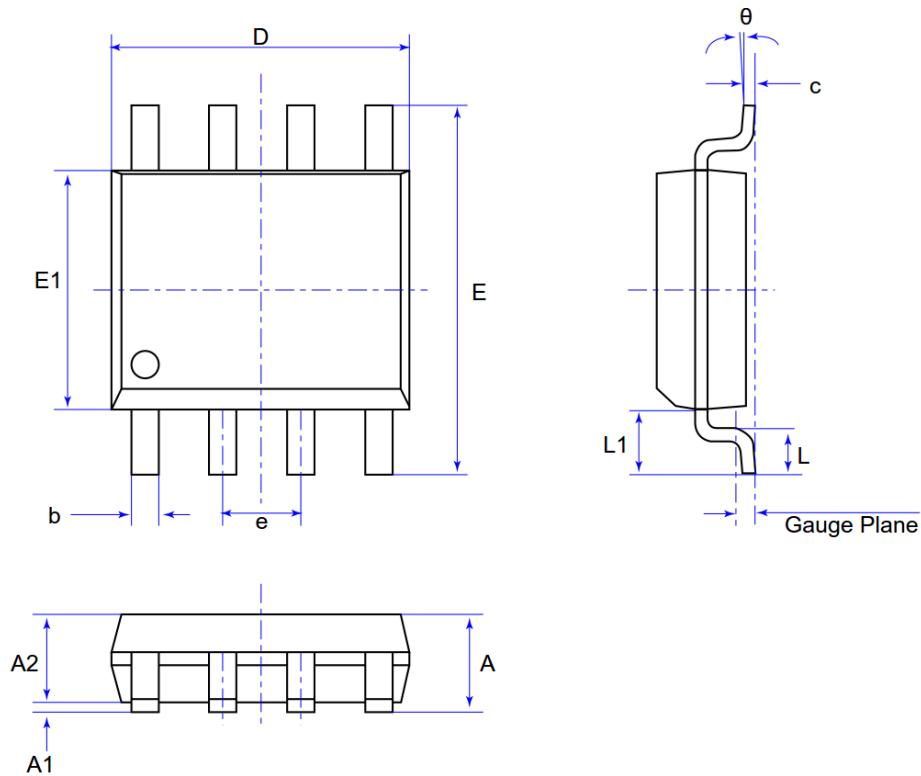
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

DRW-000034 (02)

**SOP-8L**



Unit: mm

Symbol	Min	Max
A	-	1.75
A1	0.10	0.25
A2	1.25	1.65
b	0.33	0.51
c	0.10	0.26
D	4.70	5.10
E	5.80	6.20
E1	3.70	4.10
e	1.27 REF	
L	0.40	1.27
L1	1.04 REF	
Gauge Plane	0.25 BSC	
θ	0°	8°

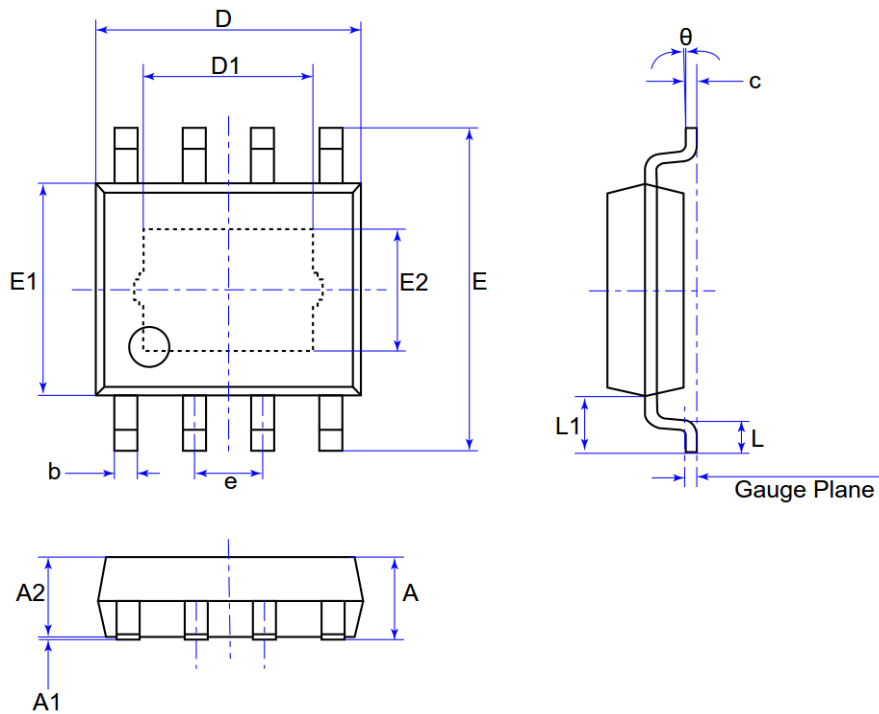
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

DRW-000038 (02)

**ESOP-8L**



Unit: mm

Symbol	Min	Max
A	-	1.70
A1	-	0.15
A2	1.30	1.55
b	0.33	0.51
c	0.17	0.25
D	4.70	5.10
D1	3.10 REF	
E	5.80	6.20
E1	3.70	4.10
E2	2.21 REF	
e	1.27 BSC	
L	0.40	1.27
L1	1.00	1.10
Gauge Plane	0.25 BSC	
theta	0°	8°

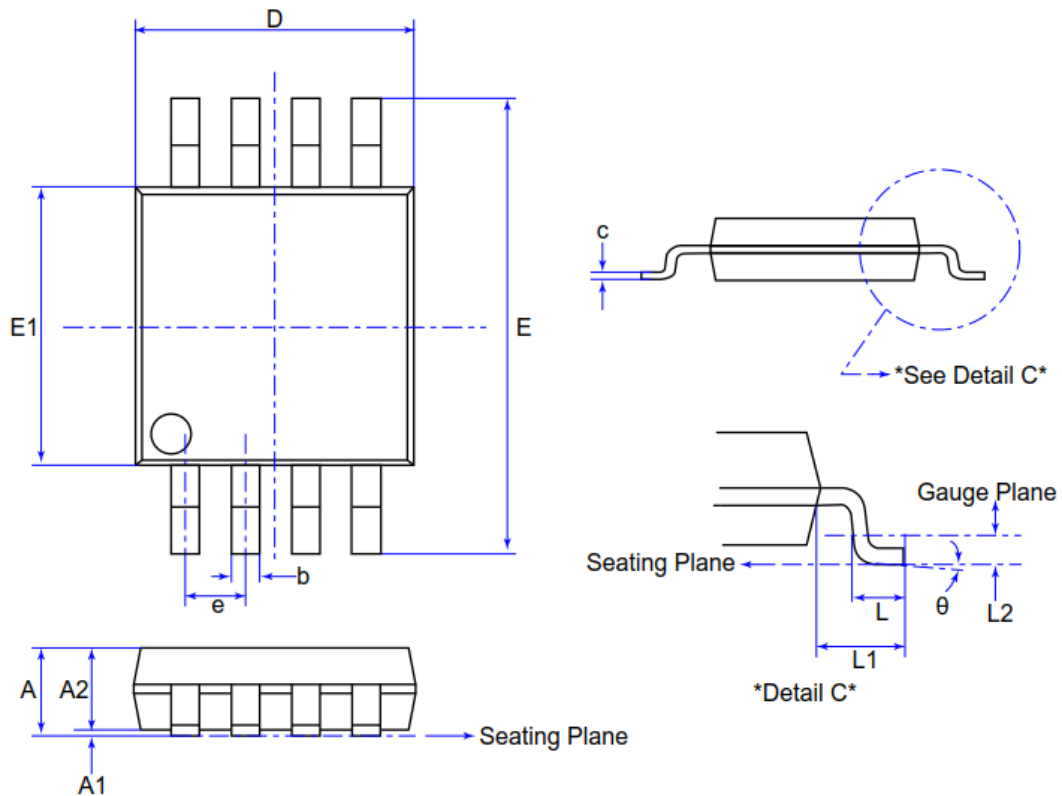
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

DRW-000090 (01)

MSOP-8L



Unit: mm

Symbol	Min	Max
A	-	1.10
A1	0.00	0.15
A2	0.75	0.95
b	0.22	0.38
c	0.08	0.23
D	2.90	3.10
E	4.75	5.05
E1	2.90	3.10
e	0.65 BSC	
L	0.40	0.80
L2	0.25 BSC	
θ	0'	8'

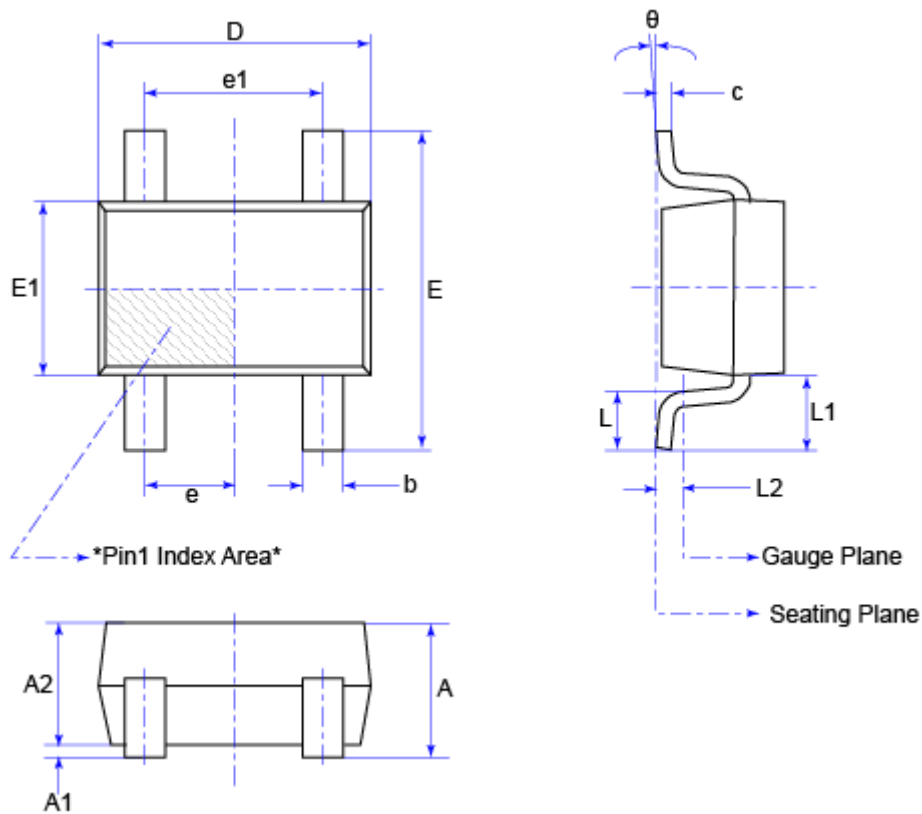
**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**(On Document Change Process) SC Series**

**SC70-4L (SOT343)**



Unit: mm

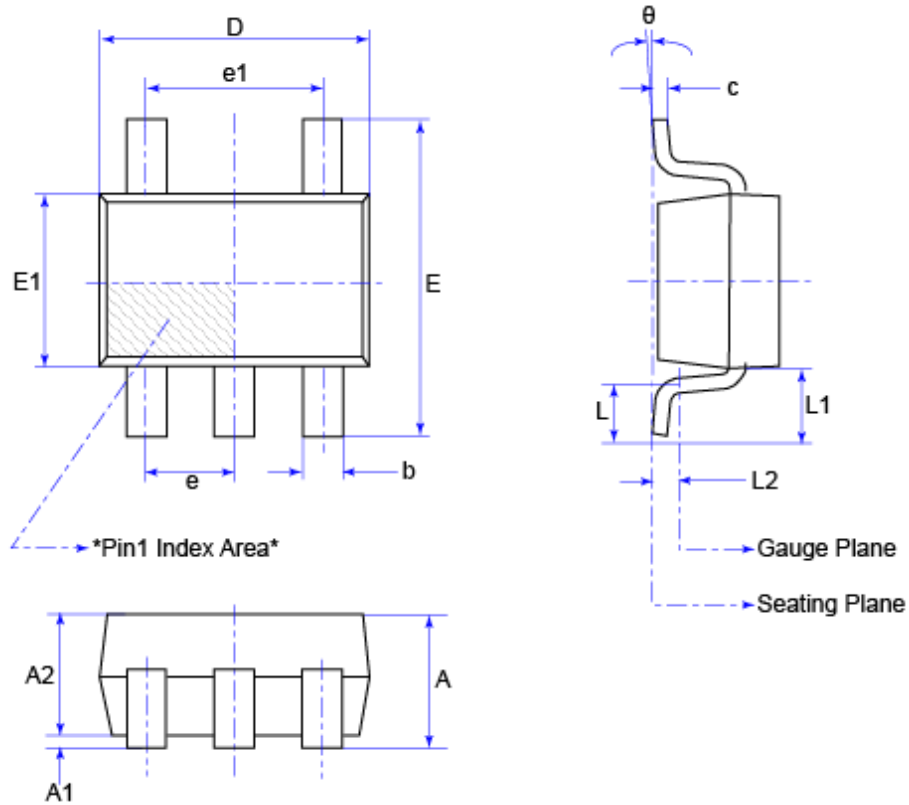
Symbol	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	2.150	2.450
E1	1.150	1.350
e	0.650 TYP	
e1	1.200	1.400
L	0.260	0.460
L1	0.525 REF	
L2	0.200 BSC	
θ	0°	8°

**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**SC70-5L (SOT353)**



Unit: mm

Symbol	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	2.150	2.450
E1	1.150	1.350
e	0.650 TYP	
e1	1.200	1.400
L	0.260	0.460
L1	0.525 REF	
L2	0.200 BSC	
theta	0°	8°

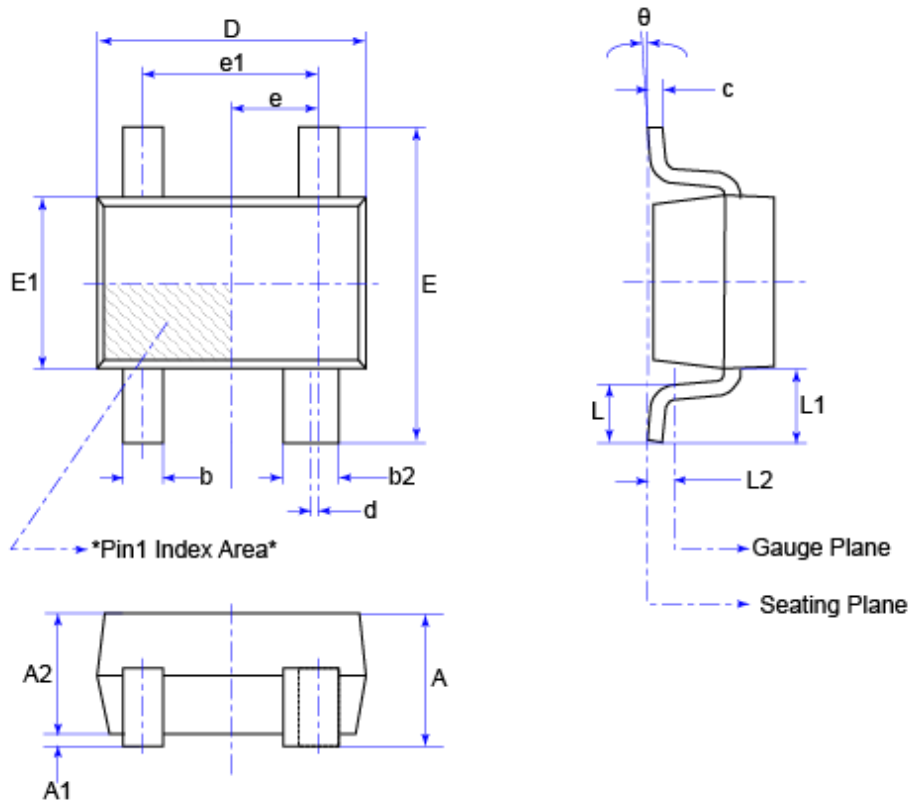


**Package Outline Drawing**

**Mechanical Dimensions**

**For Analog**

**SC82 (SOT343R)**



Unit: mm

Symbol	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.250	0.400
b2	0.350	0.500
c	0.080	0.150
D	2.000	2.200
E	2.150	2.450
E1	1.150	1.350
e	0.650 TYP	
e1	1.200	1.400
L	0.260	0.460
L1	0.525 REF	
L2	0.200 BSC	
theta	0°	8°