



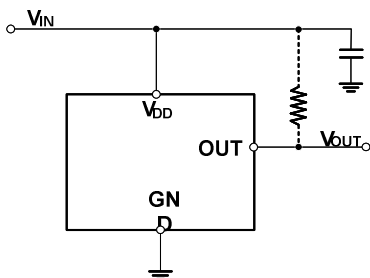
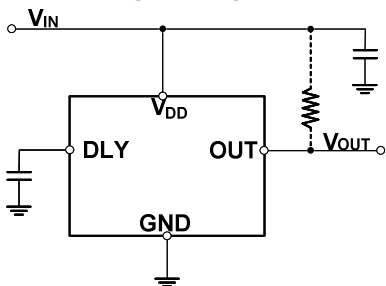
Product information presenting is current as of publication date. Details are subject to change without notice.

High-Precision Reset Voltage Detector

FEATURES

- **Low Current Consumption**
(3μA typ., V_{DD} =3V)
- **High-Precision Reset Voltage Accuracy**
±2%(A/B), ±1%(C/D)
- **Hysteresis Voltage 5% Typical**
- **Reset Voltage 1.8V to 5.5V**
- **Fixed or Adjustable Delay Time**
- **Open Drain or Push-Pull Output**
- **External Delay Time**
- **SC82AB9(SOT343), SOT23-3, SOT23-5, SOT89(SOT25), 3-Lead SOT89 Package Available**

APPLICATION

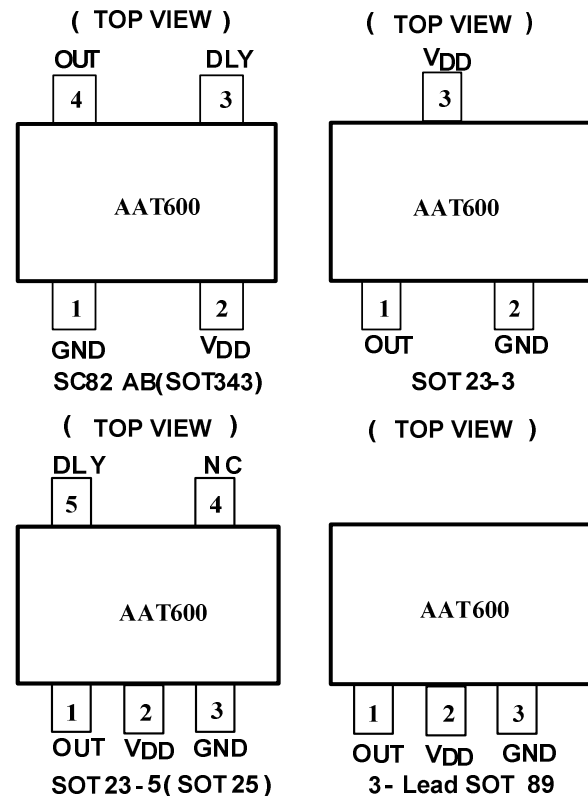


GENERAL DESCRIPTION

The AAT600 is a high-precision reset voltage detector. It provides a high-precision output signal, which allows users to initiate or reset the system.

The detection voltage with an accuracy of ±2%(A/B), ±1% (C/D) is trimmed to customer's specification. Delay time can be adjusted by an external capacitor. The output signal may be configured as either open drain or push-pull. With minimal external components, the AAT600 offers a simple and economical solution.

PIN CONFIGURATION





AAT600

ORDERING INFORMATION

DEVICE TYPE	PART NUMBER	PACKAGE	PACKING	TEMP. RANGE	MARKING MARKING DESCRIPTION
AAT600	AAT600XXA-S15-T	S15:SC 82-4Lead	T: Tape and reel	-20 °C to+85 °C	<p>AAT602 XX X</p> <p>Output Driver Option A: Open Drain B: Push-Pull</p> <p>Detection Voltage (VDET*10)</p> <p>Tracing Code Character: A~Z, 2-9 (34 characters) ... Ex: Lot 1 = AA, Lot 2 = AB, Lot 34 = A9, Lot 35 = BA,</p>
AAT600	AAT600XXB-S15-T	S15:SC 82-4Lead	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXA-S2-T	S2:SOT 23-3 (SOT23)	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXB-S2-T	S2:SOT 23-3 (SOT23)	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXA-S5-T	S5:SOT 23-5 (SOT25)	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXB-S5-T	S5:SOT 23-5 (SOT25)	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXA-S16-T	S16:SOT8 9-3Lead	T: Tape and reel	-20 °C to+85 °C	
AAT600	AAT600XXB-S16-T	S16:SOT8 9-3Lead	T: Tape and reel	-20 °C to+85 °C	

NOTE: All AAT products are lead free and halogen free

**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL	VALUE	UNIT
V_{DD} , OUT to GND	V_{DD}	7	V
Input Voltage (DLY)	V_I	$V_{DD} + 0.3$	V
Operating Free-Air Temperature Range	T_C	-20 °C to +85 °C	°C
Storage Temperature Range	$T_{storage}$	-45 °C to +125 °C	°C
Maximum Junction Temperature	T_J	+125	°C
Package Thermal Resistance, SC82AB	θ_{JA}	333	°C/W
Package Thermal Resistance, SOT23-3	θ_{JA}	275	°C/W
Package Thermal Resistance, SOT23-5	θ_{JA}	275	°C/W
Package Thermal Resistance, SOT89	θ_{JA}	175	°C/W
Power Dissipation, @ $T_C = 25$ °C, SC82AB	P_D	300	mW
Power Dissipation, @ $T_C = 25$ °C, SOT23-3	P_D	364	mW
Power Dissipation, @ $T_C = 25$ °C, SOT23-5	P_D	364	mW
Power Dissipation, @ $T_C = 25$ °C, SOT89	P_D	571	mW



ELECTRICAL CHARACTERISTICS

($T_C = 25\text{ }^\circ\text{C}$)

Recommended Operating Conditions

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Detection Voltage	V_{DET}	AAT600(A/B)	$V_{DET} - 2\%$		$V_{DET} + 2\%$	V
	V_{DET}	AAT600(C/D)	$V_{DET} - 1\%$		$V_{DET} + 1\%$	V
Hysteresis Voltage	V_{HYS}		$V_{DET} * 3\%$	$V_{DET} * 5\%$	$V_{DET} * 8\%$	V
Supply Current	I_{DD}	$V_{DD} = 3V$		3	5	μA
Operating Voltage	V_{OP}		0.9		5.5	V
Open Drain Leakage Current	I_L	$V_{DD} = 1.7V,$ $V_{OUT} = 5.5V$			0.1	μA
Push-Pull Output Voltage	V_{OUT}	$I_{OUT} = 1.2\text{ mA}$			0.2	V
		$I_{OUT} = -1.2\text{ mA}$	$V_{DD} - 0.2V$			V
External Delay Time	t_{D1}	$C_{DLY} = 0\text{ nF}$			100	μs
	t_{D2}	$C_{DLY} = 4.7\text{ nF}$	20	27	34	ms

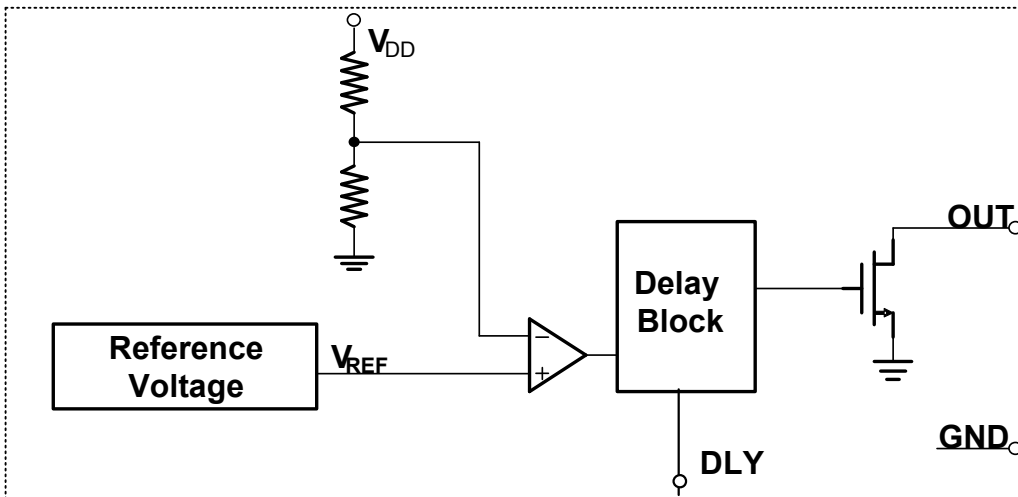
PIN DESCRIPTION

PIN NO.				NAME	I/O	DESCRIPTION
SC82AB (SOT343)	SOT23-3	SOT23-5 (SOT25)	3-Lead SOT89			
1	2	3	3	GND	-	Ground
2	3	2	2	V_{DD}	-	Power Input / Detection Voltage
3	-	5	-	DLY	I	Delay Capacitor Connection Pin
4	1	1	1	OUT	O	Open Drain or Push-Pull Output

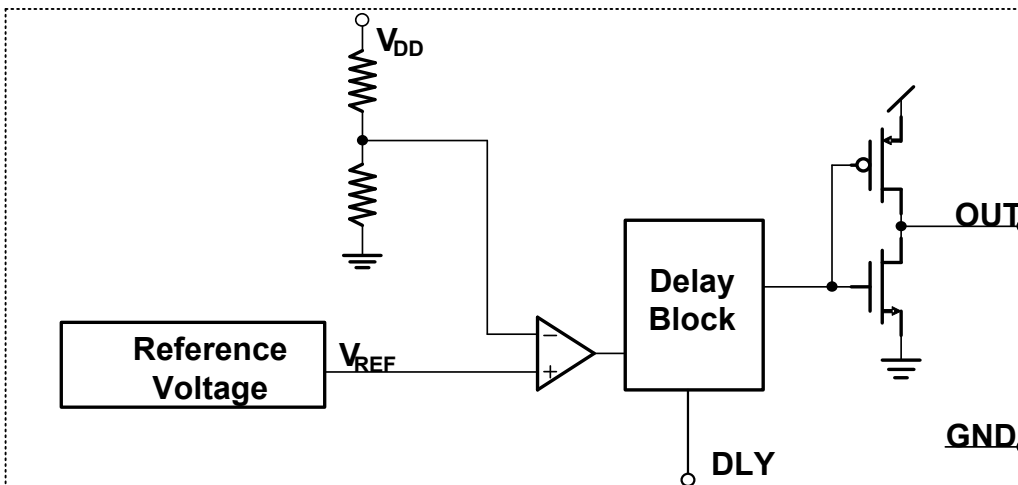


FUNCTION BLOCK DIAGRAM

Open Drain

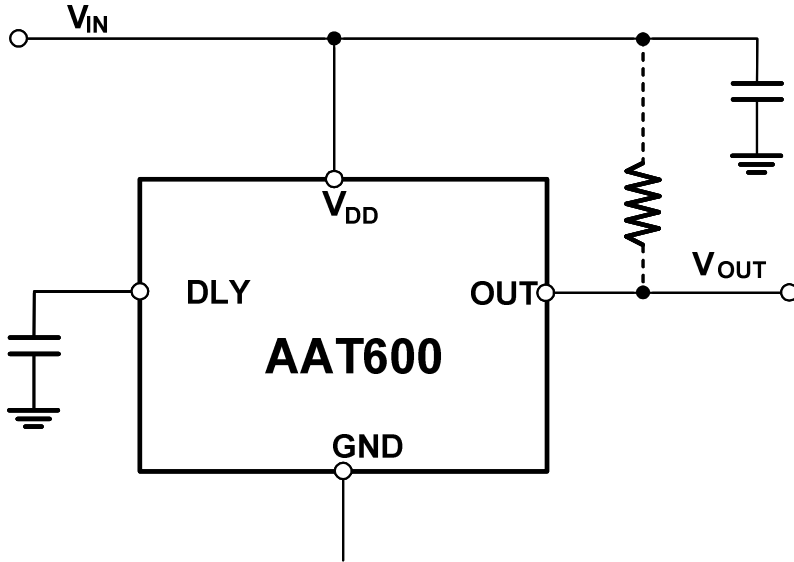


Push - Pull

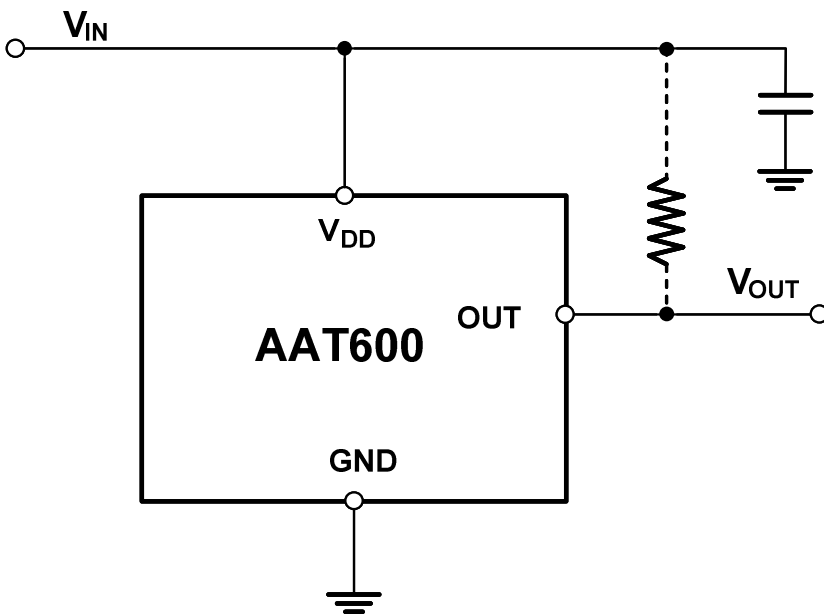




APPLICATION CIRCUIT



Delay time t_{DLY} setting:
 $C_{DLY} = (100\text{nA} \cdot t_{DLY}) / 0.574$
Ex: If delay is 270ms,
 $C_{DLY} = 47\text{nF}$



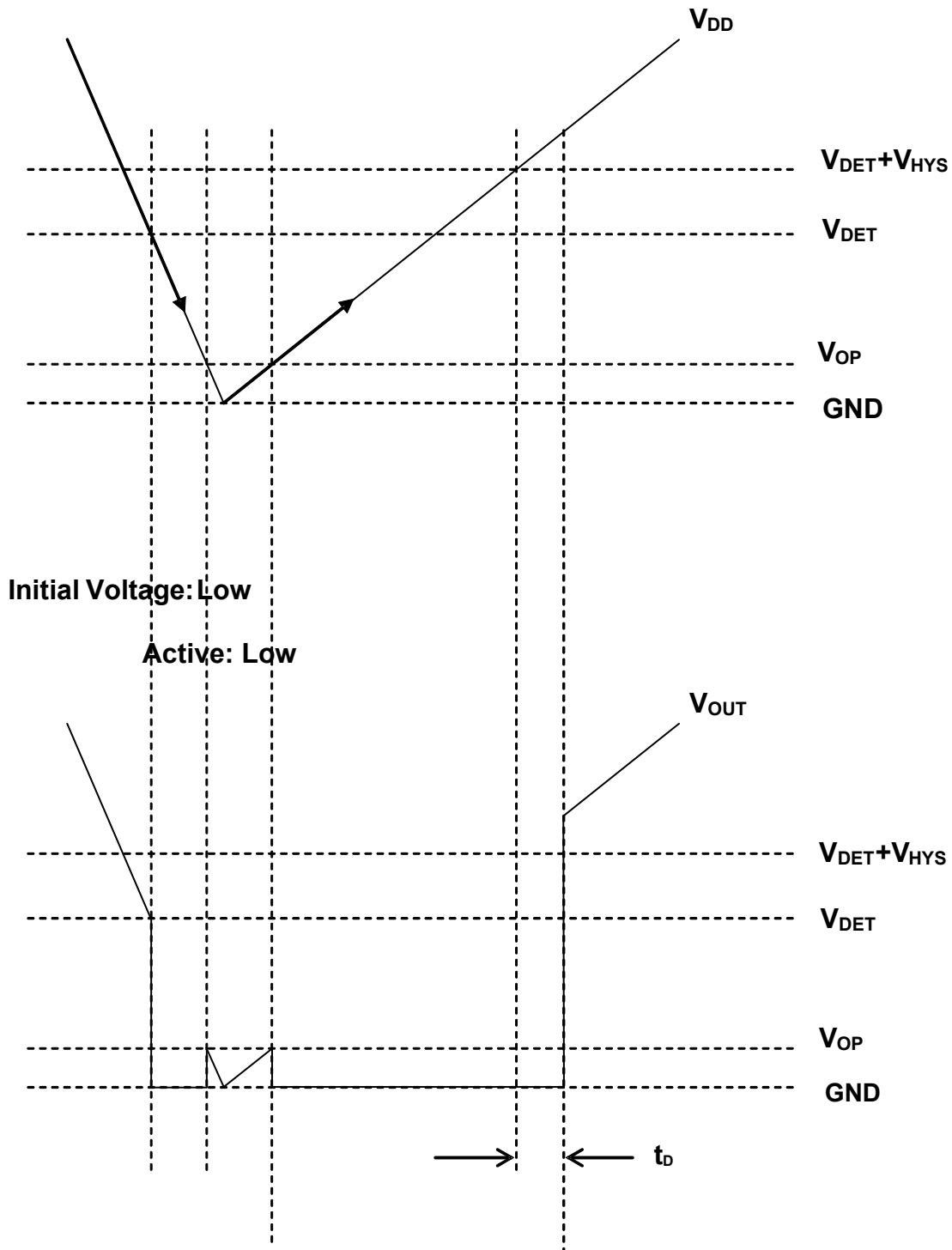


PART NUMBER AVAILABLE

AAT60018A	AAT60033A	AAT60048A
AAT60018B	AAT60033B	AAT60048B
AAT60019A	AAT60034A	AAT60049A
AAT60019B	AAT60034B	AAT60049B
AAT60020A	AAT60035A	AAT60050A
AAT60020B	AAT60035B	AAT60050B
AAT60021A	AAT60036A	AAT60051A
AAT60021B	AAT60036B	AAT60051B
AAT60022A	AAT60037A	AAT60052A
AAT60022B	AAT60037B	AAT60052B
AAT60023A	AAT60038A	AAT60053A
AAT60023B	AAT60038B	AAT60053B
AAT60024A	AAT60039A	AAT60054A
AAT60024B	AAT60039B	AAT60054B
AAT60025A	AAT60040A	AAT60055A
AAT60025B	AAT60040B	AAT60055B
AAT60026A	AAT60041A	AAT60031C
AAT60026B	AAT60041B	
AAT60027A	AAT60042A	
AAT60027B	AAT60042B	
AAT60028A	AAT60043A	
AAT60028B	AAT60043B	
AAT60029A	AAT60044A	
AAT60029B	AAT60044B	
AAT60030A	AAT60045A	
AAT60030B	AAT60045B	
AAT60031A	AAT60046A	
AAT60031B	AAT60046B	
AAT60032A	AAT60047A	
AAT60032B	AAT60047B	



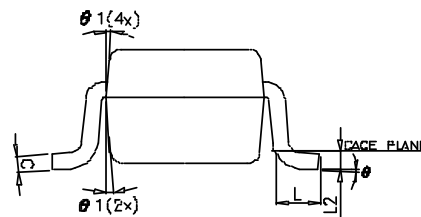
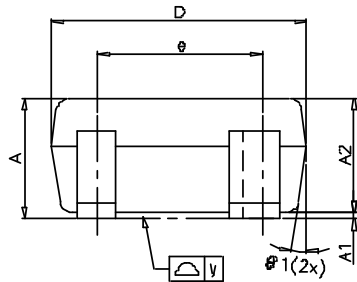
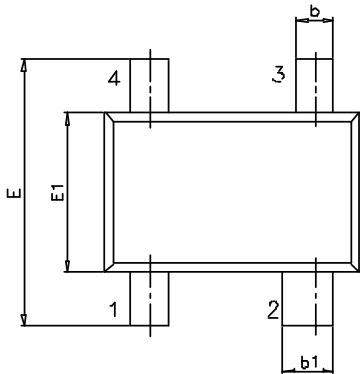
TIMING CHART





PACKAGE DIMENSION

SC82AB(SOT343)

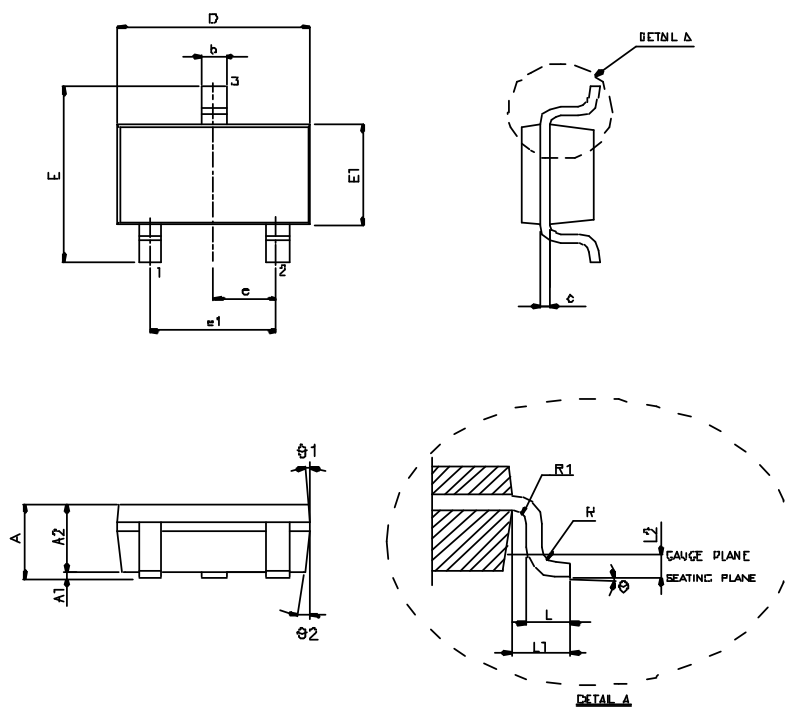


Symbol	Dimensions In Millimeters		
	MIN	TYP	MAX
A	0.8	-----	1.1
A1	0.0	-----	0.1
A2	0.7	0.9	1.0
b	0.25	0.30	0.40
b1	0.35	0.40	0.50
c	0.10	-----	0.26
D	1.8	2.0	2.2
E1	1.15	1.25	1.35
E	1.8	2.1	2.4
e	1.30 BSC		
L	0.26	0.36	0.46
L2	0.15 BSC		
y	-----	-----	0.1
θ	0°	-----	8°
$\theta 1$	4°	-----	12°



PACKAGE DIMENSION

SOT23-3

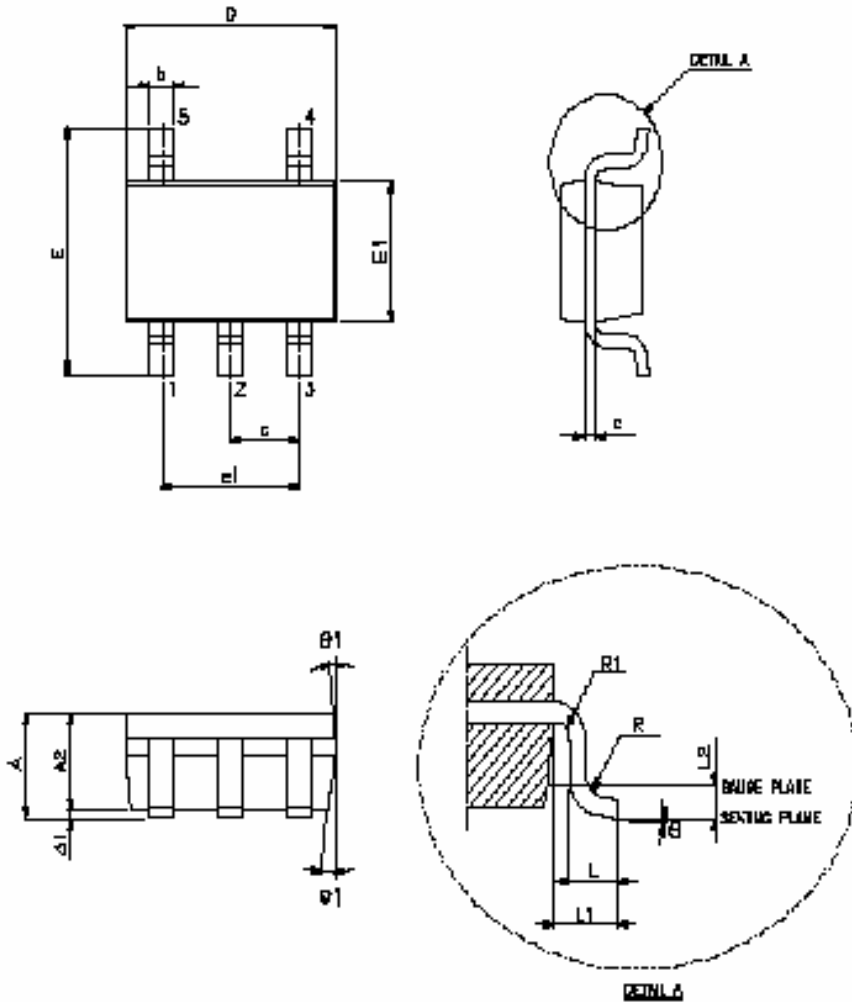


Symbol	Dimensions In Millimeters		
	MIN	TYP	MAX
A	1.05	1.20	1.30
A1	-----	-----	0.15
A2	1.00	1.11	1.15
b	0.3	-----	0.5
c	0.08	-----	0.22
D	2.90 BSC		
E	2.80 BSC		
E1	1.60 BSC		
e	0.95 BSC		
e1	1.90 BSC		
L	0.30	0.45	0.60
L1	0.60 REF		
L2	0.25 BSC		
R	0.1	-----	-----
R1	0.10	-----	0.25
θ	0°	4°	8°
$\theta 1$	5°	10°	15°



PACKAGE DIMENSION

SOT23-5(SOT25)





PACKAGE DIMENSION

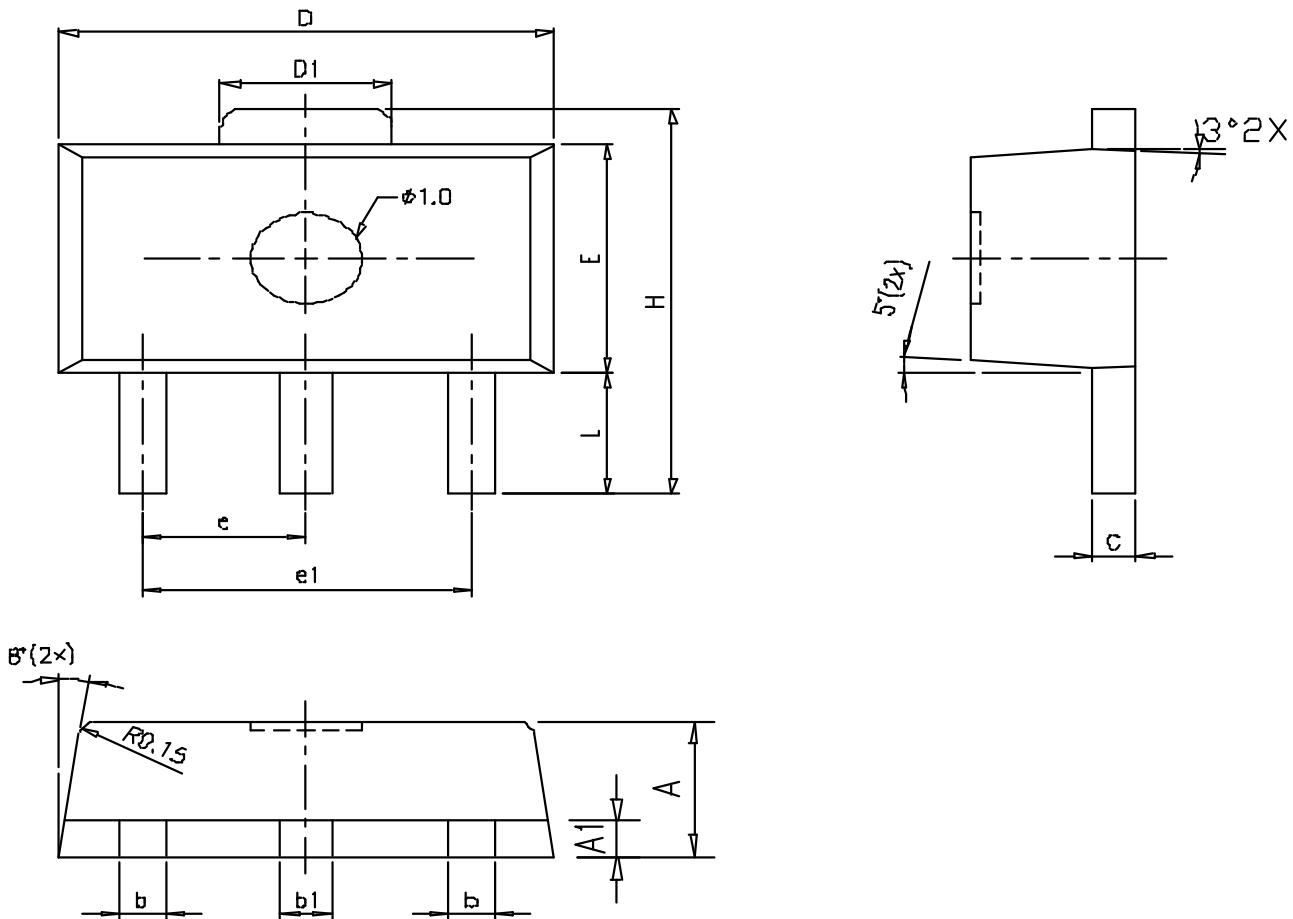
SOT23-5(SOT25)(CONT.)

Symbol	Dimensions In Millimeters		
	MIN	TYP	MAX
A	1.05	1.20	1.30
A1	-----	-----	0.15
A2	1.00	1.10	1.15
b	0.3	-----	0.5
c	0.08	-----	0.22
D	2.90 BSC		
E	2.80 BSC		
E1	1.60 BSC		
e	0.95 BSC		
e1	1.90 BSC		
L	0.30	0.45	0.60
L1	0.60 REF		
L2	0.25 BSC		
R	0.1	-----	-----
R1	0.10	-----	0.25
θ	0°	4°	8°
θ1	5°	10°	15°



PACKAGE DIMENSION

3-LEAD SOT89





PACKAGE DIMENSION

3-LEAD SOT89(CONT.)

Symbol	Dimensions In Millimeters		
	MIN	TYP	MAX
A	1.4	1.5	1.6
A1	0.3	0.4	0.5
L	0.8	---	1.2
b	0.36	0.42	0.48
b1	0.41	0.47	0.53
C	0.38	0.40	0.43
D	4.4	4.5	4.6
D1	1.40	1.60	1.75
H	3.94	---	4.25
E	2.4	2.5	2.6
e1	2.9	3.0	3.1
e	1.45	1.50	1.55