



DESCRIPTION

The A6323E is an ultra-low static power consumption, low dropout linear regulator. The current consumption of the voltage regulator is about 0.7uA, and the enable Power consumption after shutdown is 0.01uA (typical). Built-in enable control, current limiting current circuit and foldback short circuit protection, and has the function of enabling and controlling the automatic discharge of the output capacitor

The A6323E is available in SOT-25 package

FEATURES

- Low Power Consumption: 0.7uA (Typ.)
Shutdown: 0.01uA (Typ.)
- Maximum Output Current: 300mA
- Dropout Voltage: 160mv@I_{OUT} =100mA (V_{OUT} = 3.3V)
- Operating Voltage Range: 2V~18V
- Output Voltage Range: 1.5V~5.0V
- Highly Accuracy: ±2%
- Short-Circuit Current: 30mA
Over Current Limit Protection
- CE Function: ON/OFF Logic=Enable High
Can not floating
- Output capacitor discharge automatically.

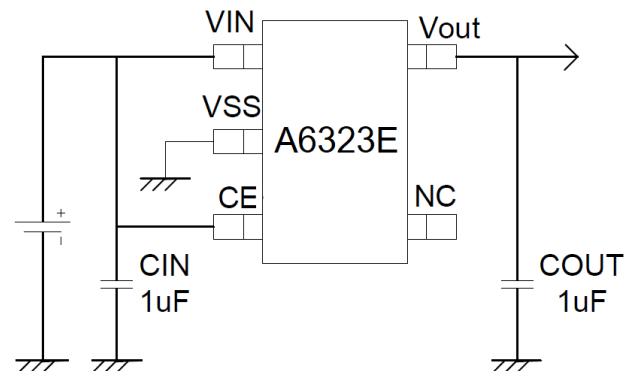
ORDERING INFORMATION

Package Type	Part Number	
SOT-25 SPQ: 3,000pcs/Reel	E5	A6323EE5R-33
		A6323EE5VR-33
Note	33=3.3V V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		

APPLICATION

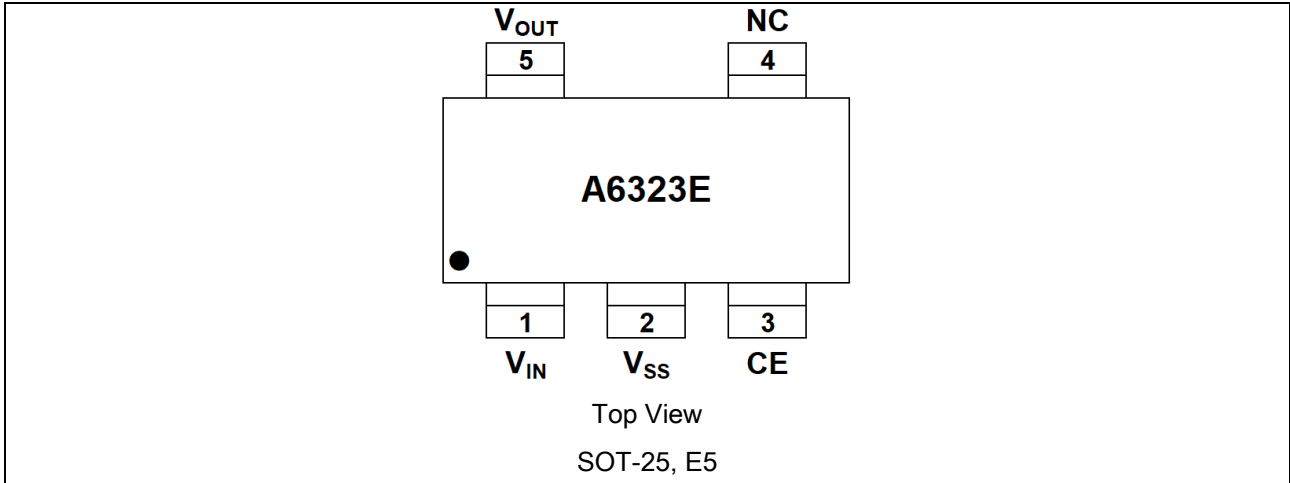
- Mobile phones
- Cordless phones, radio communication equipment
- Portable games
- Cameras, Video cameras
- Reference voltage sources
- Battery powered equipment

TYPICAL APPLICATION





PIN DESCRIPTION



Pin #	Symbol	Function
SOT-25		
1	V _{IN}	Power Input
2	V _{SS}	Ground
3	CE	ON/OFF Enable, High Enable
4	NC	No Connect
5	V _{OUT}	Output

**ABSOLUTE MAXIMUM RATINGS** $T_A=25^{\circ}\text{C}$, unless otherwise noted

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	18	V
CE Pin Voltage	V_{CE}	$V_{SS} - 0.3 \sim V_{IN} + 0.3$	V
V_{OUT} Voltage	V_{OUT}	$V_{SS} - 0.3 \sim V_{IN} + 0.3$	V
V_{OUT} Current	I_{OUT}	400	mA
Internal Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_d	0.6	W
Thermal resistance (Junction to air)	θ_{JA}	210	$^{\circ}\text{C}/\text{W}$
Operating Ambient Temperature Range	T_{Opr}	-40~+85	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-40~+150	$^{\circ}\text{C}$
Maximum Junction Temperature	T_J	150	$^{\circ}\text{C}$

Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.



ELECTRICAL CHARACTERISTICS

$V_{IN} = V_{OUT} + 1V$, $V_{CE} = V_{IN}$, $C_{IN} = C_L = 1\mu F$, $T_A = 25^\circ C$, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_{OUT}	$I_{OUT} = 30mA$, $V_{IN} = V_{OUT} + 1V$	3.234	3.3	3.366	V
Maximum Output Current	I_{OUT}	$V_{IN} = V_{OUT} + 1V$	-	300	-	mA
Load Regulation	ΔV_{OUT}	$V_{IN} = V_{OUT} + 1V$, $1mA \leq I_{OUT} \leq 100mA$	-	2	10	mV
Dropout Voltage	V_{DROP1}	$I_{OUT} = 100mA$	-	160	300	mV
	V_{DROP2}	$I_{OUT} = 200mA$	-	320	600	
Supply Current	I_{SS}	$V_{IN} = V_{OUT} + 1V$	-	0.70	1.5	μA
Stand-by Current	I_{STBY}	$V_{CE} = 0V$	-	0.01	0.1	μA
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	$I_{OUT} = 10mA$, $V_{OUT} + 1V \leq V_{IN} \leq 18V$	-0.1	0.022	0.1	%/V
CE "High" Voltage	V_{CEH}	Start up	1.3	-	-	V
CE "Low" Voltage	V_{CEL}	Shut down	-	-	0.7	V
Short Current	I_{SHORT}	$V_{IN} = V_{OUT} + 1V$, $V_{CE} = V_{IN}$, $V_{OUT} = 0V$	10	30	50	mA
Current Limit	I_{LIM}	$V_{OUT} = V_{OUT}(E) \times 0.95$ $V_{IN} = V_{OUT}(T) + 2V$	-	500	-	mA
Active Output Discharge Resistance	R_{DIS}	$V_{CE} = V_{SS}$, $V_{OUT} = V_{OUT}(T)$	-	500	-	Ω



TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Output Voltage vs. Output Current

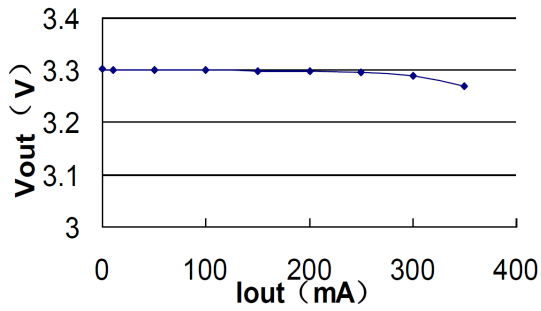


Fig.2 Dropout Voltage vs. Output Current

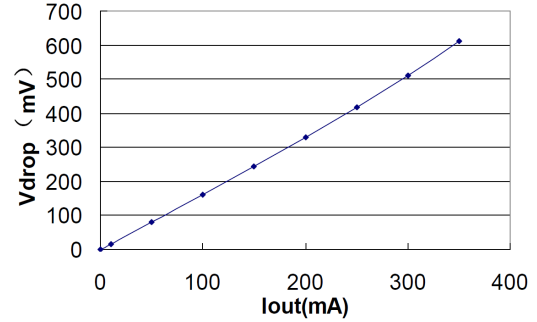


Fig.3 I_{ss}(μ A) vs. Input Voltage

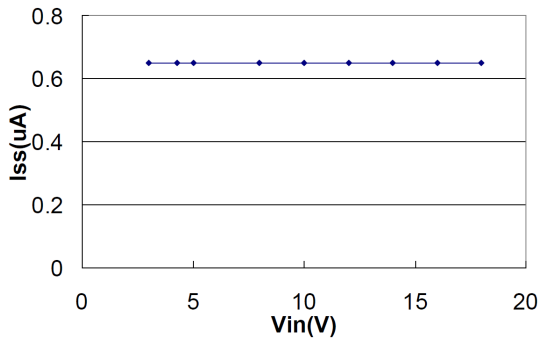


Fig.4 Output Current vs. Temperature

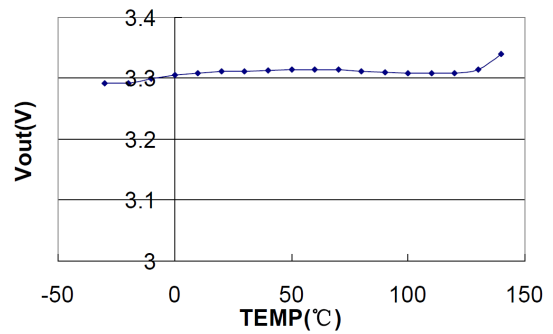
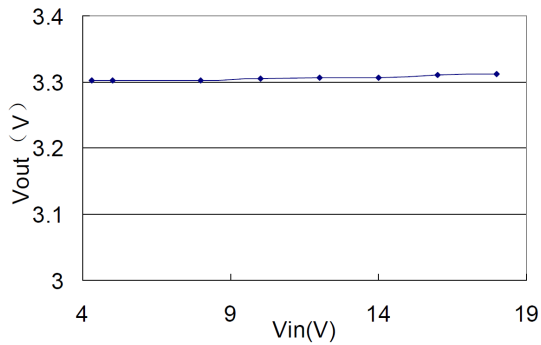
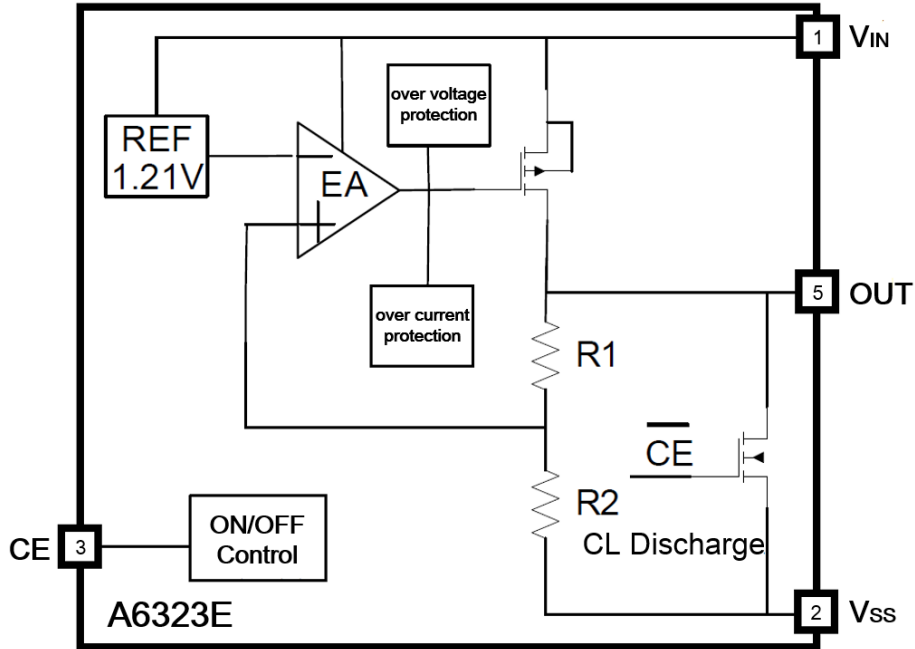


Fig.5 Output Voltage vs. Input Voltage





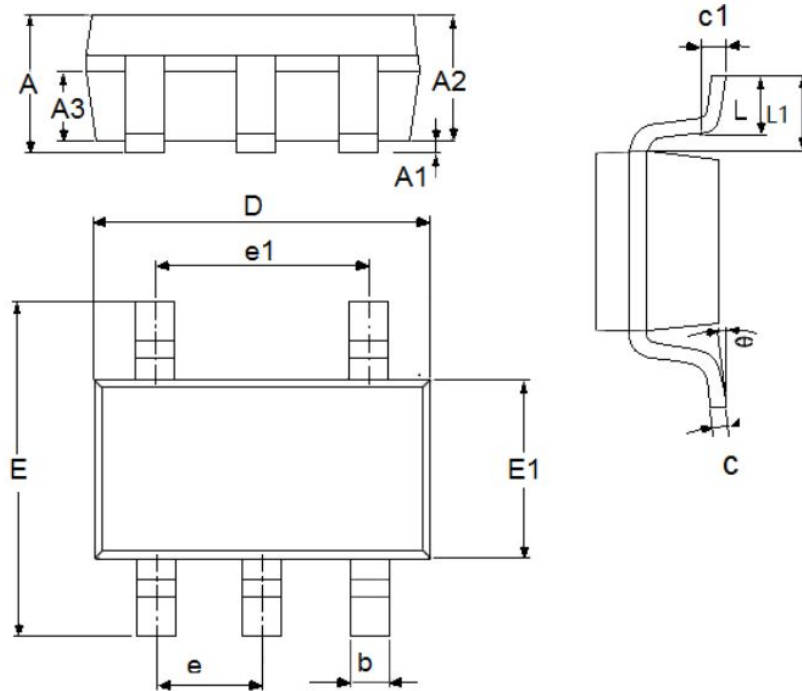
BLOCK DIAGRAM





PACKAGE INFORMATION

Dimension in SOT-25 (Unit: mm)



Symbol	Dimensions In Millimeters	
	Min	Max
A	1.050	1.450
A1	0.000	0.150
A2	0.900	1.300
A3	0.600	0.700
b	0.250	0.500
c	0.100	0.230
c1	0.200 (TYP)	
D	2.820	3.050
e1	1.900 (TYP)	
E	2.600	3.050
E1	1.500	1.750
e	0.950 (TYP)	
L	0.250	0.600
L1	0.590 (TYP)	
θ	0°	8°



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