1A LOW DROPOUT LINEAR REGULATOR

CJ1117B Series Linear Regulator

1 Introduction

The CJ1117B series is a group of low dropout three-terminal regulators with a dropout of 1.3V(typ.) at 1A output current.

The CJ1117B series is available in an adjustable version, which can set the output voltage from 1.25V to 18 V with only two external resistors. In addition, it is available in seven fixed voltages: 1.8V, 2.5V, 3.3V and 5.0V.

The CJ1117B series offer thermal shutdown protection. Its circuit includes a fuse trimmed bandgap reference to assure output voltage accuracy to within ±1.0%.

A minimum of 10μF tantalum capacitor is required at the output to improve the transient response and stability.

Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the CJ1117B flows into the load, increasing efficiency.

2 Available Packages

PART NUMBER	PACKAGE
CJ1117B Series	SOT-89-3L
	SOT-223
	TO-220-3L
	TO-252-2L
	TO-263-2L

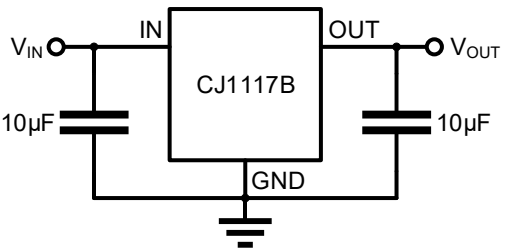
Note: For all available packages, please refer to the part *Orderable Information*.

3 Features

- Low Dropout Voltage:
  1.3V(typ.) at 1A Output Current，25℃
- Built-in current limit and over temperature protection
- Three-Terminal Adjustable to
  1.8V, 2.5V, 3.3V, 5.0V
- Operation Junction Temperature:
  -40°C to 125°C
- Output Voltage Accuracy:
  ±1.0%
- Adjustable version availability
  (V_{REF} = 1.25 V)
- Support MLCC
- Space-saving SOT-223，SOT-89-3L TO-220-3L, TO-252-2L, TO-263-2L packages

4 Applications

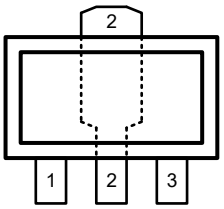
- PC Motherboard
- BOX，TV
- LCD Monitor
- Graphic Card
- DVD-Video Player
- NIC/Switch
- Telecom Modem
- ADSL Modem
- Printer and Other Peripheral Equipment



Typical Application Circuit

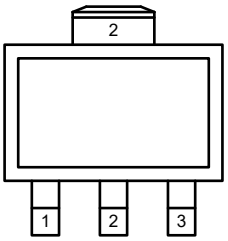
5 Pin Configuration and Marking Information

5.1 Pin Configuration



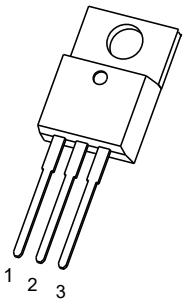
CJ1117B-P3W-x.x

SOT-89-3L



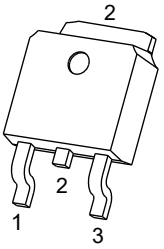
CJ1117B-G3W-x.x

SOT-223



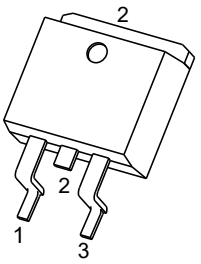
CJ1117B-TBW-x.x

TO-220-3L



CJ1117B-TFW-x.x

TO-252-2L



CJ1117B-TGW-x.x

TO-263-2L

(Not to Scale)

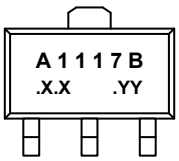
Figure 5-1. Package Top View

5.2 Pin Function

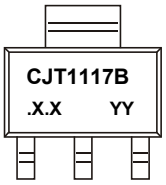
CJ1117B Series Pin Configuration			
PIN NAME	**PIN NO.**	**I/O**	**DESCRIPTION**
ADJ/GND	1	-	Adjust pin .Regulator ground.
VOUT	2	O	Output of the regulator.
VIN	3	I	Input to the device.

5 Pin Configuration and Marking Information

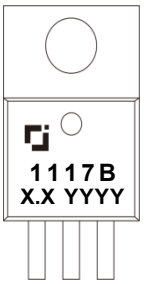
5.3 Marking Information



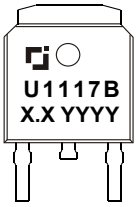
SOT-89-3L



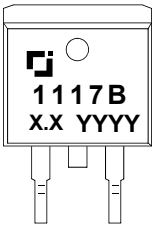
SOT-223



TO-220-3L



TO-252-2L



TO-263-2L

"**CJT1117B**","**A1117B**","**U1117B**","**1117B**": Device serial number.

"**X.X**": Output voltage, for example, if V_{OUT} = 3.3V, "**X.X**" =3.3.

"**YY**","**YYYY**": A code composed of one uppercase letter and one number, indicates weekly record information of production.

6 Specifications

6.1 Absolute Maximum Ratings

(T_A = 25°C, unless otherwise specified)(1)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	20	V
Maximum Junction Temperature	T_j	-40~+150	℃
Storage Temperature	T_{stg}	-40~+150	℃
Lead Temperature (Soldering, 10s)	T_L	260	℃

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

6.2 Recommended Operating Conditions

PARAMETER	SYMBOL	MIN.	NOM.	MAX.	UNIT
Input voltage	V_{IN}	1.25	-	18	V
Operating junction temperature	T_J	-40	-	125	°C

6.3 ESD Ratings

ESD RATINGS		SYMBOL	VALUE	UNIT
Electrostatic discharge(2)	Human body model	$V_{ESD-HBM}$	8000	V

(2)ESD testing is conducted in accordance with the relevant specifications formulated by the Joint Electronic Equipment Engineering Commission (JEDEC). The human body model (HBM) electrostatic discharge test is based on the JS-001-2017 test standard, using a 100pF capacitor and discharging to each pin of the device through a resistance of 1.5kΩ.

6 Specifications

6.4 Thermal Information

THERMAL METRIC(3)	SYMBOL	CJ1117B Series			UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	**SOT-223**	**SOT-89-3L**	**TO-252-2L**	°C/W
		100.0	160.0	80.0	
Junction-to-case thermal resistance	$R_{\Theta JC}$	**SOT-223**	**SOT-89-3L**	**TO-252-2L**	°C/W
		20.0	52.5	14.5	
Reference maximum power dissipation for continuous operation	$P_{D\ Ref}$	**SOT-223**	**SOT-89-3L**	**TO-252-2L**	W
		1.0	0.62	1.25	

(3)Thermal metric is measured in still air with T_A = 25°C and mounted on a 1 in^2 FR-4 substrate PCB covered with 2 ounces of copper.

6 Specifications

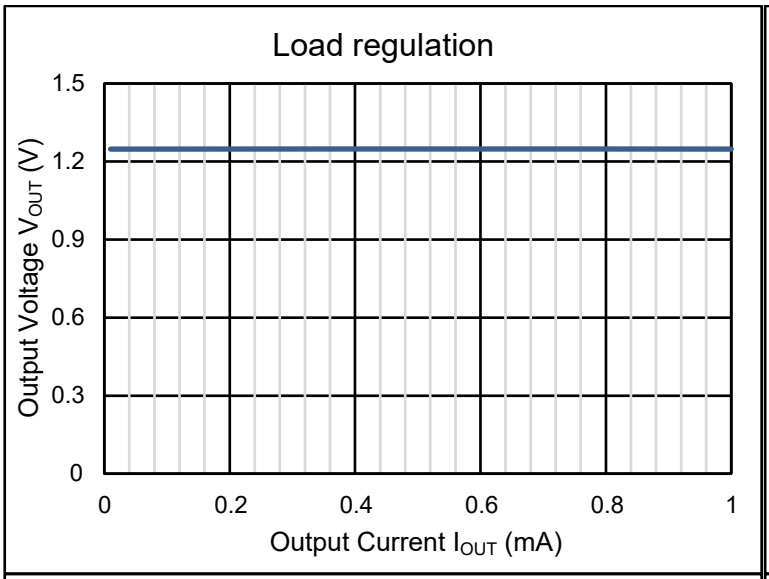
6.5 Electrical Characteristics

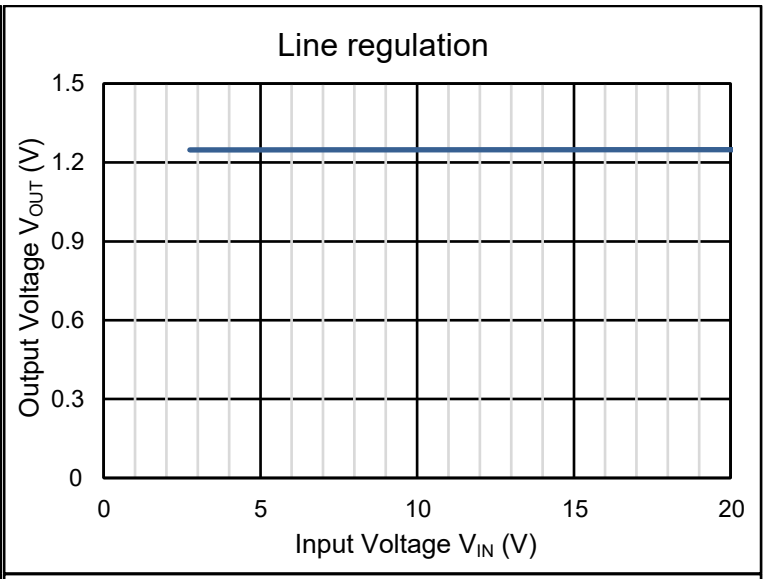
T_J = 25°C, unless otherwise specified

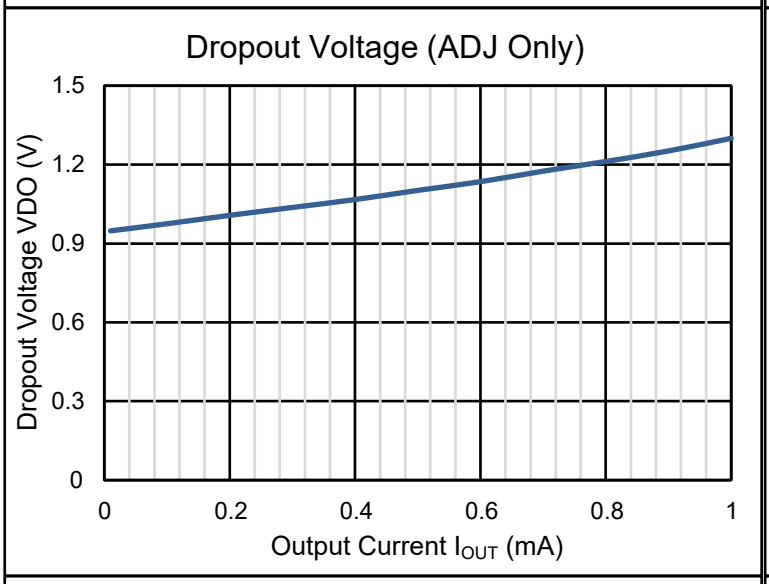
CHARACTERISTIC	SYMBOL	PART NO.	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Reference Voltage	V_{IROC}	Adjustable	I_{OUT}=10mA, V_{IN} =3.25V	1.238	1.250	1.262	V
			10mA≤I_{OUT}≤1A, 2.75V≤V_{IN} -V_{OUT} ≤12V	1.225	1.250	1.275	
Output Voltage	V_O	1.8V	I_{OUT}=10mA, V_{IN}=3.8V	1.782	1.8	1.818	V
			10mA≤I_{OUT}≤1A, 3.3V≤V_{IN} ≤12V	1.764	1.8	1.836	
		2.5V	I_{OUT}=10mA, V_{IN}=4.5V	2.475	2.5	2.525	
			10mA≤I_{OUT}≤1A, 4V≤V_{IN} ≤12V	2.450	2.5	2.550	
		3.3V	I_{OUT}=10mA, V_{IN}=5.3V	3.267	3.3	3.333	
			10mA≤I_{OUT}≤1A, 4.8V≤V_{IN} ≤12V	3.234	3.3	3.366	
		5.0V	I_{OUT}=10mA, V_{IN}=7.0V	4.950	5.0	5.050	
			10mA≤I_{OUT}≤1A, 6.5V≤V_{IN} ≤12V	4.900	5.0	5.100	
Line Regulation	LNR	Adjustable	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤10.75V		0.03	0.2	%
		1.8V	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤10.2V		1	6	mV
		2.5V	I_{OUT}=10mA, 1.5V≤V_{IN} -V_{OUT} ≤9.5V		1	6	
		3.3V	I_{OUT} =10mA, 1.5V≤V_{IN} -V_{OUT} ≤8.7V		1	6	
		5.0V	I_{OUT}=10mA, 1.5V ≤V_{IN} -V_{OUT} ≤7V		1	10	
Load Regulation	LDR	Adjustable	V_{IN}-V_{OUT}=1.5V, 10mA≤I_{OUT} ≤1A		0.08	0.4	%
		1.8V			3	7.2	mV
		2.5V			4	10	
		3.3V			6	13.2	
		5.0V			9	20	
Dropout Voltage	V_D		I_{OUT}=1A		1.3	1.5	V
Adjust Pin Current	I_{adj}	Adjustable	V_{IN}= 5V, I_{OUT}=10mA		65	120	μA
			V_{IN}= 5V, I_{OUT}=1A		65	120	μA
I_{Adj} change	ΔI_{adj}	Adjustable	V_{IN}= 5V 10mA≤I_{OUT}≤1A		2	10	μA
Current Limit	I_{LIMIT}		V_{IN}-V_{OUT}=5V	1000	1300		mA
Minimum Load Current	I_L	Adjustable			0.5	10	mA
Quiescent Current	I_q	1.8V	V_{IN}= 12V		0.9	1.2	mA
		2.5V	V_{IN}= 12V		0.9	1.2	mA
		3.3V	V_{IN}= 12V		0.9	1.2	mA
		5.0V	V_{IN}= 12V		0.9	1.2	mA
Ripple Rejection	RR		f=1kHz,C_{IN}=10μF/25V, C_{OUT}=10μF/25V , V_{IN}-V_{OUT}=2V, I_{OUT}=10mA		75		dB

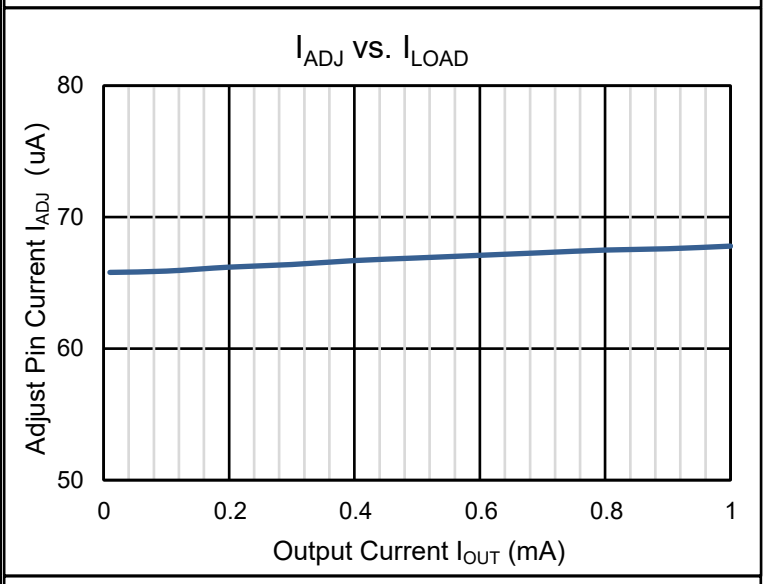
6 Specifications

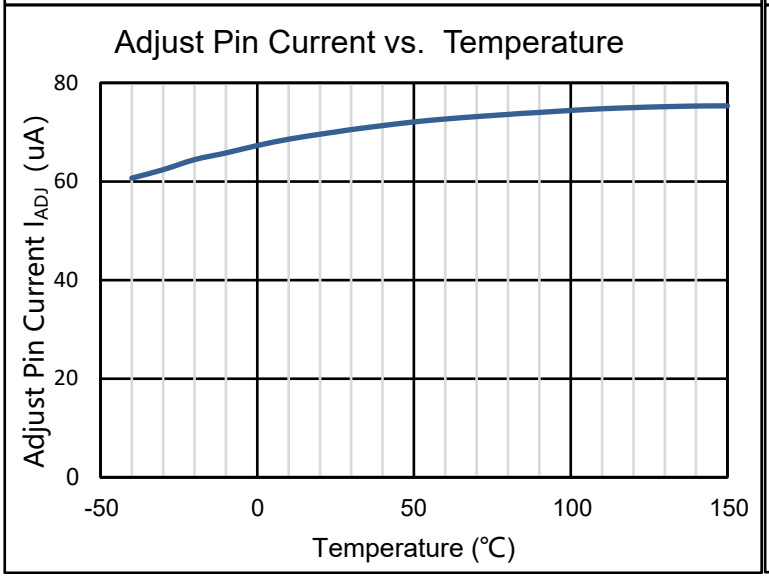
6.6 Typical Characteristics

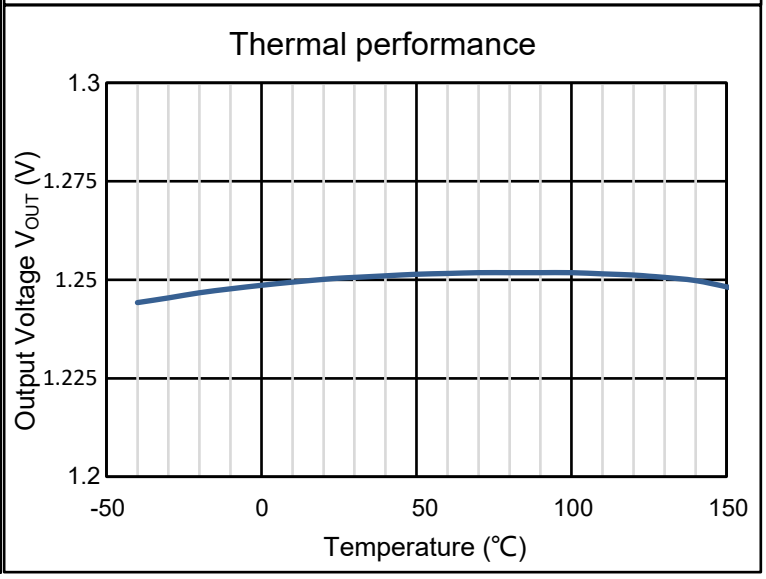








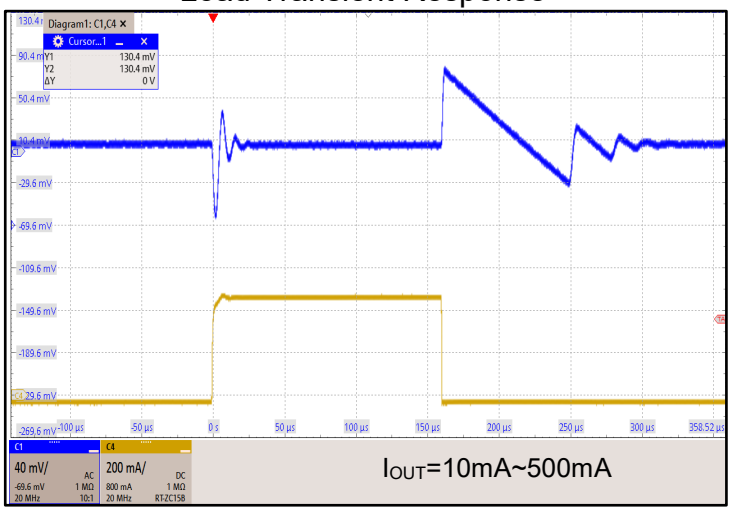




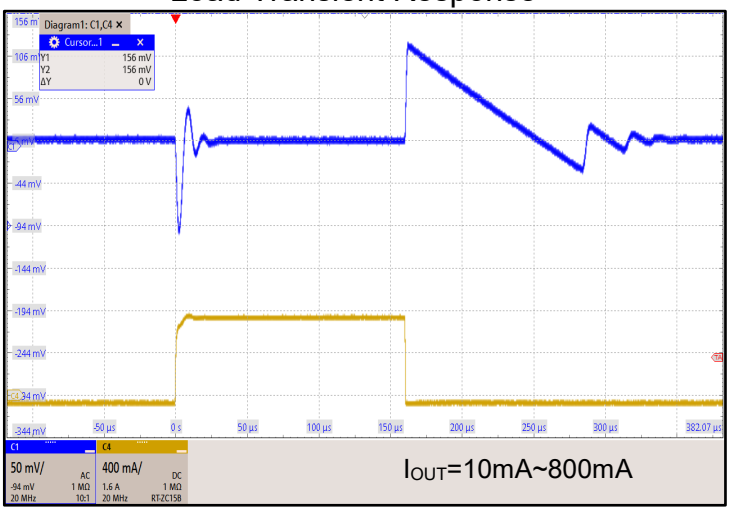
6 Specifications

6.6 Typical Characteristics (continued)

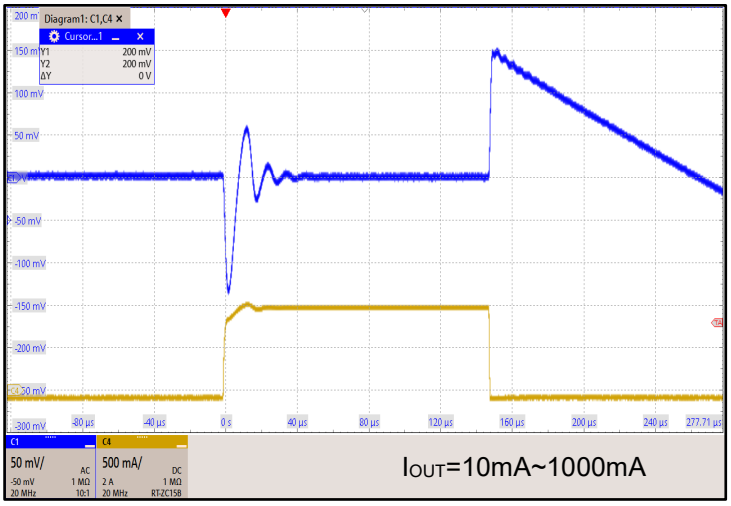
Load Transient Response



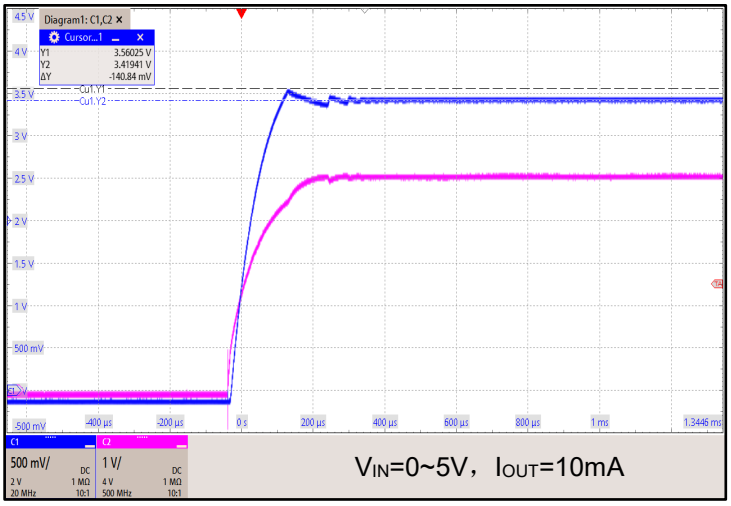
Load Transient Response



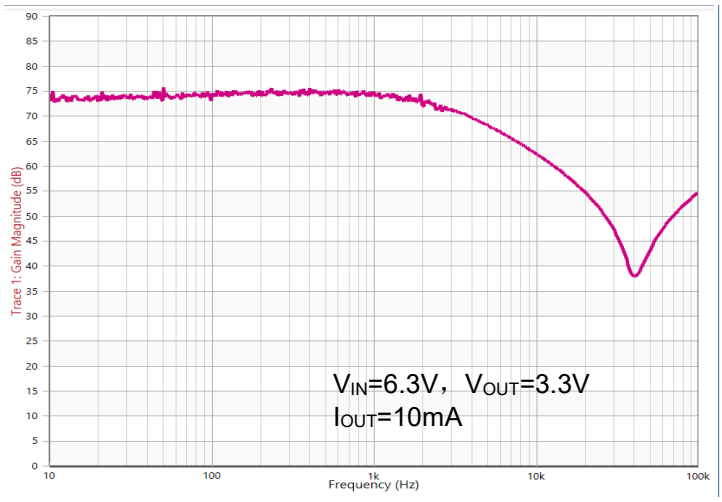
Load Transient Response



Power ON Response



PSRR



7 Detailed Description

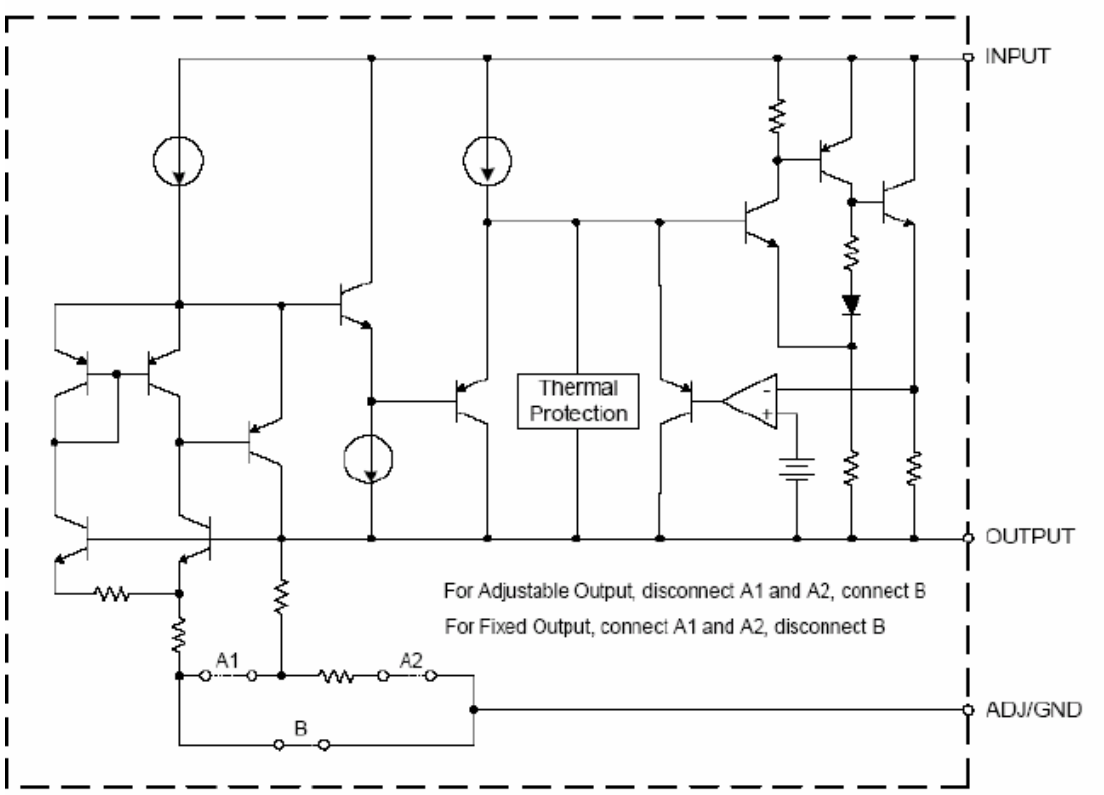
7.1 Description

CJ1117B Series is a series of low dropout voltage, three terminal regulators. Its application circuit is very simple: the fixed version only needs two capacitors and the adjustable version only needs two resistors and two capacitors to work. It is composed of some modules including start-up circuit, bias circuit, bandgap, thermal shutdown, power transistors and its driver circuit and so on.

The thermal shut down modules can assure chip and its application system working safety when the junction temperature is larger than 150°C.

The bandgap module provides stable reference voltage, whose temperature coefficient is compensated by careful design considerations. The temperature coefficient is under 100 ppm/°C. And the accuracy of output voltage is guaranteed by trimming technique.

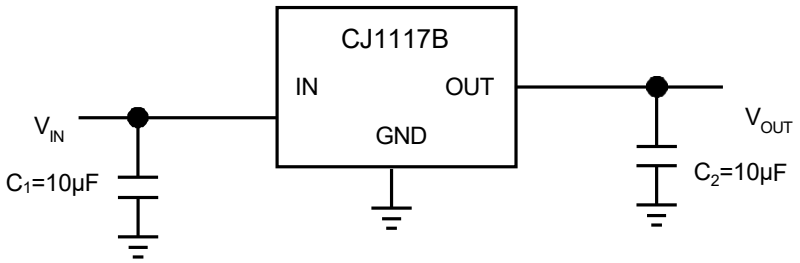
7.2 Function Block Diagram



8 Application and Implementation

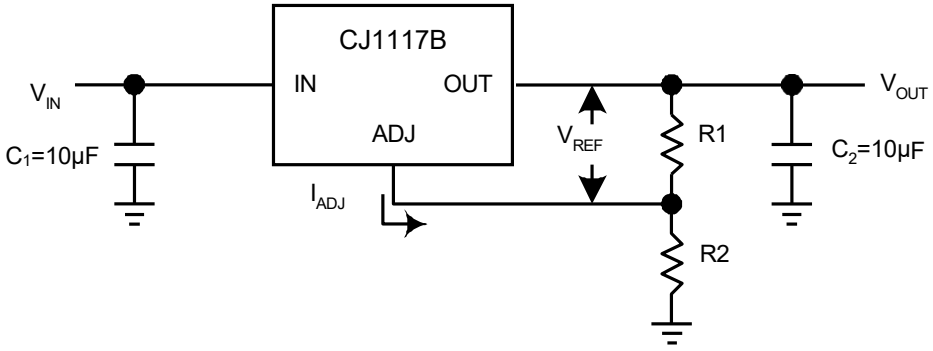
8.1 Typical Application Circuits

Fixed Output Voltage Version



1) Recommend using 10μF tan capacitor as bypass capacitor (C1) for all application circuit.
2) Recommend using 10μF tan capacitor to assure circuit stability.

Adjustable Output Voltage Version



$V_{OUT} = V_{REF} \times (1 + R2/R1) + I_{ADJ} \times R2$

The output voltage of adjustable version follows the equation: $V_{OUT}=1.25\times(1+R2/R1)+I_{ADJ}\times R2$. We can ignore I_{ADJ} because I_{ADJ} (about 50μA) is much less than the current of R1 (about 2~10mA).

1) To meet the minimum load current (>10mA) requirement, R1 is recommended to be 125ohm or lower. As CJ1117B-ADJ can keep itself stable at load current about 2mA, R1 is not allowed to be higher than 625ohm.

2) Using a bypass capacitor (C_{ADJ}) between the ADJ pin and ground can improve ripple rejection. This bypass capacitor prevents ripple from being amplified as the output voltage is increased. The impedance of C_{ADJ} should be less than R1 to prevent ripple from being amplified. As R1 is normally in the range of 100Ω~500Ω, the value of C_{ADJ} should satisfy this equation: $1/(2\pi\times fripple\times C_{ADJ})<R1$.

8 Application and Implementation

8.1 Typical Application Circuits

THERMAL CONSIDERATION

We have to take heat dissipation into great consideration when output current or differential voltage of input and output voltage is large. Because in such cases, the power dissipation consumed by CJ1117B series is very large. CJ1117B series uses SOT-223 package type and its thermal resistance is about 20°C/W. And the copper area of application board can affect the total thermal resistance. If copper area is 5cm*5cm (two sides), the resistance is about 30°C/W. So the total thermal resistance is about 20°C/W+30°C/W. We can decrease total thermal resistance by increasing copper area in application board. When there is no good heat dissipation copper are in PCB, the total thermal resistance will be as high as 120°C/W, then the power dissipation of CJ1117B series could allow on itself is less than 1W. And furthermore, CJ1117B series will work at junction temperature higher than 125°C under such condition and no lifetime is guaranteed.

NOTE

The application information in this section is not part of the data sheet component specification, and SZCJ makes no commitment or statement to guarantee its accuracy or completeness. Customers are responsible for determining the rationality of corresponding components in their circuit design and making tests and verifications to ensure the normal realization of their circuit design.

9 Notes and Revision History

9.1 Associated Product Family and Others

To view other products of the same type or IC products of other types, click the official website of SZCJ -- ***https:www.szcjsemi.com*** for more details.

9.2 Notes

Electrostatic Discharge Caution



This IC may be damaged by ESD. Relevant personnel shall comply with correct installation and use specifications to avoid ESD damage to the IC. If appropriate measures are not taken to prevent ESD damage, the hazards caused by ESD include but are not limited to degradation of integrated circuit performance or complete damage of integrated circuit. For some precision integrated circuits, a very small parameter change may cause the whole device to be inconsistent with its published specifications.

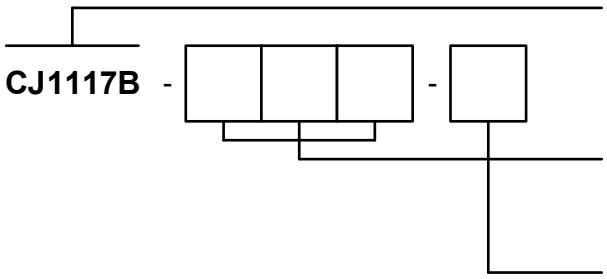
9.3 Revision History

January, 2025: released CJ1117B series rev - 1.0.

10 Orderable, Mechanical, and Packaging Information

The following pages include mechanical packaging and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser based versions of this data sheet, refer to the left hand navigation.

Orderable Information



Device serial number.

Package type.
P3W: SOT-89-3L
G3W: SOT-223
TBW: TO-220-3L
TFW: TO-252-2L
TGW: TO-263-2L

Output voltage.
1.8: Fixed output 1.8V
2.5: Fixed output 2.5V
3.3: Fixed output 3.3V
5.0: Fixed output 5.0V
ADJ: Adjustable output

Figure a. Naming Conventions

MODEL	DEVICE	PACKAGE	OP TEMP	ECO PLAN	MSL	PACKING OPTION	SORT
3 Pins Packaged Products							
CJ1117B-1.8	CJ1117B-P3W-1.8	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Active
CJ1117B-2.5	CJ1117B-P3W-2.5	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Active
CJ1117B-3.3	CJ1117B-P3W-3.3	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Active
CJ1117B-5.0	CJ1117B-P3W-5.0	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Active
CJ1117B-ADJ	CJ1117B-P3W-ADJ	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Active
CJ1117B-1.8	CJ1117B-G3W-1.8	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-2.5	CJ1117B-G3W-2.5	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-3.3	CJ1117B-G3W-3.3	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-5.0	CJ1117B-G3W-5.0	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-ADJ	CJ1117B-G3W-ADJ	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active

Orderable Information

MODEL	DEVICE	PACKAGE	OP TEMP	ECO PLAN	MSL	PACKING OPTION	SORT
3 Pins Packaged Products							
CJ1117B-1.8	CJ1117B-TFW-1.8	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-2.5	CJ1117B-TFW-2.5	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-3.3	CJ1117B-TFW-3.3	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-5.0	CJ1117B-TFW-5.0	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
CJ1117B-ADJ	CJ1117B-TFW-ADJ	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Active
Customized Products							
CJ1117B-x.x	CJ1117B-P3W-x.x	SOT-89-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 1000 Units / Reel	Customized
	CJ1117B-G3W-x.x	SOT-223	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Customized
	CJ1117B-TBW-x.x	TO-220-3L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tube 50 Units / Rail	Customized
	CJ1117B-TFW-x.x	TO-252-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 2500 Units / Reel	Customized
	CJ1117B-TGW-x.x	TO-263-2L	-40 ~ 125°C	RoHS & Green	Level 3 168 HR	Tape and Reel 800 Units / Reel	Customized
Others	-	-	-	-	-	-	Customized

Note:

ECO PLAN: For the RoHS and Green certification standards of this product, please refer to the official report provided by SZCJ

MSL: Moisture Sensitivity Level. Determined according to JEDEC industry standard classification.

SORT: Specifically defined as follows:

Active: Recommended for new products;

Customized: Products manufactured to meet the specific needs of customers;

Preview: The device has been released and has not been fully mass produced. The sample may or may not be available;

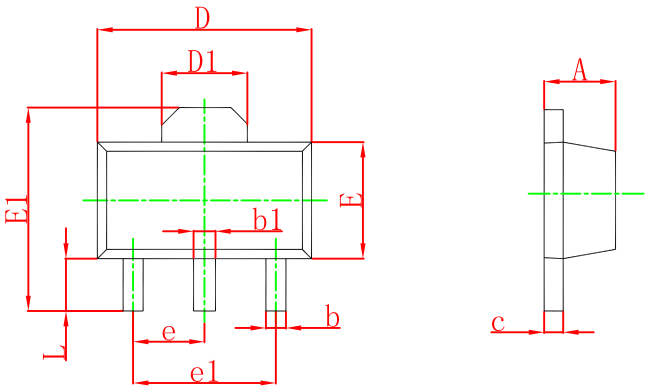
NoRD: It is not recommended to use the device for new design. The device is only produced for the needs of existing customers;

Obsolete: The device has been discontinued.

Mechanical Information

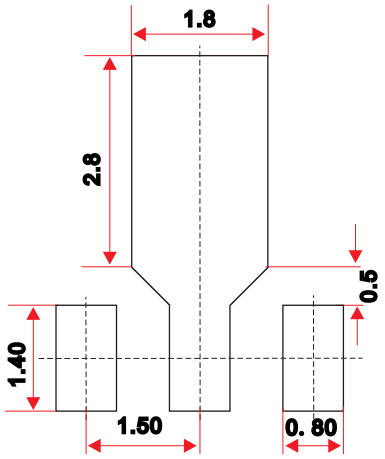
SOT-89-3L Mechanical Information

SOT-89-3L Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047

SOT-89-3L Suggested Pad Layout



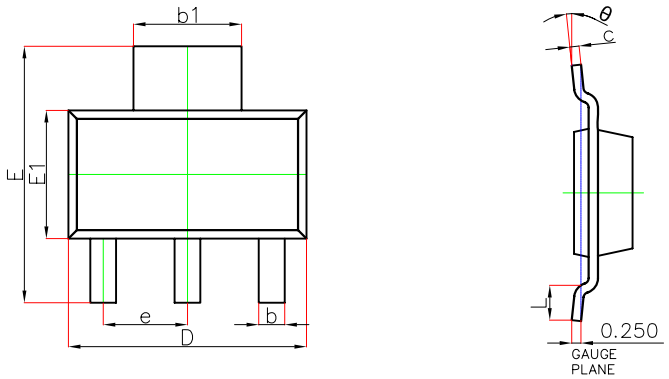
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

Mechanical Information

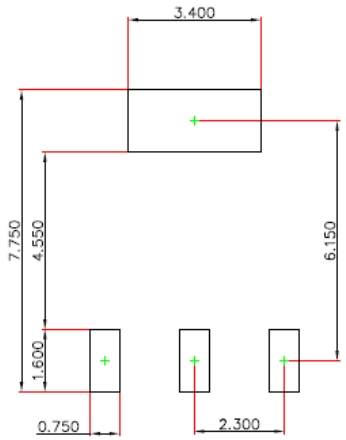
SOT-223 Mechanical Information

SOT-223 Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	——	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	——	0.030	——
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



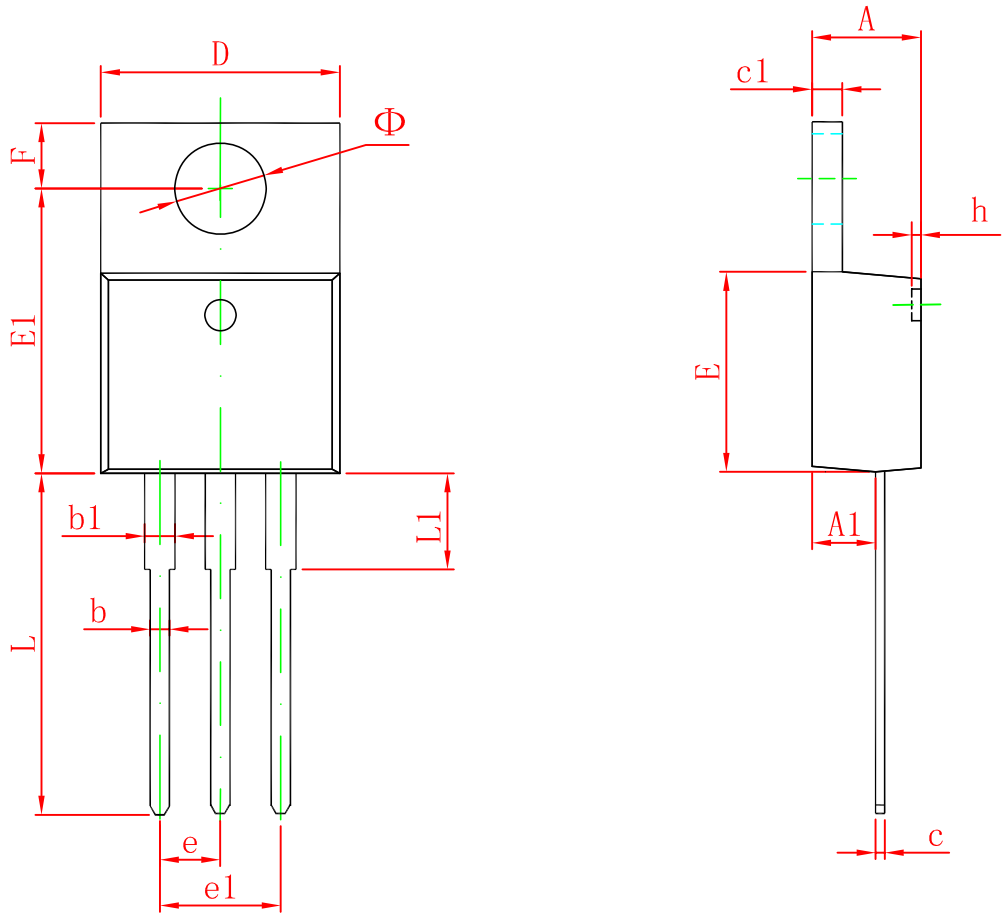
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

Mechanical Information

TO-220-3L Mechanical Information

TO-220-3L Outline Dimensions

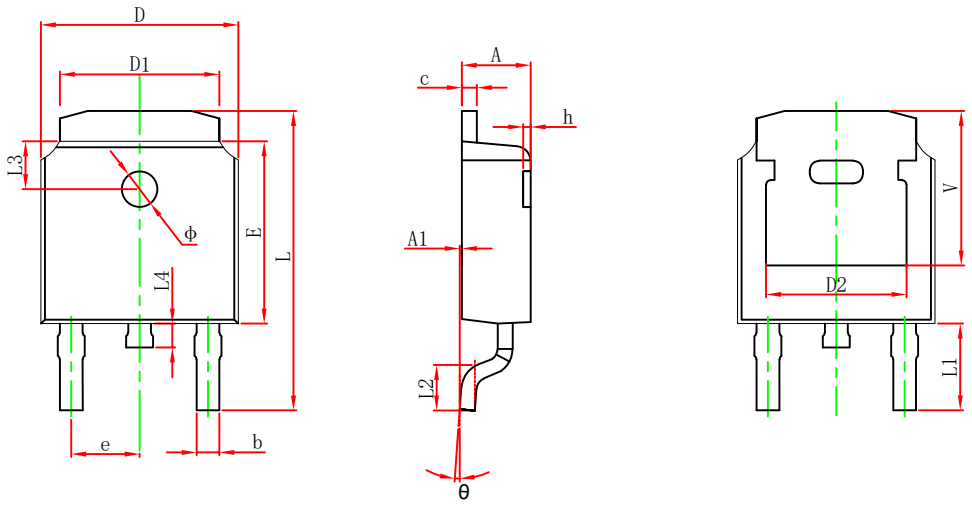


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155

Mechanical Information

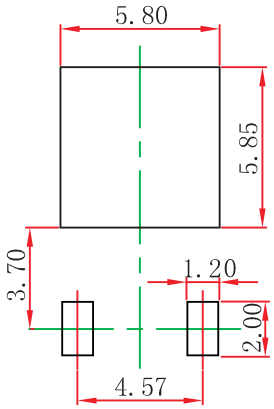
TO-252-2L Mechanical Information

TO-252-2L Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggest Pad Layout



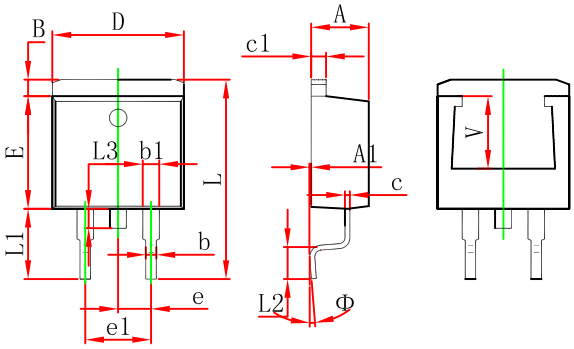
NOTE:

1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

Mechanical Information

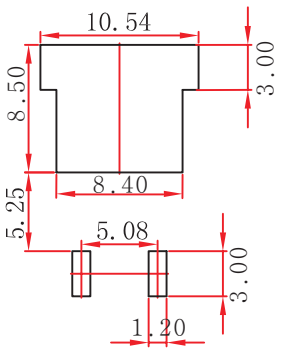
TO-263-2L Mechanical Information

TO-263-2L Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220REF.	

TO-263-2L Suggest Pad Layout



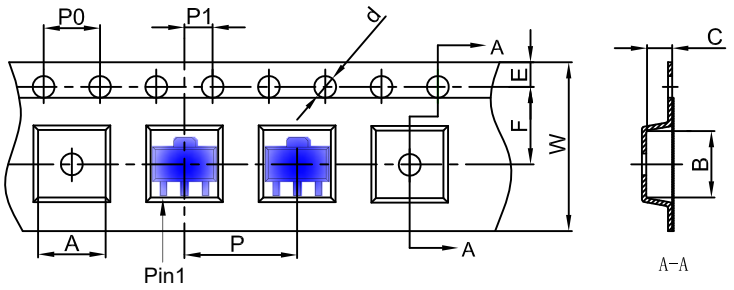
NOTE:

1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

Packaging Information

SOT-89-3L Tape and Reel Information

SOT-89-3L Embossed Carrier Tape

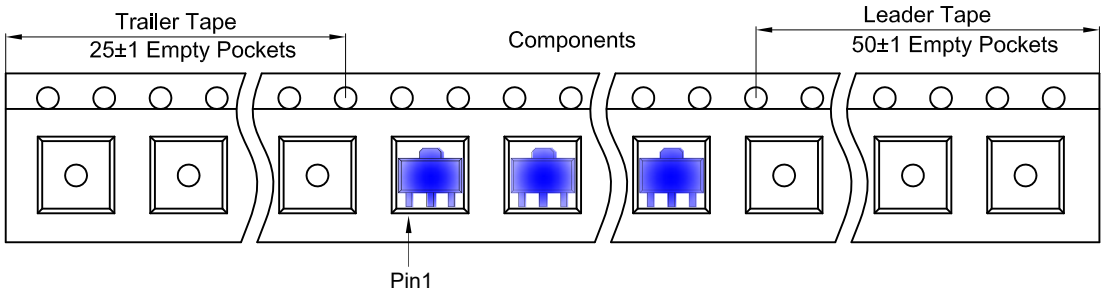


Packaging Description:

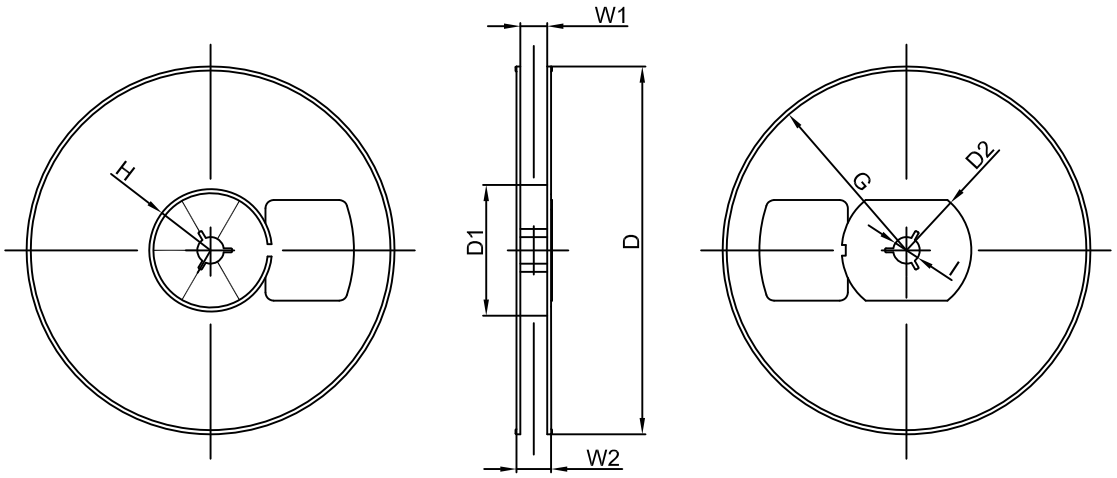
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 1,000 units per 7" or 18.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer



SOT-89-3L Reel



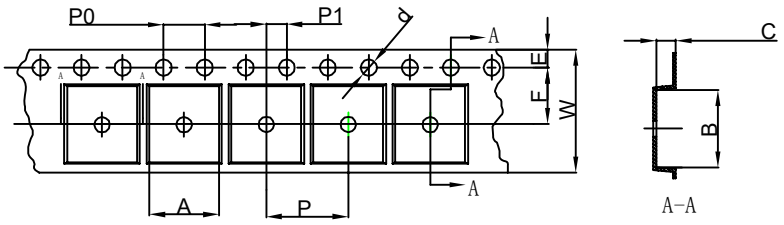
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	

Packaging Information

SOT-223 Tape and Reel Information

SOT-223 Embossed Carrier Tape

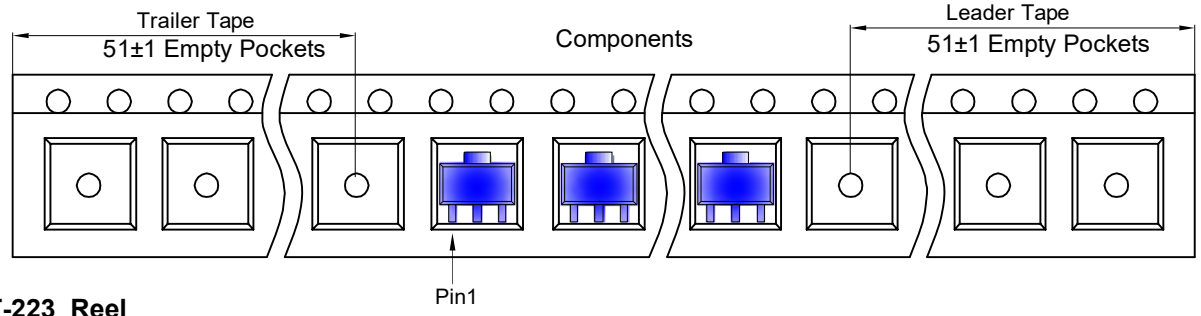


Packaging Description:

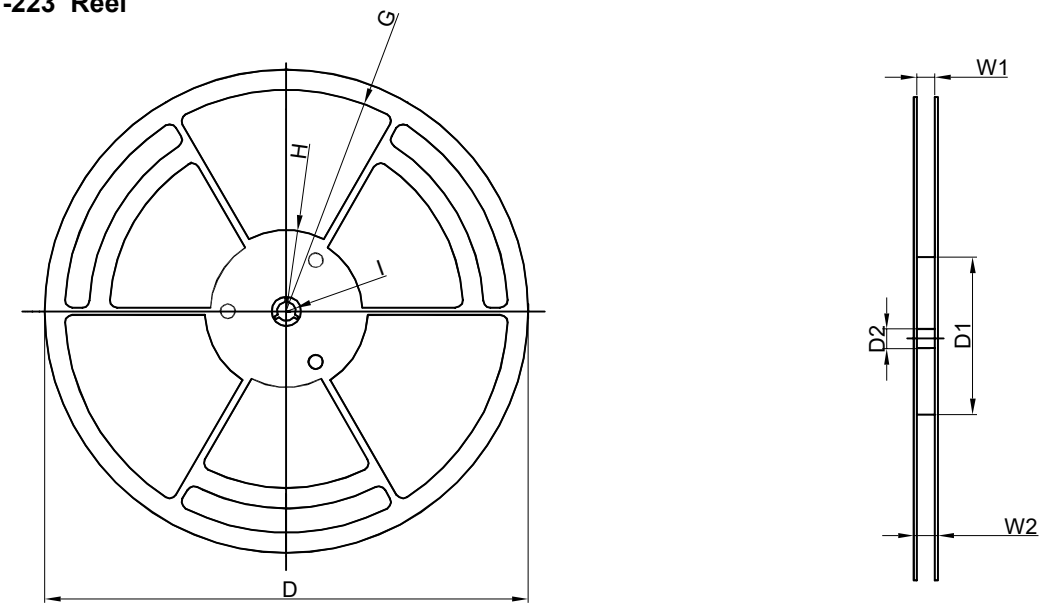
SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2,500 units per 13" or 33.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-223 Tape Leader and Trailer



SOT-223 Reel



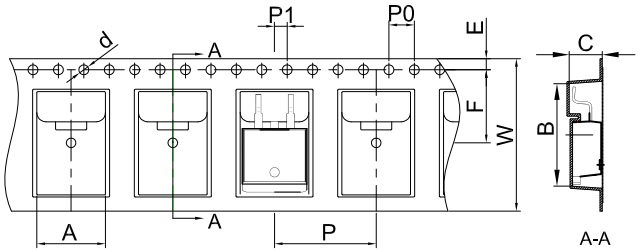
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13 inch	2,500 pcs	336×336×48	20,000 pcs	445×355×365	

Packaging Information

TO-263-2L Tape and Reel Information

TO-263-2L Embossed Carrier Tape

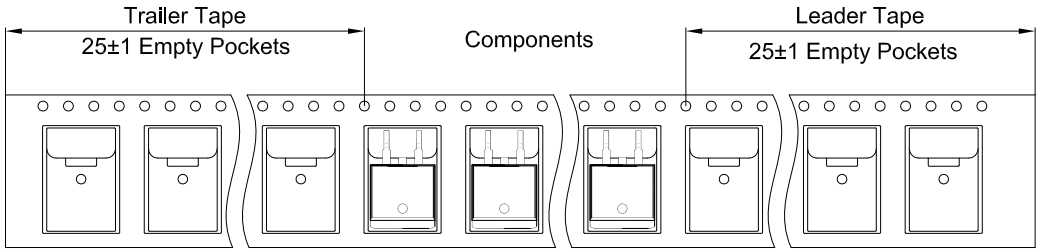


Packaging Description:

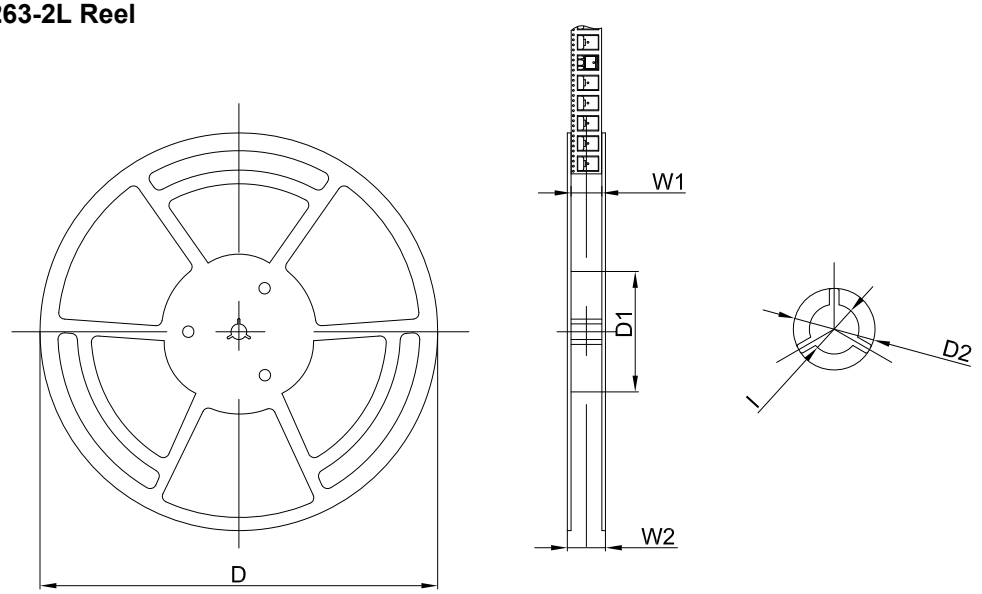
TO-263-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 800 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-263-2L	10.80	16.13	5.21	Ø1.55	1.75	11.50	4.00	16.00	2.00	24.00

TO-263-2L Tape Leader and Trailer



TO-263-2L Reel



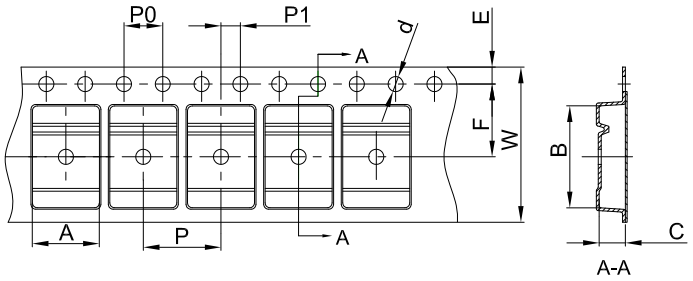
Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13"Dia	Ø330.00	100.00	Ø21.00	24.4	30.4	Ø13.00

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
800 pcs	13 inch	800 pcs	340×336×36	8,000 pcs	400×353×365	

Packaging Information

TO-252-2L Tape and Reel Information

TO-252-2L Embossed Carrier Tape

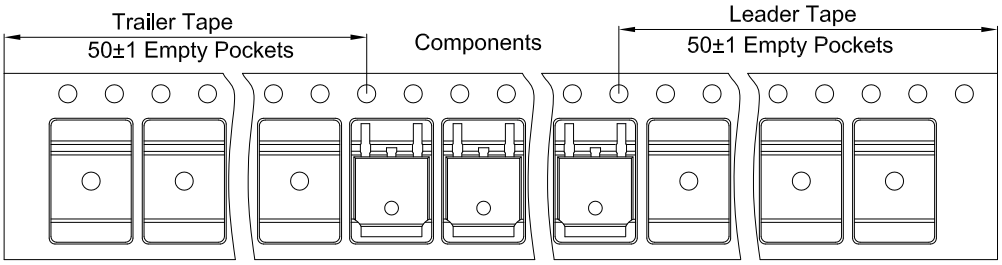


Packaging Description:

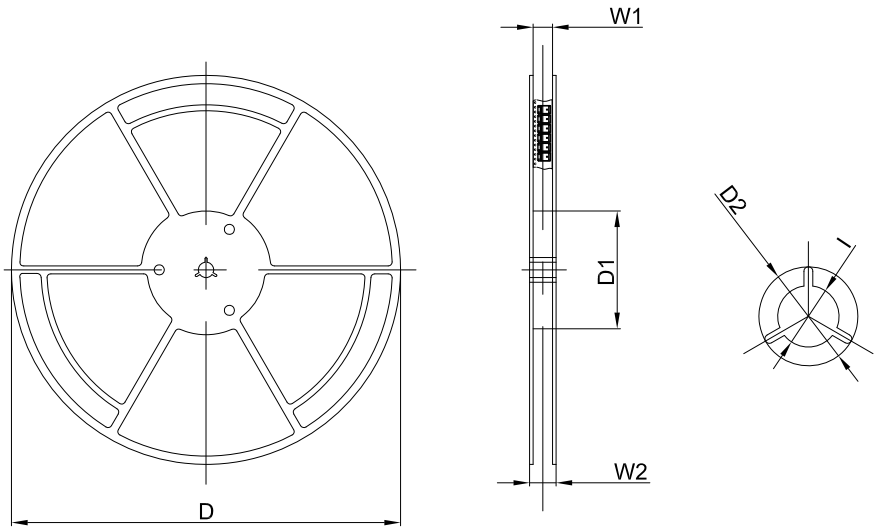
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00

TO-252-2L Tape Leader and Trailer



TO-252-2L Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13"Dia	330.00	100.00	Ø21.00	16.40	21.00	Ø13.00

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13inch	2,500 pcs	340×336×29	25,000 pcs	353×346×365	

DISCLAIMER

IMPORTANT NOTICE, PLEASE READ CAREFULLY

The information in this data sheet is intended to describe the operation and characteristics of our products. SZCJ has the right to make any modification, enhancement, improvement, correction or other changes to any content in this data sheet, including but not limited to specification parameters, circuit design and application information, without prior notice.

Any person who purchases or uses SZCJ products for design shall: 1. Select products suitable for circuit application and design; 2. Design, verify and test the rationality of circuit design; 3. Procedures to ensure that the design complies with relevant laws and regulations and the requirements of such laws and regulations. SZCJ makes no warranty or representation as to the accuracy or completeness of the information contained in this data sheet and assumes no responsibility for the application or use of any of the products described in this data sheet.

Without the written consent of SZCJ , this product shall not be used in occasions requiring high quality or high reliability, including but not limited to the following occasions: medical equipment, military facilities and aerospace. SZCJ shall not be responsible for casualties or property losses caused by abnormal use or application of this product.

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