

POWER MANAGEMENT

Description

The EZ5Z3 voltage converters are innovative two terminal devices that accept a regulated 5V input and reduce it to 3.3V over a range of 10mA to 1A. The EZ5Z3-ADJ is an adjustable three terminal version allowing output voltage trimming.

The EZ5Z3 is available in SOT-223 and TO-220 packages.

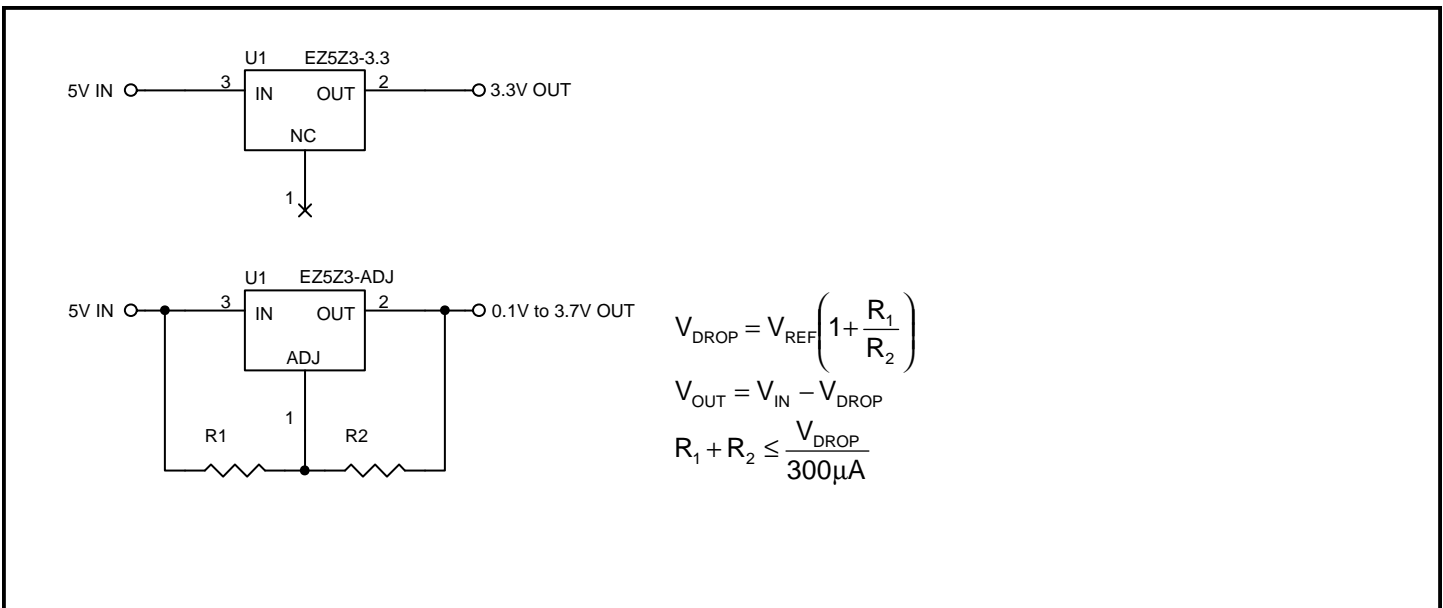
Features

- ◆ External components not required
- ◆ Heatsink not required
- ◆ 2 simple connections
- ◆ 1A output current
- ◆ Generates no EMI or spikes
- ◆ Drops 5V to 3.3V, ADJ
- ◆ Industrial temperature range
- ◆ SOT-223 and TO-220 packages

Applications

- ◆ Cellular Telephones
- ◆ Instrumentation
- ◆ Peripheral Cards
- ◆ Medical Equipment

Typical Application Circuits



POWER MANAGEMENT
Absolute Maximum Ratings

Parameter	Symbol	Maximum	Units
Power Dissipation	P_D	2	W
Continuous Current	I_C	1	A
Thermal Resistance Junction to Ambient SOT-223 TO-220	θ_{JA}	62 50	$^{\circ}\text{C/W}$
Thermal Resistance Junction to Case SOT-223 TO-220	θ_{JC}	4 4	$^{\circ}\text{C/W}$
Operating Ambient Temperature Range	T_A	-40 to 125	$^{\circ}\text{C}$
Operating Junction Temperature Range	T_J	-40 to 150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to 150	$^{\circ}\text{C}$
Lead Temperature (Soldering) 10 Sec.	T_{LEAD}	300	$^{\circ}\text{C}$
ESD Rating (Human Body Model)	V_{ESD}	2	kV

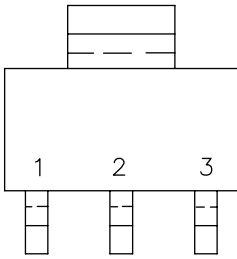
Electrical Characteristics

Unless specified: $T_A = 25^{\circ}\text{C}$. Values in **bold** apply over the full operating ambient temperature range.

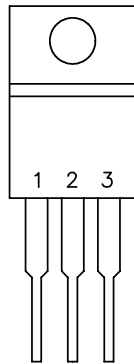
Parameter	Symbol	Conditions	Min	Typ	Max	Units
EZ5Z3-3.3	V_{OUT}	$V_{IN} = 5\text{V}, I_{OUT} = 500\text{mA}$	3.20	3.30	3.39	V
		$V_{IN} = 5\text{V}, 10\text{mA} \leq I_{OUT} \leq 1\text{A}$	3.13		3.46	
EZ5Z3-ADJ	V_{REF}	$V_{IN} = 5\text{V}, I_{OUT} = 500\text{mA}$	1.21	1.25	1.28	V
		$V_{IN} = 5\text{V}, 10\text{mA} \leq I_{OUT} \leq 1\text{A}$	1.18		1.31	
Load Regulation	$REG_{(LOAD)}$	$V_{IN} = 5\text{V}, I_{OUT} = 10\text{mA to } 1\text{A}$		0.5	1.0	$\%V_{OUT}$
Temperature Coefficient	T_C	$V_{IN} = 5\text{V}, I_{OUT} = 500\text{mA}$		0.005	0.01	$\%V_{OUT}/^{\circ}\text{C}$

POWER MANAGEMENT

Pin Configurations



SOT-223



TO-220

Pin	Function (-3.3)	Function (-ADJ)
1	NC	ADJ
2	OUT	OUT
3	IN	IN
TAB is OUT		

Ordering Information

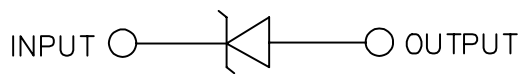
Device	V _{IN}	Package	V _{OUT} Volts
EZ5Z3-S3.3.TR EZ5Z3-SADJ.TR	5	SOT-223 ⁽¹⁾	3.3 ADJ
EZ5Z3-T3.3 EZ5Z3-TADJ	5	TO-220 ⁽²⁾	3.3 ADJ

Notes:

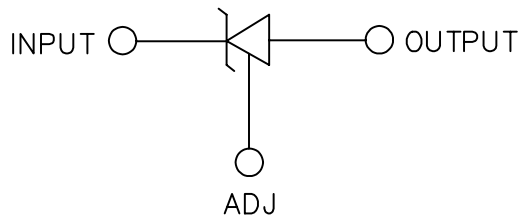
(1) Only available in tape and reel packaging. A reel contains 2500 devices.

(2) Only available in tube packaging. A tube contains 50 devices.

Symbol



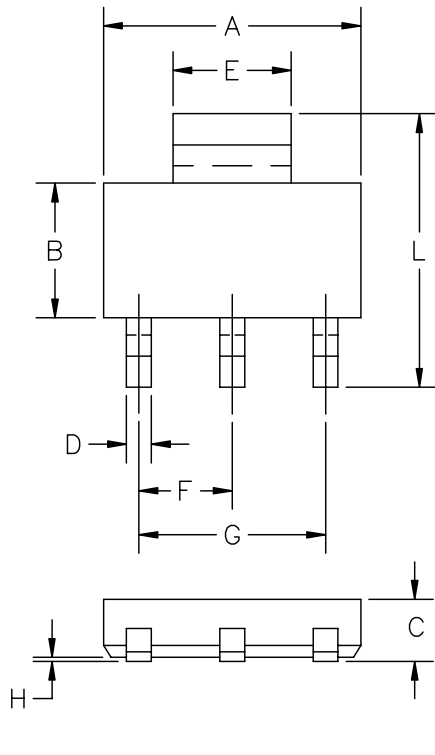
EZ5Z3-3.3



EZ5Z3-ADJ

POWER MANAGEMENT

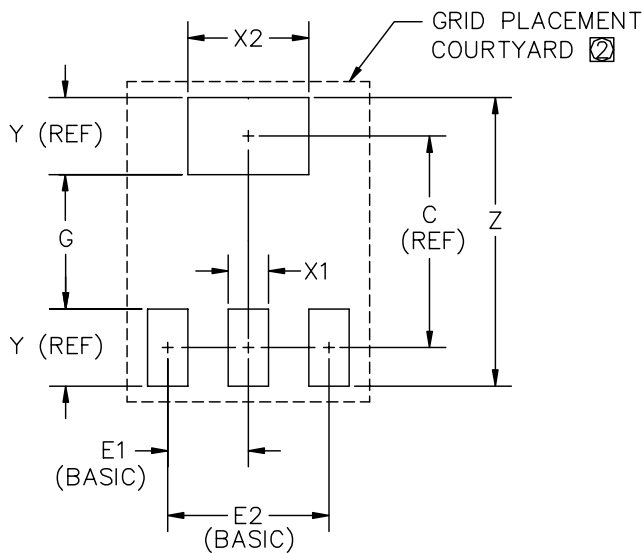
Outline Drawing - SOT-223



DIM ^N	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.248	.264	6.30	6.70	-
B	.13	.146	3.30	3.70	-
C	.060	.071	1.52	1.80	-
D	.024	.031	.60	.80	-
E	.114	.122	2.90	3.10	-
F	-	.090	-	2.30	BSC
G	-	.181	-	4.60	BSC
H	.001	.004	.020	.100	-
J	.164	.215	4.16	5.46	-
K	.036	.05	.91	1.27	-
L	.264	.287	6.70	7.30	-
M	.009	.013	.24	.32	-

CONTROLLING DIMENSIONS: MILLIMETERS.

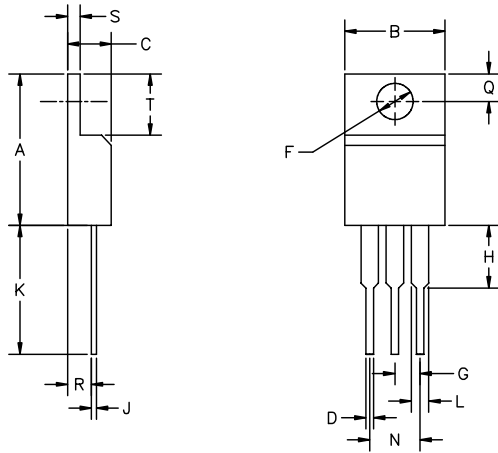
Land Pattern - SOT-223



DIM ^N	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
C	-	.24	-	6.20	-
E1	-	.09	-	2.30	-
E2	-	.18	-	4.60	-
G	.15	.16	4.00	4.20	-
X1	.03	.04	1.00	1.20	-
X2	.13	.14	3.40	3.60	-
Y	-	.09	-	2.20	-
Z	.32	.33	8.20	8.40	-

② GRID PLACEMENT COURTYARD IS 18 x 14 ELEMENTS (9 mm X 7mm) IN ACCORDANCE WITH THE INTERNATIONAL GRID DETAILED IN IEC PUBLICATION 97.

① CONTROLLING DIMENSION: MILLIMETERS

POWER MANAGEMENT
Outline Drawing - TO-220


DIM ^N	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.560	.650	14.23	16.51	
B	.380	.420	9.66	10.66	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.54	4.08	
G	.090	.110	2.29	2.79	
H	—	.250	—	6.35	
J	.012	.045	.31	1.14	
K	.500	.580	12.70	14.73	
L	.045	.070	1.15	1.77	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.42	
R	.080	.115	2.04	2.92	
S	.020	.055	.51	1.39	
T	.230	.270	5.85	6.85	

JEDEC TO-220

Contact Information

Semtech Corporation
 Power Management Products Division
 652 Mitchell Rd., Newbury Park, CA 91320
 Phone: (805)498-2111 FAX (805)498-3804