

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.

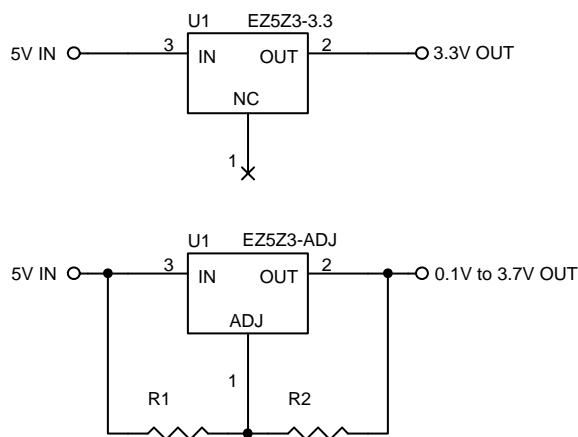
Features

- ◆ 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



$$V_{\text{DROP}} = V_{\text{REF}} \left(1 + \frac{R_1}{R_2} \right)$$

$$V_{\text{OUT}} = V_{\text{IN}} - V_{\text{DROP}}$$

$$R_1 + R_2 \leq \frac{V_{\text{DROP}}}{300\mu\text{A}}$$

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	°C/W
Thermal Resistance Junction to Case SOT-223 TO-220	θ _{JC}	4 4	°C/W
Operating Ambient Temperature Range	T _A	-40 to 125	°C
Operating Junction Temperature Range	T _J	-40 to 150	°C
Storage Temperature Range	T _{STG}	-65 to 150	°C
Lead Temperature (Soldering) 10 Sec.	T _{LEAD}	300	°C
ESD Rating (Human Body Model)	V _{ESD}	2	kV

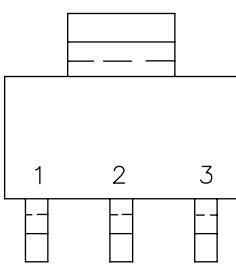
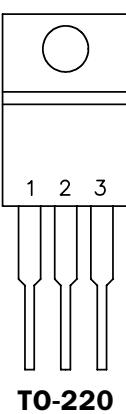
Electrical Characteristics

Unless specified: T_A = 25°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} = 5V, I _{OUT} = 500mA	3.20	3.30	3.39	V
		V _{IN} = 5V, 10mA ≤ I _{OUT} ≤ 1A	3.13		3.46	
EZ5Z3-ADJ	V _{REF}	V _{IN} = 5V, I _{OUT} = 500mA	1.21	1.25	1.28	V
		V _{IN} = 5V, 10mA ≤ I _{OUT} ≤ 1A	1.18		1.31	
Load Regulation	REG _(LOAD)	V _{IN} = 5V, I _{OUT} = 10mA to 1A		0.5	1.0	%V _{OUT}
Temperature Coefficient	T _c	V _{IN} = 5V, I _{OUT} = 500mA		0.005	0.01	%V _{OUT} /°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

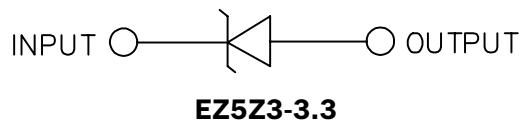
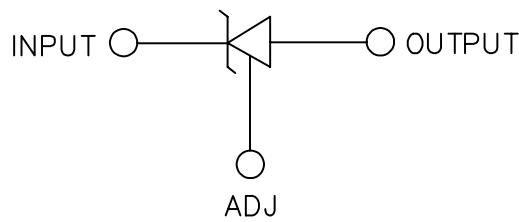
Device	V _{IN}	Package	V _{OUT} Volts
EZ5Z3-S3.3.TR EZ5Z3-SADJ.TR	5	SOT-223 ⁽¹⁾	3.3 ADJ
EZ5Z3-T3.3 EZ5Z3-TADJ	5	TO-220 ⁽²⁾	3.3 ADJ

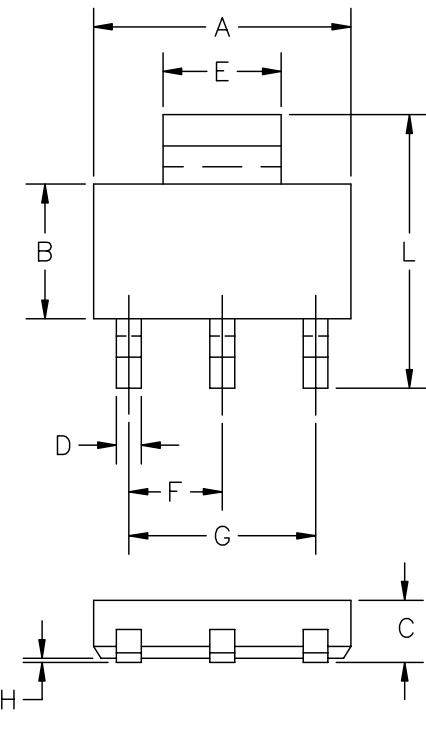
Notes:

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

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

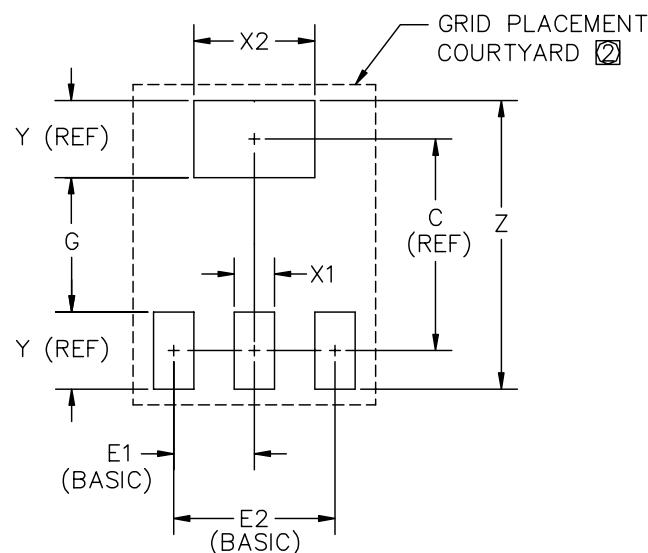
Symbol


EZ5Z3-3.3

EZ5Z3-ADJ

POWER MANAGEMENT
Outline Drawing - SOT-223


DIM ^N	DIMENSIONS		NOTE	
	INCHES	MM		
	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
G	—	.181	—	4.60
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

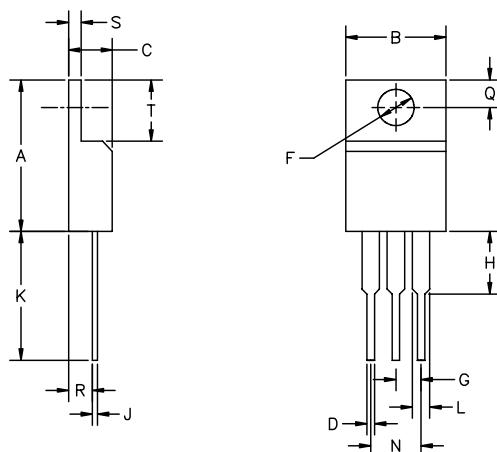
CONTROLLING DIMENSIONS: MILLIMETERS.

Land Pattern - SOT-223


DIM ^N	DIMENSIONS		NOTE	
	INCHES	MM		
	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				
	INCHES		MM		NOTE
	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

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