

POWER MANAGEMENT

Absolute Maximum Ratings

Exceeding the specifications below may result in permanent damage to the device, or device malfunction. Operation outside of the parameters specified in the Electrical Characteristics section is not implied.

Parameter	Symbol	Maximum	Units
Input Supply Voltage	V_{IN}	7	V
Power Dissipation	P_D	Internally Limited	W
Thermal Resistance Junction to Case TO-220 TO-263	θ_{JC}	3 3	°C/W
Thermal Resistance Junction to Ambient TO-220 TO-263	θ_{JA}	50 60	°C/W
Operating Ambient Temperature Range EZ1587C EZ1587I	T_A	0 to 70 -40 to 85	°C
Operating Junction Temperature Range EZ1587C EZ1587I	T_J	0 to 125 -40 to 125	°C
Storage Temperature Range	T_{STG}	-65 to 150	°C
Lead Temperature (Soldering) 10 Sec.	T_{LEAD}	300	°C
ESD Rating (Human Body Model)	ESD	2	kV

Electrical Characteristics

Unless otherwise specified: Adj. V_{IN} = 2.75V to 7.0V and Adj. I_O = 10mA to 3A; Fixed V_{IN} = 4.75 to 7.0V and Fixed I_O = 0 mA to 3A.

Values in **bold** apply over full operating ambient temperature range.

Parameter	Symbol	V_{IN}	I_O	Min	Typ	Max	Units
Output Voltage ⁽¹⁾ EZ1587C-X.X	V_O	5V	0mA	0.985 V_O	V_O	1.015 V_O	V
				0.98 V_O		1.02 V_O	
Reference Voltage ⁽¹⁾ EZ1587C, EZ1587I	V_{REF}	5V	10mA	1.231	1.250	1.269	V
				1.225		1.275	
Line Regulation ⁽¹⁾	$REG_{(LINE)}$		10mA		0.015	0.2	%
Load Regulation ⁽¹⁾	$REG_{(LOAD)}$	5V			0.05	0.4	%
Dropout Voltage ⁽¹⁾⁽²⁾ EZ1587C, EZ1587C-X.X	V_D		3.0A		1.20	1.35	V
EZ1587I					1.20	1.40	
Current Limit	I_{CL}			3.1	4.5		A

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Electrical Characteristics (Cont)

Unless otherwise specified: Adj. V_{IN} = 2.75V to 7.0V and Adj. I_O = 10mA to 3A; Fixed V_{IN} = 4.75 to 7.0V and Fixed I_O = 0 mA to 3A.
Values in **bold** apply over full operating ambient temperature range.

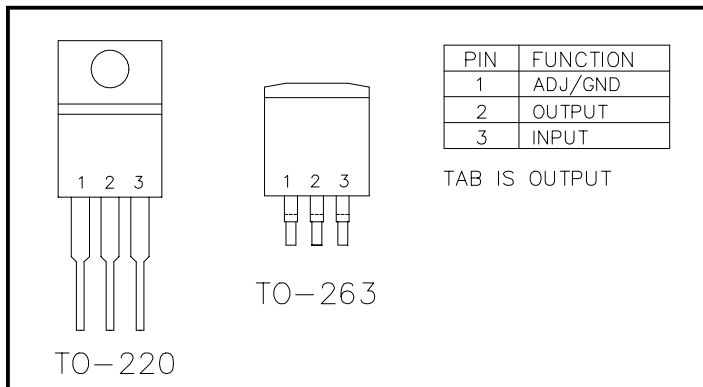
Parameter	Symbol	V_{IN}	I_O	Min	Typ	Max	Units
Quiescent Current Fixed Voltage Version	I_Q	5V			10	13	mA
Temperature Coefficient	T_C				0.005		%/°C
Adjust Pin Current	I_{ADJ}				55	90	μA
Adjust Pin Current Change	ΔI_{ADJ}				0.2	5	μA
Temperature Stability	T_S	5V	0.5A		0.5		%
Minimum Load Current Adj Voltage Versions	I_O	5V			5	10	mA
RMS Output Noise ⁽³⁾	V_N				0.003		% V_O
Ripple Rejection Ratio ⁽⁴⁾	R_A	5V	3A	60	72		dB

NOTES:

- (1) Low duty cycle pulse testing with Kelvin connections required.
- (2) ΔV_{OUT} , ΔV_{REF} = 1%
- (3) Bandwidth of 10 Hz to 10 kHz.
- (4) 120 Hz input ripple (C_{ADJ} for ADJ = 25μF).

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Pin Configurations



Ordering Information

Device ⁽¹⁾⁽²⁾	Package
EZ1587CM-X.X.TR EZ1587IM.TR EZ1587CM-X.X.TRT ⁽⁵⁾ EZ1587IM.TRT ⁽⁵⁾	TO-263 ⁽³⁾
EZ1587CT-X.X EZ1587IT EZ1587CT-X.XT ⁽⁵⁾ EZ1587ITT ⁽⁵⁾	TO-220 ⁽⁴⁾

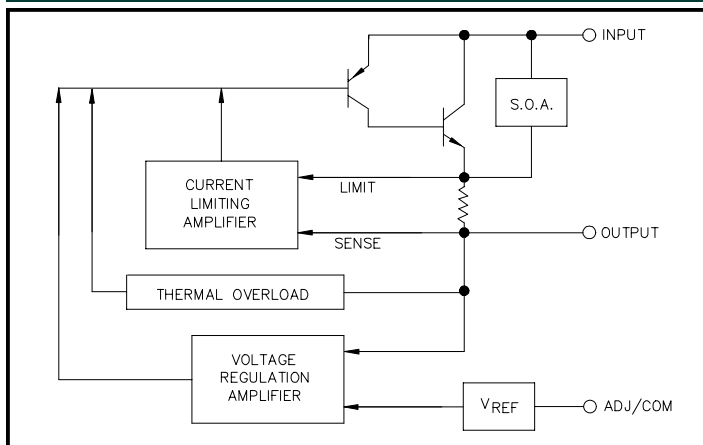
Notes:

- (1) Where X.X denotes voltage options (EZ1587C only). Available voltages are: 1.5V, 1.8V, 2.5V, and 3.3V. Leave blank for adjustable version (1.3 to 5.7V). Contact factory for additional voltage options.
- (2) Where C and I denote Commercial (0°C to 70°C) and Industrial (-40°C to 85°C) ambient temperature ranges.
- (3) Only available in tape and reel packaging. A reel contains 800 devices.
- (4) Only available in tube packaging. A tube contains 50 devices.
- (5) This product is RoHS compliant.

Pin Descriptions

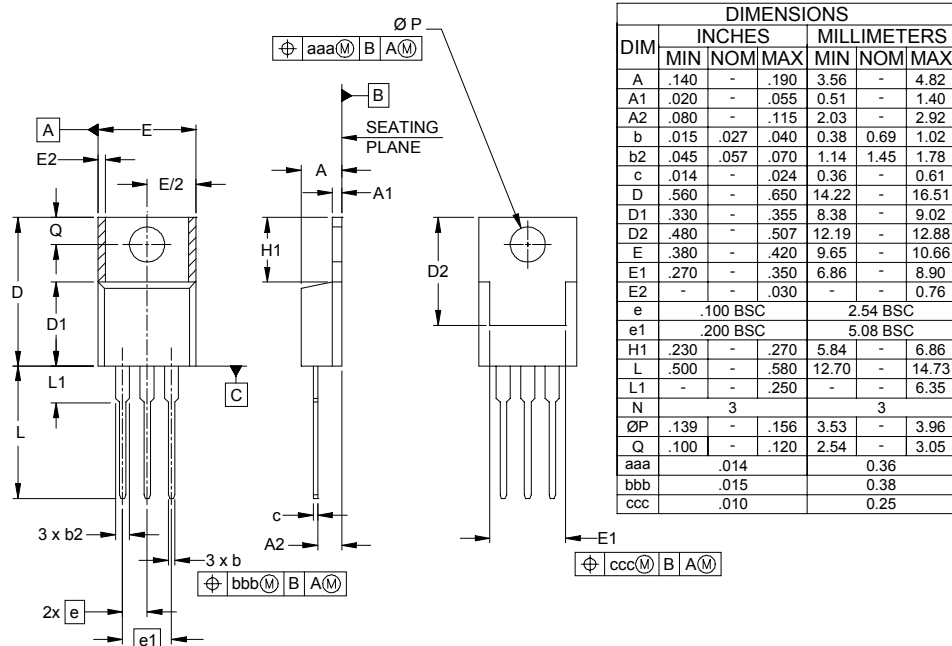
Pin	Pin Name	Pin Function
1	ADJUST	This pin is the negative side of the reference voltage for adjustable devices. Transient response can be improved by adding a small bypass capacitor from the adjust pin to ground.
	GROUND	This pin is the bottom end of the internal resistor feedback chain for fixed output voltage parts, and should be connected to ground.
2	OUTPUT	This is the power output of the device and is electrically connected to the TAB.
3	INPUT	This is the input supply pin for both the control circuitry and the pass device.

Block Diagram



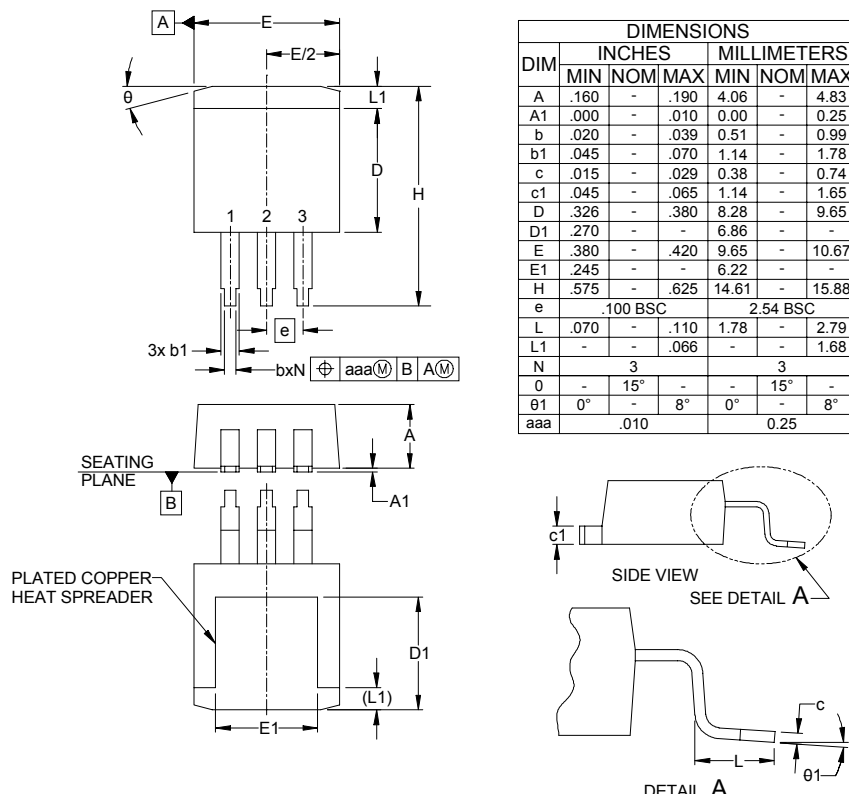
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Outline Drawing - TO-220

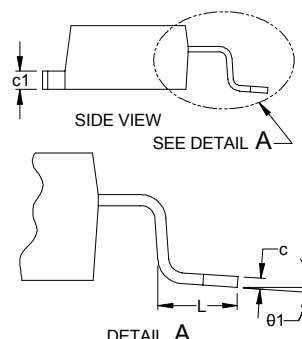


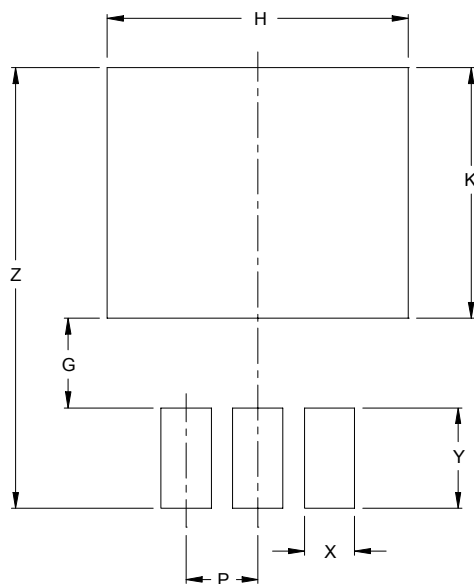
- NOTES:
1. CONTROLLING DIMENSIONS ARE IN INCHES.
 2. DIMENSIONS "D" AND "E" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

Outline Drawing - TO-263



- NOTES:
1. CONTROLLING DIMENSIONS ARE IN INCHES (ANGLES IN DEGREES).
 2. DIMENSIONS "D" AND "E" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



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Land Pattern - T0-263


DIMENSIONS		
DIM	INCHES	MILLIMETERS
G	.125	3.17
H	.420	10.67
K	.350	8.89
P	.100	2.54
X	.070	1.78
Y	.140	3.56
Z	.615	15.62

NOTES:

1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

Contact Information

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