TEL: 805-498-2111 FAX: 805-498-3804

FEATURES

- Low dropout performance, 1.2V max.
- Full current rating over line and temperature
- Fast transient response
- ±2% Total output regulation over line, load and temperature
- Adjust pin current max 90µA over temperature
- Fixed/adjustable output voltage
- Line regulation 0.2% max.
- Load regulation 0.4% max.
- SOT-223 and TO-263 packages

DESCRIPTION

The EZ1117 Series are high performance positive voltage regulators designed for use in applications requiring low dropout performance at full rated current. Additionally, the EZ1117 Series provides excellent regulation over variations due to changes in line, load and temperature. Outstanding features include low dropout performance at rated current, fast transient response, internal current limiting and thermal shutdown protection of the output device. The EZ1117 Series are three terminal regulators with fixed and adjustable voltage options available in both the space saving SOT-223 and TO-263 packages.

APPLICATIONS

- Active SCSI termination
- Low voltage microcontrollers
- Switching power supply post-regulator

DEVICE SELECTION GUIDE

EZ1117XCX-X.X

Output Voltage:
- blank = adjustable
- 2.85 = 2.85V
- 3.3 = 3.3V
- 5.0 = 5.0V

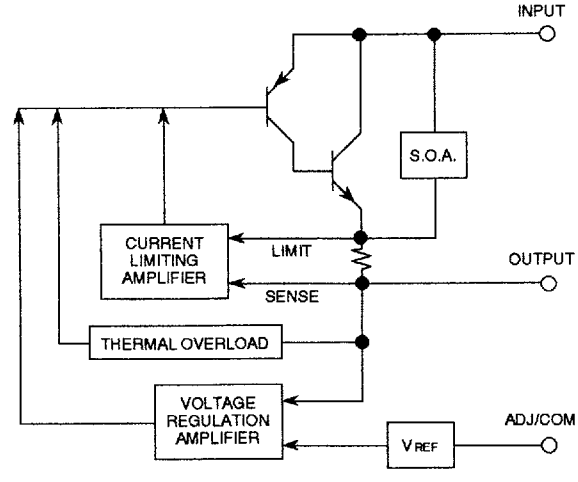
Package:
- M = TO-263
- ST = SOT-223

Current:
- blank = 0.8A
- A = 1.0A

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Maximum	Units
Input Voltage	V_{IN}	7	V
Power Dissipation	P_D	Internally Limited	W
Thermal Resistance Junction to Case SOT-223 TO-263	θ_{JC}	 15 3	°C/W
Thermal Resistance Junction to Ambient SOT-223 TO-263	θ_{JA}	 156 60	°C/W
Operating Junction Temperature Range	T_J	0 to 125	°C
Storage Temperature Range	T_{STG}	-65 to 150	°C
Lead Temperature (Soldering) 10 Sec.	T_{LEAD}	260	°C

BLOCK DIAGRAM



TEL: 805-498-2111 FAX: 805-498-3804

ELECTRICAL CHARACTERISTICS (5)

Unless otherwise specified, Adj V_{IN} = 2.65V to 7.0V and Adj I_O = 10mA to I_{RATED};
Fixed 2.85V Option V_{IN} = 4.25V to 7.0V and Fixed I_O = 0mA to I_{RATED}
Fixed 3.3V Option V_{IN} = 4.75V to 7.0V and Fixed I_O = 0mA to I_{RATED}

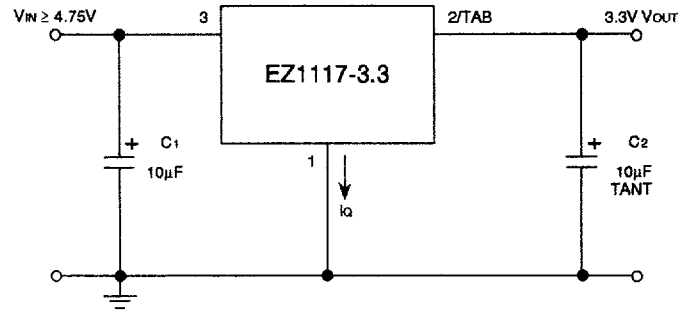
		Test Conditions			Test Limits			
PARAMETER	**SYMBOL**	V_{IN}	I_O	T_J(4)	**MIN**	**TYP**	**MAX**	**UNITS**
Output Voltage(1) 2.85V	V_O	5V	0mA	25	2.820	2.850	2.880	V
				Over Temp.	2.790		2.910	
Output Voltage(1) 3.3V		5V	0mA	25	3.265	3.30	3.335	
				Over Temp.	3.230		3.369	
Reference Voltage(1) Adj Voltage	V_{REF}	5V	10mA	25	1.238	1.250	1.262	
				Over Temp.	1.225		1.270	
Line Regulation(1)	$REG_{(LINE)}$		10mA	Over Temp.		0.035	0.2	%
Load Regulation(1)	$REG_{(LOAD)}$	5V		Over Temp.		0.2	0.4	
Dropout Voltage ΔV_{OUT}, ΔV_{REF} = 1%	V_D		100mA	Over Temp.		1.00	1.10	V
			500mA			1.05	1.15	
			800mA			1.10	1.20	
EZ1117A			1,000mA			1.10	1.30	
Current Limit EZ1117	I_{CL}				0.8			A
EZ1117A					1.0			
Quiescent Current Fixed Model	I_Q	5V				10	13	mA
Temperature Coefficient	T_C					0.005		%/°C
Adjust Pin Current	I_{ADJ}			Over Temp.		55	90	µA
Adjust Pin Current Change	ΔI_{ADJ}					0.2	5	
Temperature Stability	T_S					0.5		%
Minimum Load Current Adj Model	I_O	5V				5	10	mA
RMS Output Noise(2)	V_N			25		0.003		$\%V_O$
Ripple Rejection Ratio(3)	R_A	5V		Over Temp.	60	72		dB

(1) Low duty cycle pulse testing with Kelvin connections required.
(2) Bandwidth of 10Hz to 10kHz.
(3) 120Hz input ripple (C_{ADJ} for ADJ) = 25µF.
(4) Over Temp. = over specified operating junction temperature range.
(5) I_{RATED} = 1A for EZ1117A and 800mA for EZ1117.

TEL: 805-498-2111 FAX: 805-498-3804

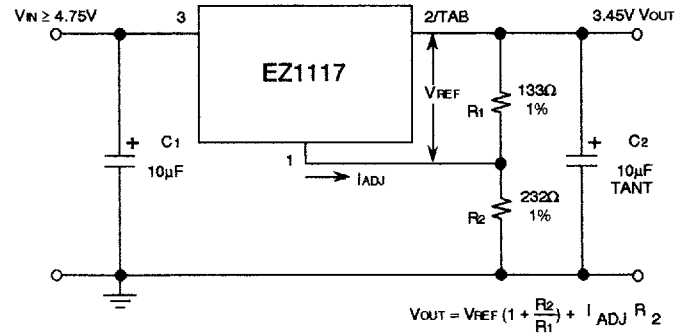
TYPICAL APPLICATIONS

FIXED VOLTAGE REGULATOR (1)(2)



(1) C1 NEEDED IF DEVICE IS FAR FROM FILTER CAPACITORS
(2) C2 REQUIRED FOR STABILITY

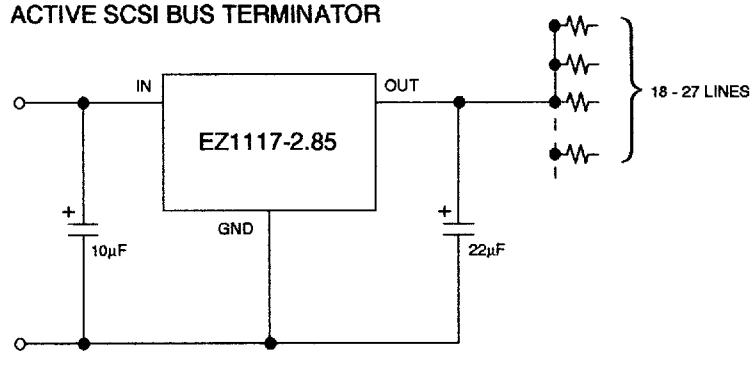
ADJUSTABLE VOLTAGE REGULATOR (1)(2)



$$V_{OUT} = V_{REF}\left(1 + \frac{R_2}{R_1}\right) + I_{ADJ} R_2$$

(1) C1 NEEDED IF DEVICE IS FAR FROM FILTER CAPACITORS
(2) C2 REQUIRED FOR STABILITY

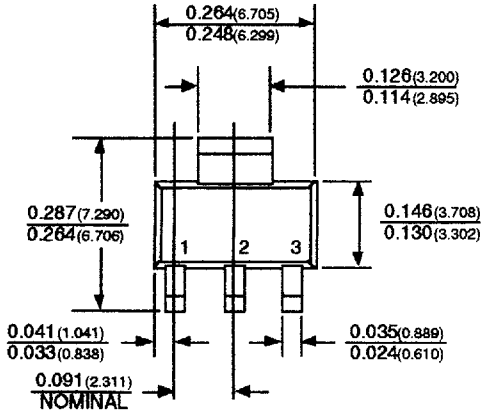
ACTIVE SCSI BUS TERMINATOR



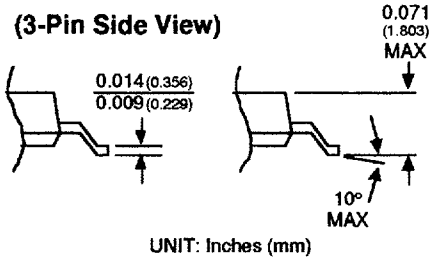
TEL: 805-498-2111 FAX: 805-498-3804

DEVICE OUTLINES

SOT-223

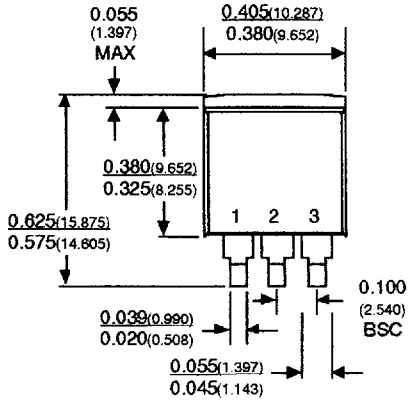


(3-Pin Side View)

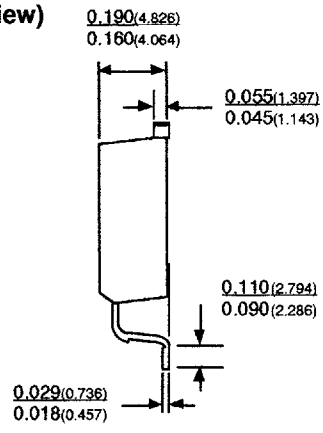


UNIT: Inches (mm)

TO-263



(Side View)

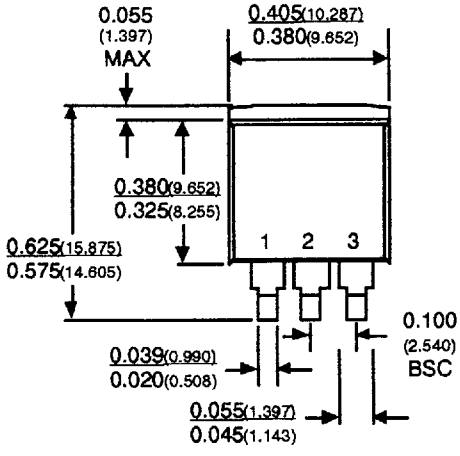


UNIT: Inches (mm)

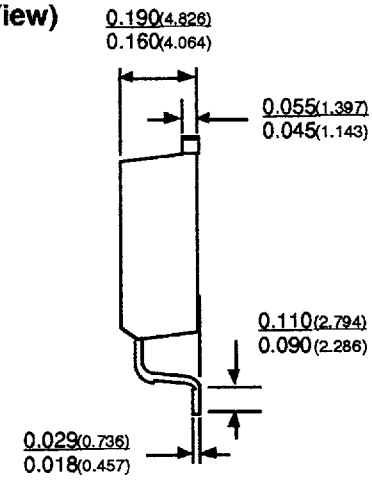
EZ1117 EZ1117A	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

TEL: 805-498-2111 FAX: 805-498-3804

TO-263



(Side View)



UNIT: Inches (mm)

EZ1086	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

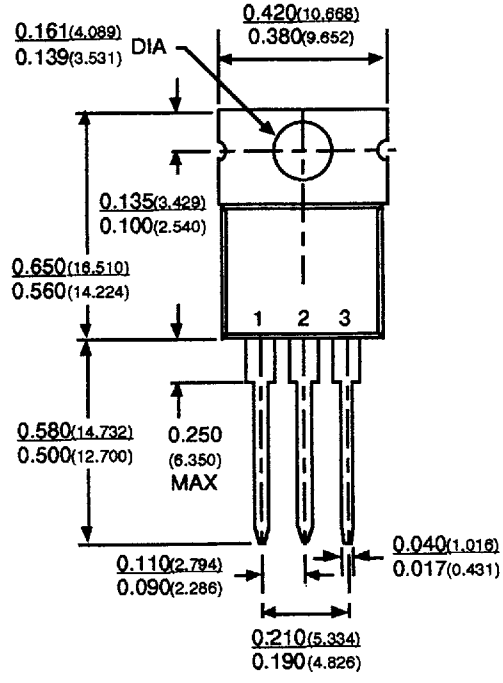
EZ1085	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

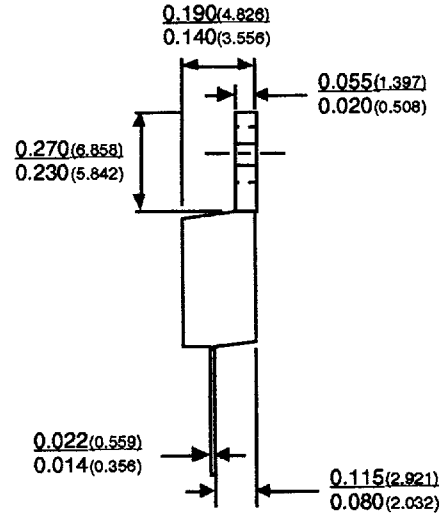
EZ1084	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

EZ1083	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

EZ1082	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

TO-220

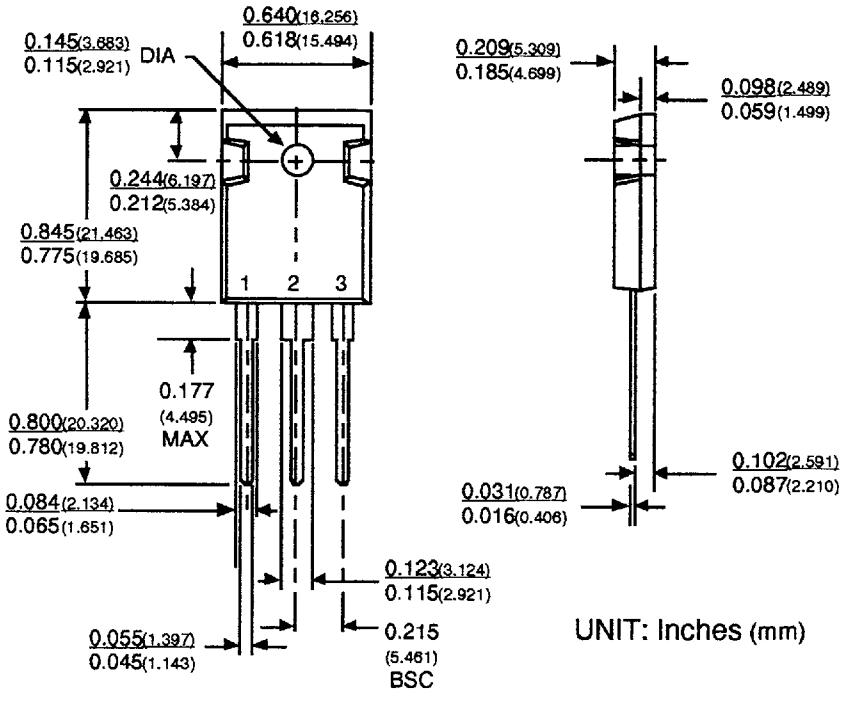




UNIT: Inches (mm)

TEL: 805-498-2111 FAX: 805-498-3804

TO-247



UNIT: Inches (mm)

EZ1083	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

EZ1082	
PIN	**FUNCTION**
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

