

FEATURES

- Low dropout performance,
1.2V max. for EZ1083A,
1.3V max. for EZ1083
- Full current rating over line and temperature
- Fast transient response
- $\pm 2\%$ Total output regulation over line, load
and temperature
- Adjust pin current max 90 μ A over temperature
- Fixed/adjustable output voltage
- Line regulation typically 0.015%
- Load regulation typically 0.05%
- TO-220 or TO-247 packages

DESCRIPTION

The EZ1083 Series are high performance positive voltage regulators designed for use in applications requiring low dropout performance at full rated current. Additionally, the EZ1083 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 EZ1083 Series are three terminal regulators with fixed and adjustable voltage options available in popular packages.

DEVICE SELECTION GUIDE

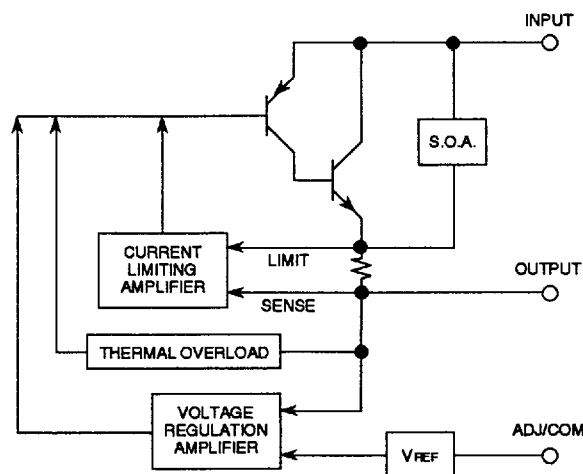
DEVICE	V _{OUT} VOLTS	PACKAGE
EZ1083CP EZ1083CP-3.3 EZ1083CP-3.45	1.30 to 4.0 3.3 3.45	TO-247
EZ1083ACT EZ1083CT EZ1083CT-1.5 EZ1083CT-2.5 EZ1083CT-3.3 EZ1083CT-3.45 EZ1083ACT-3.525	1.30 to 4.0 1.30 to 4.0 1.5 2.5 3.3 3.45 3.525	TO-220

NOTE: Contact factory for additional voltage options.

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 TO-220 TO-247	θ_{JC}	2 2	°C/W
Thermal Resistance Junction to Ambient TO-220 TO-247	θ_{JA}	50 40	
Operating Junction Temperature Range	T _J	0 to 125	
Storage Temperature Range	T _{STG}	-65 to 150	°C
Lead Temperature (Soldering) 10 Sec.	T _{LEAD}	260	

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS

Unless otherwise specified, Adj $V_{IN} = 2.75V$ to $7.0V$ and Adj $I_O = 10mA$ to $7.5A$;
Fixed $V_{IN} = 4.75V$ to $7.0V$ and Fixed $I_O = 0mA$ to $7.5A$

PARAMETER	SYMBOL	Test Conditions			Test Limits			UNITS
		V_{IN}	I_O	$T_J^{(4)}$	MIN	TYP	MAX	
Output Voltage ⁽¹⁾ Fixed Voltage	V_O	5V	0mA	25	$0.99 V_O $	V_O	$1.01 V_O $	V
				Over Temp.	$0.98 V_O $		$1.02 V_O $	
Reference Voltage ⁽¹⁾ Adj Voltage	V_{REF}	5V	10mA	25	1.238	1.250	1.262	V
				Over Temp.	1.225		1.275	
Line Regulation ⁽¹⁾	$REG_{(LINE)}$		10mA	25		0.015	0.2	%
				Over Temp.		0.035		
Load Regulation ⁽¹⁾	$REG_{(LOAD)}$	5V		25		0.05	0.3	
				Over Temp.		0.2	0.4	
Dropout Voltage $\Delta V_{OUT}, \Delta V_{REF} = 1\%$ EZ1083A EZ1083	V_D			25		1		V
				Over Temp.		1.0	1.2	
						1.1	1.3	
Current Limit	I_{CL}				7.5	9.5		A
Quiescent Current Fixed Model	I_Q	5V				12	14	mA
Temperature Coefficient	T_C					0.005		%/°C
Adjust Pin Current	I_{ADJ}			25		55		μA
				Over Temp.			90	
Adjust Pin Current Change	ΔI_{ADJ}					0.2	5	%
Temperature Stability	T_S	5V	0.5A			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	7.5A	Over Temp.	60	72		dB

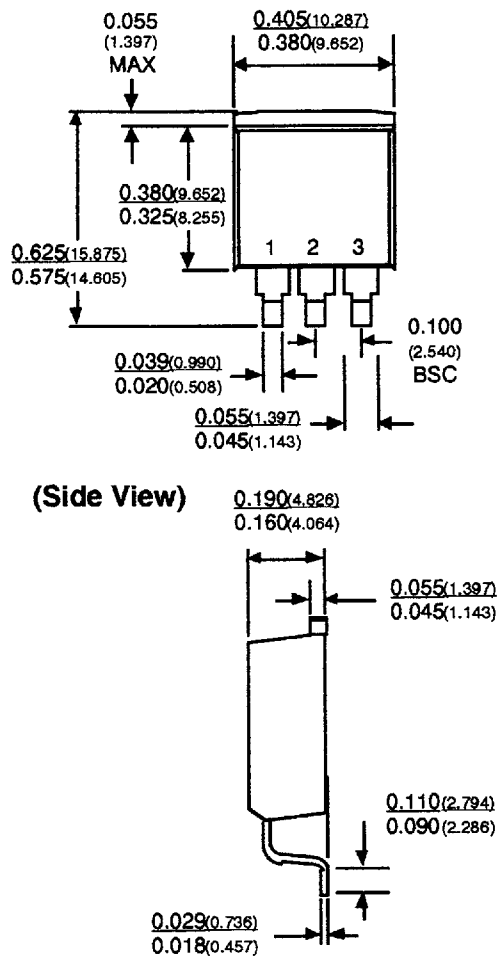
(1) Low duty cycle pulse testing with Kelvin connections required.

(2) Bandwidth of 10Hz to 10kHz.

(3) 120Hz input ripple (C_{ADJ} for ADJ) = 25μF.

(4) Over Temp. = over specified operating junction temperature range.

TO-263



UNIT: Inches (mm)

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

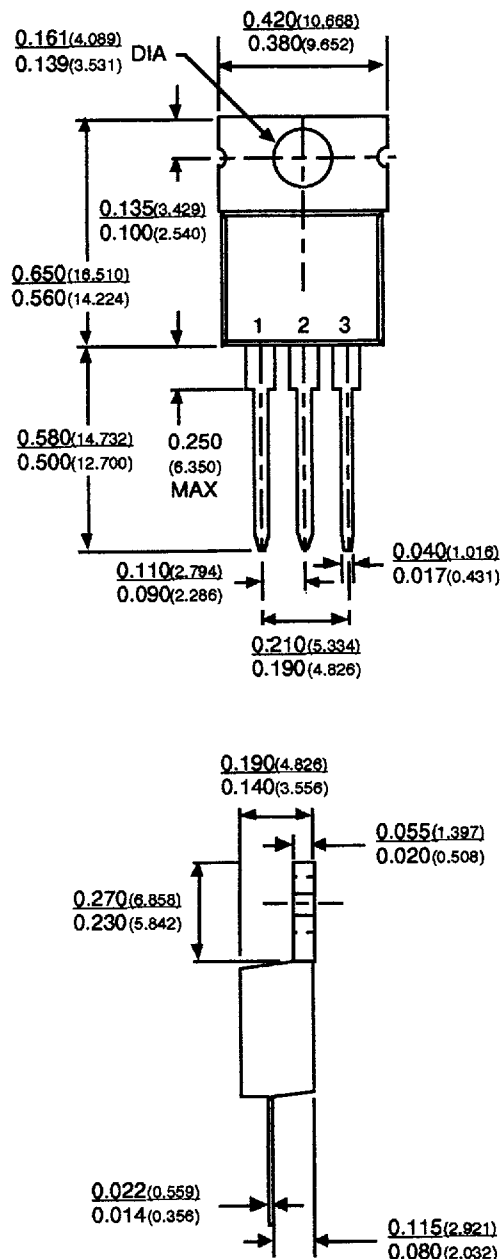
EZ1085	
PIN	FUNCTION
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

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	

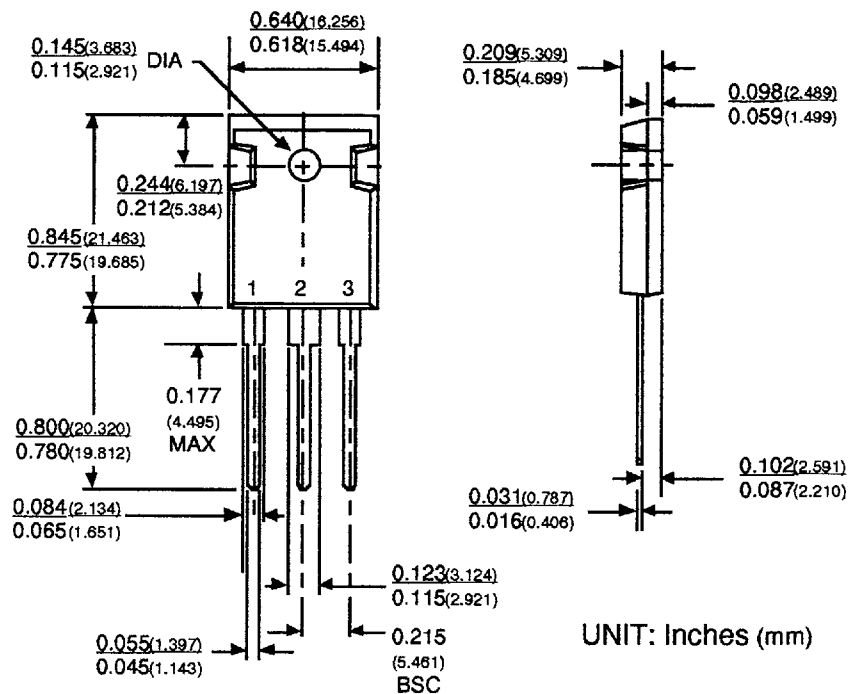
EZ1082	
PIN	FUNCTION
1	ADJ/GND
2	OUTPUT
3	INPUT
TAB IS OUTPUT	

TO-220



UNIT: Inches (mm)

TO-247



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	