

Features

- Output Voltage (3.3V)
- Current limiting and thermal protection
- Output current (800mA)
- RoHS compliant with Halogen-free

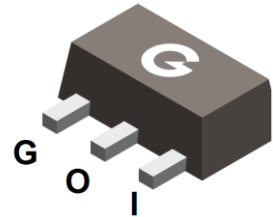
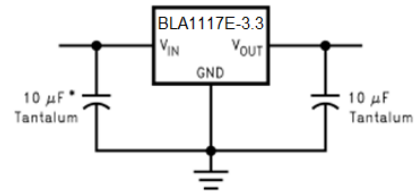
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Applications

- Post regulator for switching DC/DC converter
- High efficiency linear regulators
- Battery charger
- Battery powered instrumentation

Mechanical Data

- Case: SOT-89
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-89

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BLA1117E-3.3	SOT-89	1000 pcs / Tape & Reel	1117-3.3

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V _I	15	V
Maximum Output Current	I _{CM}	800	mA
Human Body Model	ESD	4000	V

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	500	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	200	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	25	°C/W
Operating Junction Temperature Range	T _{OPR}	-40 ~ +125	°C
Storage Temperature Range	T _{STG}	-65 ~ +150	°C

Note 1: The data tested by surface mounted on a minimum recommended FR-4 board

Electrical Characteristics (@ $T_J = 25^\circ\text{C}$, $C_I = 10\mu\text{F}$, $C_O = 10\mu\text{F}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_O	$I_O = 10\text{mA}$, $V_I = 5\text{V}$	3.267	3.300	3.333	V
		$0\text{mA} \leq I_O \leq 800\text{mA}$ $4.75\text{V} \leq V_I \leq 10\text{V}$	3.235	3.300	3.365	V
Line Regulation	ΔV_O	$I_O = 10\text{mA}$, $4.75\text{V} \leq V_I \leq 15\text{V}$	-	-	6	mV
Load Regulation	ΔV_O	$V_I = 4.75\text{V}$, $0\text{mA} \leq I_O \leq 800\text{mA}$	-	-	10	mV
Dropout Voltage	V_D	$I_O = 100\text{mA}$	-	-	1.25	V
		$I_O = 500\text{mA}$	-	-	1.3	V
		$I_O = 800\text{mA}$	-	-	1.4	V
Current Limit	I_{LIMIT}	$V_{\text{IN}} - V_{\text{OUT}} = 5\text{V}$, $T_J = 25^\circ\text{C}$	800	1200	1500	mA
Thermal Regulation	I_{LIMIT}	$T_A = 25^\circ\text{C}$, $t_p = 30\text{mA}$	-	0.01	0.1	%/W
Quiescent Current	I_Q	$V_{\text{IN}} \leq 15\text{V}$	-	-	10	mA
Ripple Rejection	R_R	$f_{\text{RIPPLE}} = 120\text{Hz}$ $V_{\text{IN}} - V_{\text{OUT}} = 3\text{V}$, $V_{\text{RIPPLE}} = 1\text{V}_{\text{PP}}$	60	75	-	dB

TYPICAL CHARACTERISTICS (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

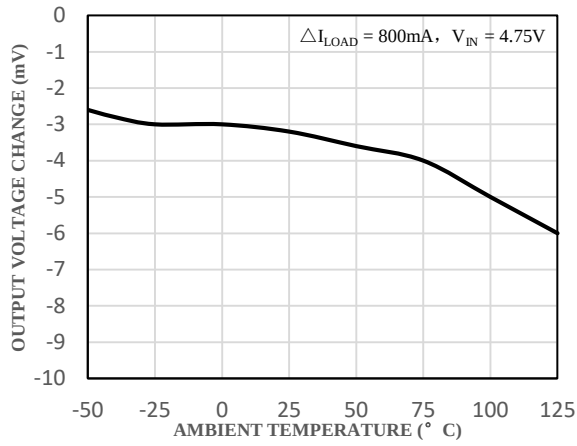


Fig 1 Load Regulation vs. Temperature

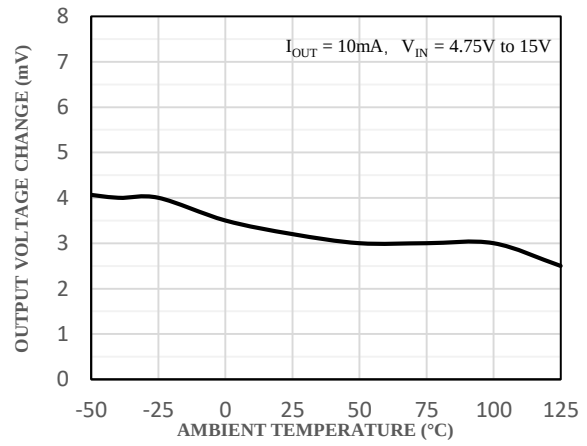


Fig 2 Line Regulation vs. Temperature

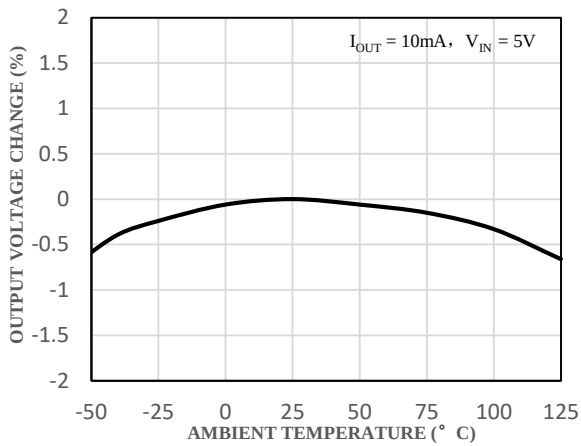


Fig 3 Output Voltage Change vs. Temperature

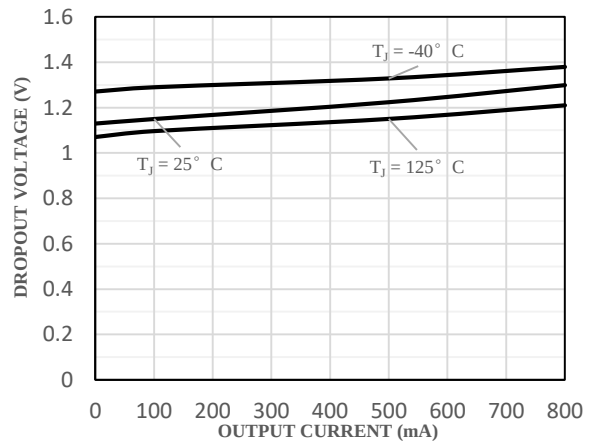


Fig 4 Dropout Voltage vs. Output Current

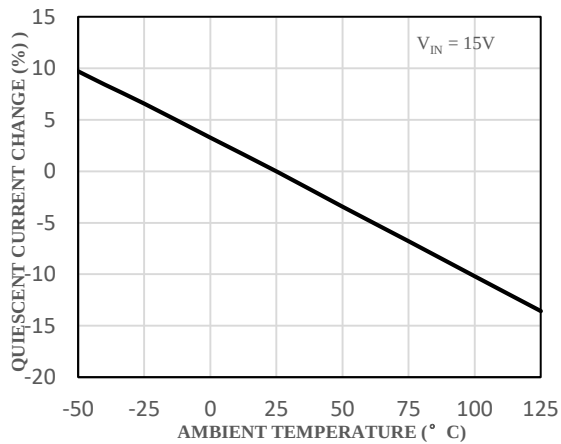
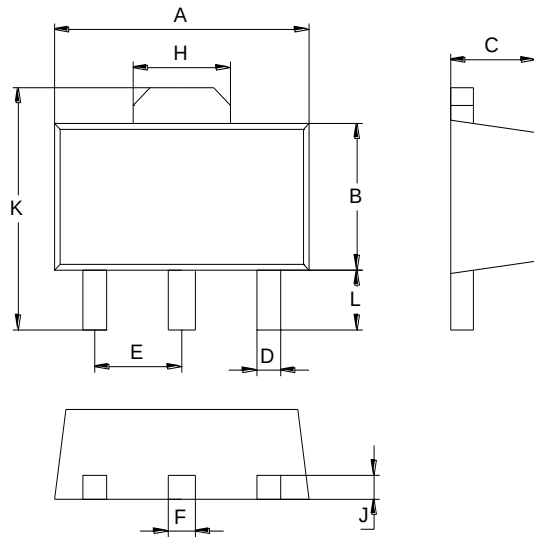


Fig 5 Quiescent Current Change vs. Temperature

Package Outline Dimensions (Unit: mm)



SOT-89		
Dimension	Min.	Max.
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35

Mounting Pad Layout (Unit: mm)

SOT-89

