

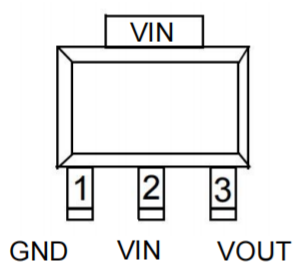
Features

- 1.5 μ A Current at no Load(TYP.)
- $\pm 2\%$ Output Accuracy
- 300mA Output Current
- Current Limit Protection

Applications

- Industrial Controls
- Home Automation
- Wireless power tools
- Motor driver and control board

PIN CONFIGURATION



SOT89-3(GT3)

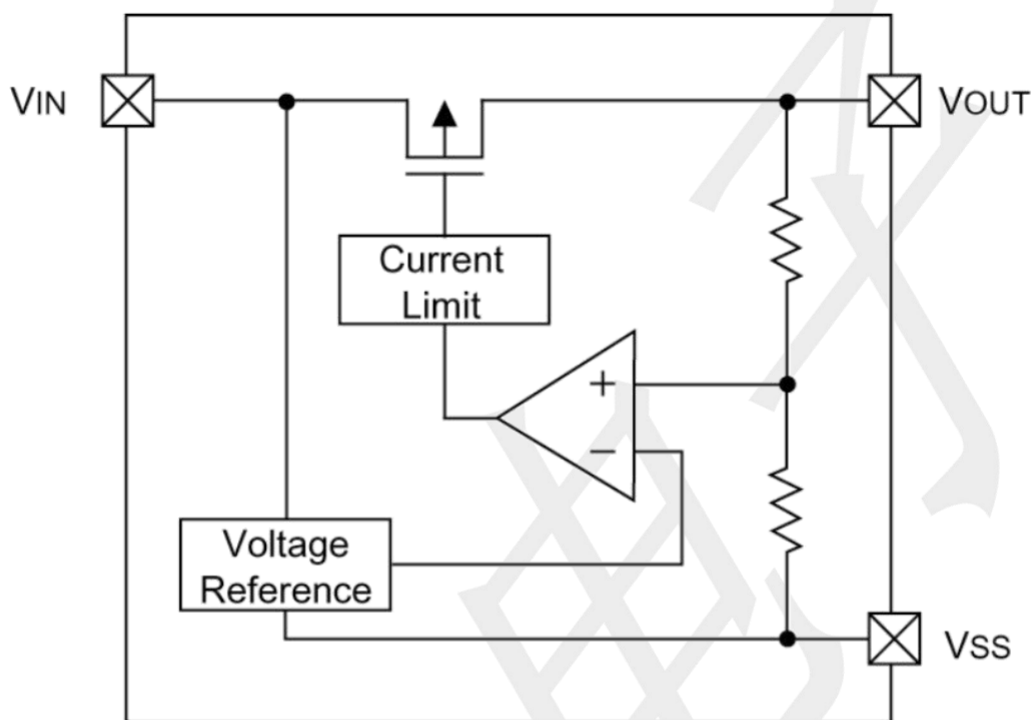
Pin Number	Pin Name	Pin Function
SOT89-3		
1	GND	Ground
2	VIN	Input of Supply Voltage
3	VOUT	Output of the Regulator

Absolute Maximum Ratings

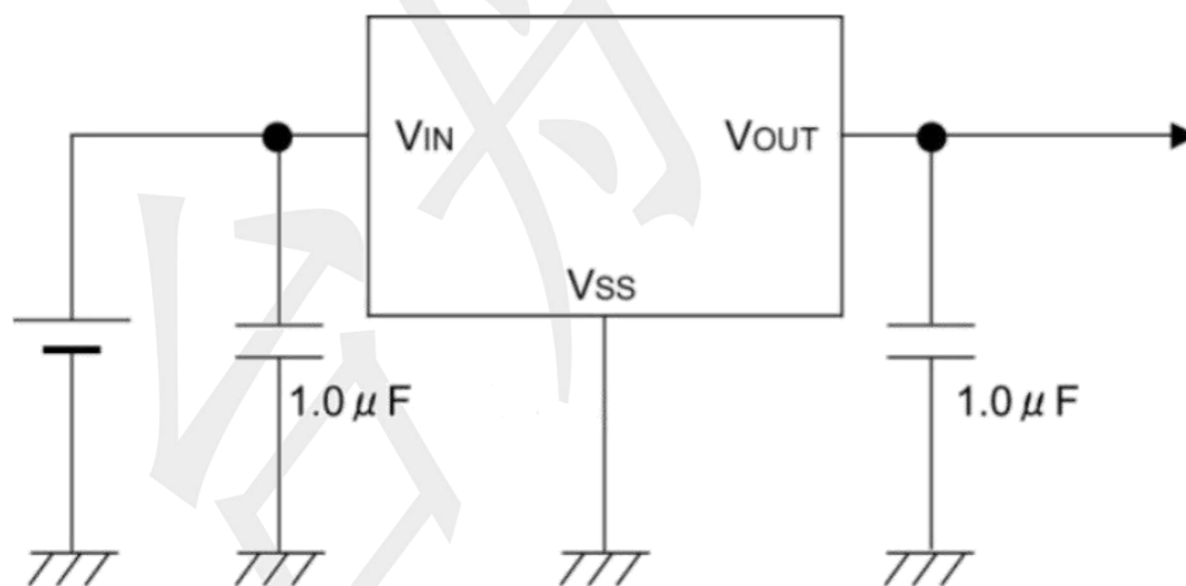
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	35	V
VOUT	Output voltage range	-0.3	12	
Current	Maximum output current	Internally limited		mA
Temperature	Operating Temperature, Topr	-40	+85	°C
	Storage, Tstg	-40	+125	
	Welding temperature and time, Tsolder		+260, 10s	
Pd	Power Dissipation SOT89-3	500		mW
HBM	ESD Susceptibility	200		V
MM		2000		V

BLOCK DIAGRAM



Typical Application Circuit



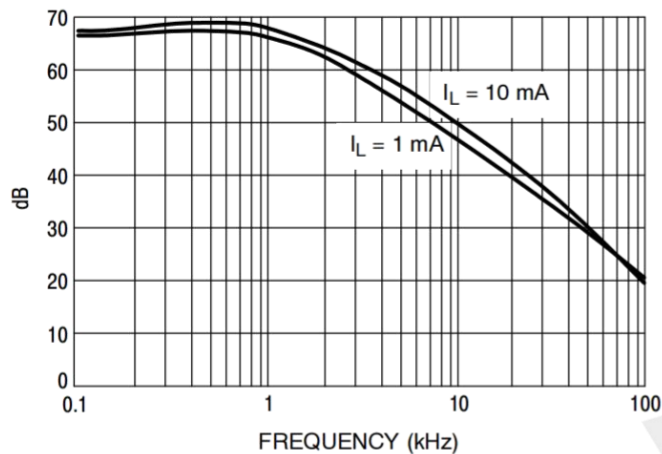
Electrical Characteristics

(TA=25°C, unless otherwise specified)

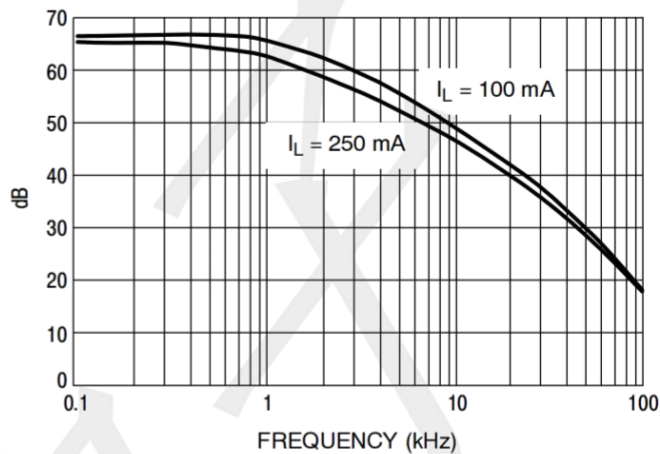
PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	V _{IN}		2	--	27	V
Output current	I _{OUT(max)}		300	--	--	mA
DC Output Voltage Accuracy		I _{OUT} = 0.1mA	-2	--	2	%
Dropout Voltage (V _{IN} -V _{OUT})	V _{OUT} = 12V	I _{OUT} = 100mA	--	250	--	mV
		I _{OUT} = 300mA	--	650	--	
Ground Current (I _{OUT} = 0mA)	I _Q	V _{OUT} = 12V	--	1.5	5	uA
Power supply voltage regulation rate	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	I _{OUT} = 40mA, V _{IN} ≤ 27V	--	0.2	0.4	% / V
Output Current Limit	I _{LIM}	V _{OUT} = 0.9 × V _{OUT(NOM)}	350	--	--	mA
Power Supply Rejection Ratio	PSRR	V _{OUT} = 5V, I _{OUT} = 30mA, V _{IN} = 12V, f = 1kHz	--	70	--	dB
Thermal Shutdown Temperature	T _{SD}	I _{OUT} = 10mA	--	160	--	°C
Thermal Shutdown Hysteresis	ΔT _{SD}		--	15	--	
Package Thermal Resistance (Note 1)	SOT89-3	Thermal Resistance Junction-to-Ambient	--	120	--	°C/W

Note: 1. Test condition: the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout.

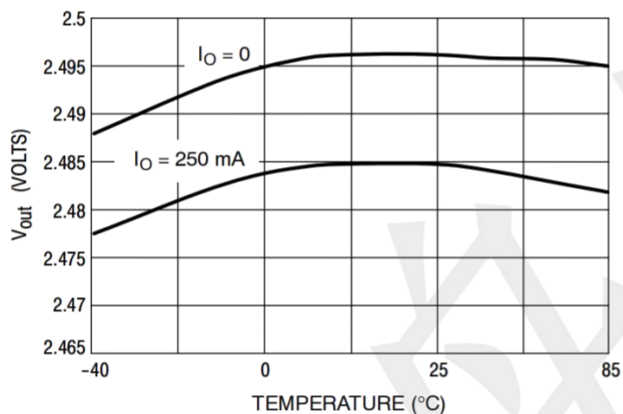
Performance Characteristics



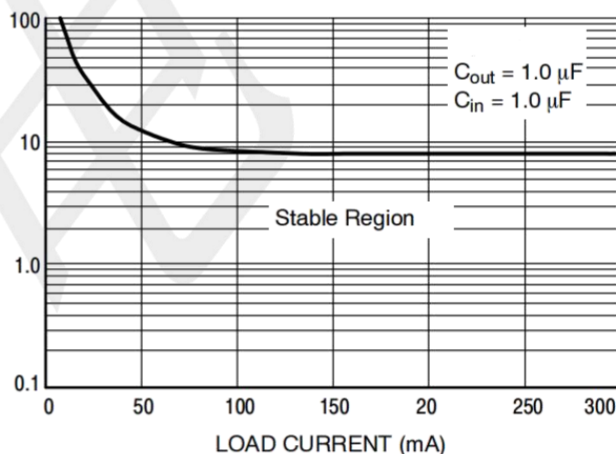
Ripple Rejection



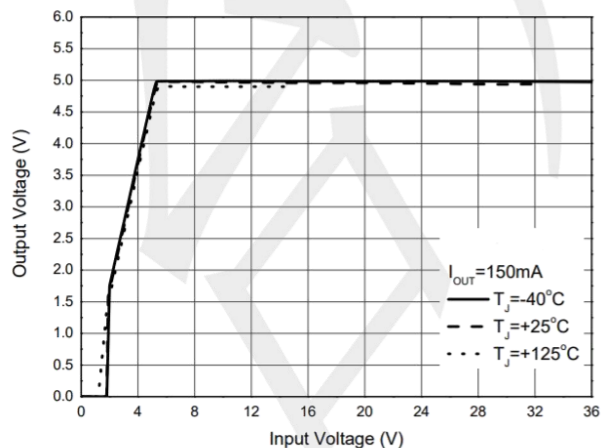
Ripple Rejection



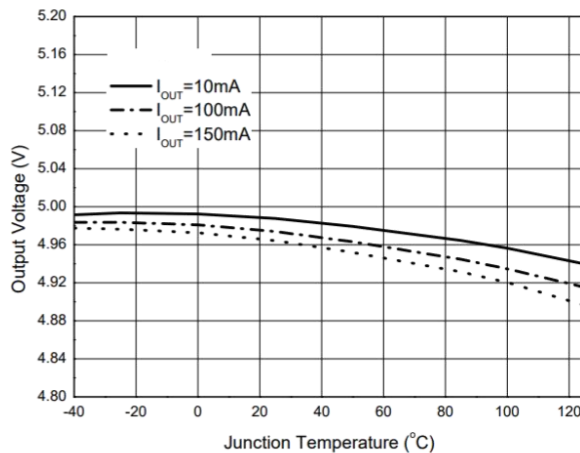
Output Voltage versus Ambient Temperature



Output Voltage vs. Input Voltage

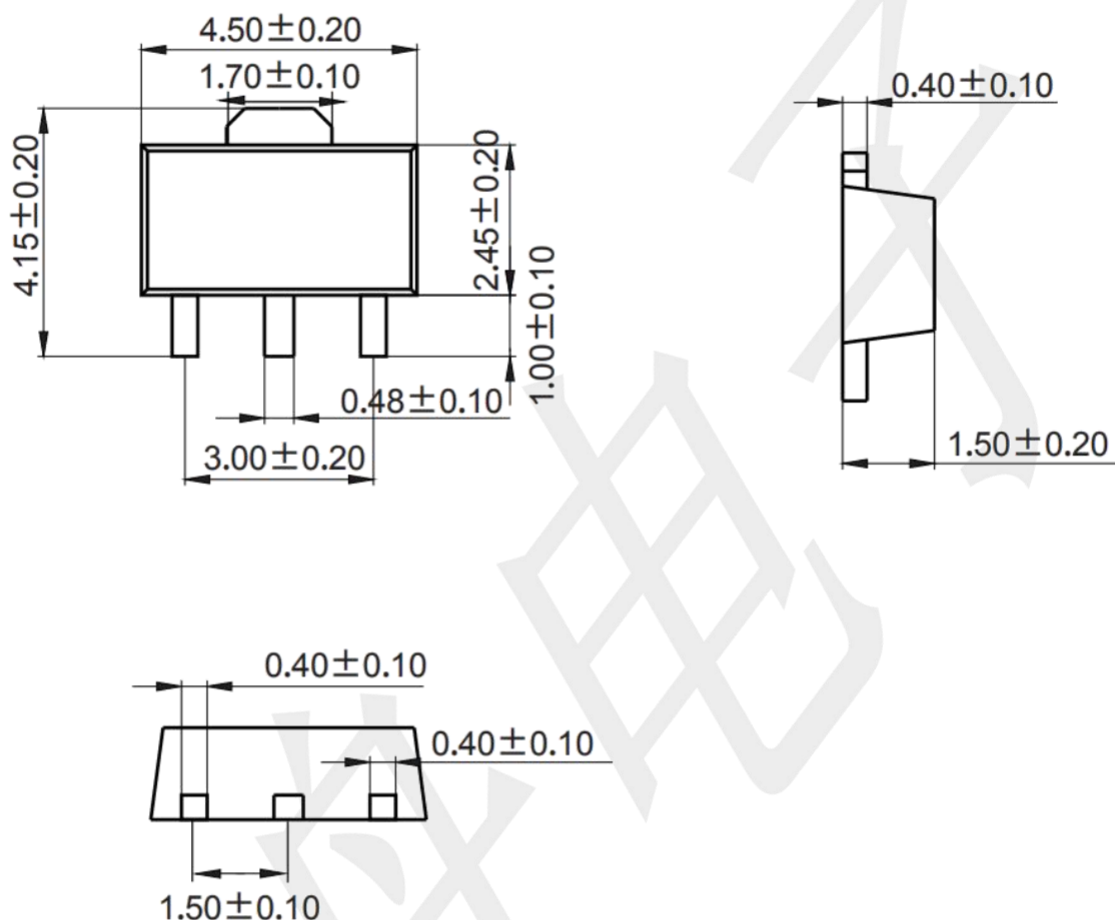


Output Voltage vs. Junction Temperature



Package Outline Dimensions (unit: mm)

SOT89-3



Mounting Pad Layout (unit: mm)

