

DRAFT

Features

- 0.2% Output Tolerance
- 0.6Ω Shunt Impedance
- 700μA to 10mA Operating Current
- Pin Compatible with LM136-5
- 20ppm/°C Max Drift
- Output Voltage Trim does not Affect Drift
- Can be Used as Positive or Negative Reference

Applications

- A-to-D and D-to-A Converters
- Precision Regulators
- Precision Current Sources
- V to F and F to V Converters

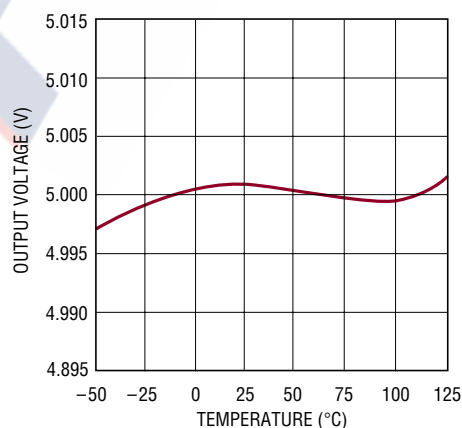
Description

The FT1029 is a 5V bandgap reference intended for use in the shunt or “Zener” mode, allowing it to be used as either a positive or negative reference. The output is pretrimmed to ±0.2% accuracy with 20ppm/°C maximum temperature drift. A trim pin allows additional output adjustment for even more precise output voltage.

Operating current range for the FT1029 is 700μA to 10mA. Extremely low dynamic impedance allows excellent output regulation even with fluctuating operating current.

The FT1029 will replace an FT136-5 or FT336-5 and simplify circuits using the “minimum temperature coefficient” trim network. The FT1029 does not require this special network to meet its temperature drift specification; these application network components are simply removed. If output trimming is required for initial accuracy, the diodes in the trim network should be replaced with jumpers.

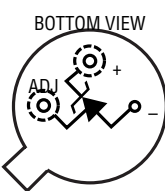
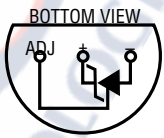
Output Voltage Drift



Absolute Maximum Rating (Note 1)

Reverse Current	15mA	Storage Temperature	-65°C to 150°C
Forward Current	10mA	Lead Temperature (Soldering, 10 sec)	300°C
Operating Temperature Range			
FT1029C/FT1029AC	0°C to 70°C		
FT1029M/FT1029AM	-55°C to 125°C		

Package/Order Information

 <p>BOTTOM VIEW</p> <p>H PACKAGE TO-46 METAL CAN $T_{JMAX} = 150^{\circ}C, \theta_{JA} = 440^{\circ}C/W, \theta_{JC} = 80^{\circ}C/W$</p>	ORDER PART NUMBER	 <p>BOTTOM VIEW</p> <p>Z PACKAGE TO-92 PLASTIC $T_{JMAX} = 100^{\circ}C, \theta_{JA} = 160^{\circ}C/W$</p>	ORDER PART NUMBER
	FT1029AMH FT1029MH FT1029ACH FT1029CH		FT1029ACZ FT1029CZ

Electrical Characteristics

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are $T_A = 25^{\circ}C$.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Reverse Breakdown Voltage	$I_R = 1mA$ FT1029AM/FT1029AC	4.99	5.00	5.01	V
	FT1029M/FT1029C	4.95	5.00	5.05	V
Reverse Breakdown Change with Current	$700\mu A \leq I_R \leq 10mA$		2	5	mV
		●	3	8	mV
Reverse Dynamic Impedance	$I_R = 1mA$		0.2	0.6	Ω
		●	0.3	1.0	Ω
Temperature Stability	$I_R = 1mA$	●	3	7	mV
		●	5	12	mV
		●	7	18	mV
		●	10	36	mV
Equivalent Temperature Drift	FT1029AM/FT1029AC	●	8	20	ppm/°C
		●	12	34	ppm/°C
		●	15	40	ppm/°C
Long Term Stability			20		ppm/kHr
Trim Range		±3	+5, -13		%

Note 1: Absolute Maximum Ratings are those values beyond which the life of a device may be impaired.



Ashley Crt, Henley,
Marlborough, Wilts, SN8 3RH UK
Tel: +44(0)1264 731200
Fax: +44(0)1264 731444
E-mail
info@forcetechnologies.co.uk
tech@forcetechnologies.co.uk
sales@forcetechnologies.co.uk

www.forcetechnologies.co.uk

Unless otherwise stated in this SCD/Data sheet, Force Technologies Ltd reserve the right to make changes, without notice, in the products, including circuits, cells and/or software, described or contained herein in order to improve design and/or performance. Force Technologies resumes no responsibility or liability for the use of any of these products, conveys no licence or any title under patent, copyright, or mask work to these products, and makes no representation or warranties that that these products are free from patent, copyright or mask work infringement, unless otherwise specified.

Life Support Applications

Force Technologies products are not designed for use in life support appliances, devices or systems where malfunction of a Force Technologies product can reasonably be expected to result in a personal injury. Force Technologies customers using or selling Force Technologies products for use in such applications do so at their own risk and agree to fully indemnify Force Technologies for any damages resulting from such improper use or sale.

All trademarks acknowledged

Copyright Force Technologies Ltd 2007

Click to request the full data sheet