



(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
12.11.2003 Bulletin 2003/46

(51) Int Cl.7: H02M 3/156, G05F 1/565

(43) Date of publication A2:
13.03.2002 Bulletin 2002/11

(21) Application number: 01120556.4

(22) Date of filing: 29.08.2001

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• Cocetta, Franco
33040 Premariacco (Udine) (IT)
• Rossi Giorgio
20014 Nerviano (IT)

(30) Priority: 31.08.2000 EP 00830594

(74) Representative: Botti, Mario
Botti & Ferrari S.r.l.,
Via Locatelli, 5
20124 Milano (IT)

(71) Applicant: STMicroelectronics S.r.l.
20041 Agrate Brianza (Milano) (IT)

(54) Switching type bandgap controller

(57) The invention relates to an integrated self-powered and switching electronic circuit (10) for regulating a stable reference voltage (V_r), comprising a band-gap voltage generator to produce said stable reference voltage (V_r) for a system circuit block (2, 12) that is generally supplied by the output of the band-gap generator

through a comparator and an error amplifier. A regulating loop is provided between the output of the system block (12) and the input of the voltage generator circuit (10) to supply a voltage signal (SENSE) produced by the output of the system block. Advantageously, the voltage generator circuit incorporates both the comparator and the error amplifier.

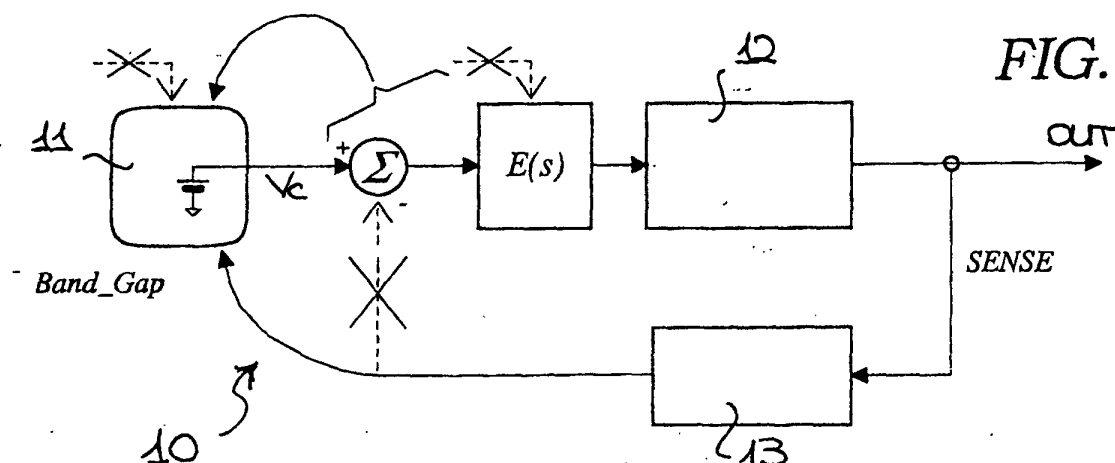


FIG. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 12 0556

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 770 940 A (GODER DIMITRY) 23 June 1998 (1998-06-23)	1,11	H02M3/156 G05F1/565
A	* the whole document *	2-10	

A	EP 0 971 280 A (MOTOROLA SEMICONDUCTEURS) 12 January 2000 (2000-01-12)	1-11	
	* abstract *		

A	US 4 110 677 A (BORONKAY ATTILA D ET AL) 29 August 1978 (1978-08-29)	1-11	
	* abstract *		

A	EP 0 713 166 A (SGS THOMSON MICROELECTRONICS) 22 May 1996 (1996-05-22)	1-11	
	* abstract *		

A	EP 0 656 574 A (CONS RIC MICROELETTRONICA ;ST MICROELECTRONICS SRL (IT)) 7 June 1995 (1995-06-07)	1-11	
	* abstract *		

			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H02M G05F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		19 September 2003	Schobert, D
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 0556

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-09-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5770940	A	23-06-1998	NONE		
EP 0971280	A	12-01-2000	EP	0971280 A1	12-01-2000
US 4110677	A	29-08-1978	NONE		
EP 0713166	A	22-05-1996	DE	69512001 D1	14-10-1999
			DE	69512001 T2	20-04-2000
			EP	0713166 A1	22-05-1996
			JP	2799308 B2	17-09-1998
			JP	9026440 A	28-01-1997
			US	5610506 A	11-03-1997
EP 0656574	A	07-06-1995	EP	0656574 A1	07-06-1995
			DE	69325027 D1	24-06-1999
			DE	69325027 T2	16-09-1999
			JP	7295667 A	10-11-1995
			US	5631551 A	20-05-1997