

AN6484FBP

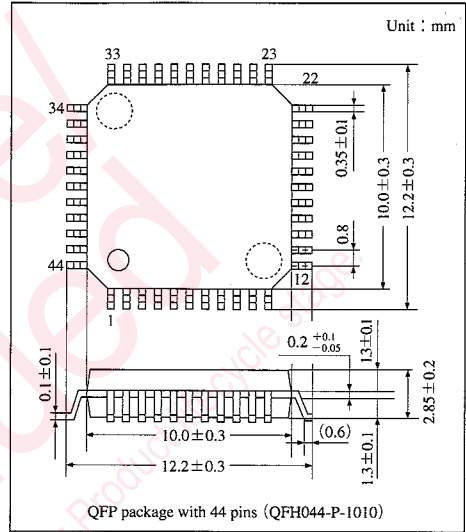
Cellular Telephone Power Supply IC

Overview

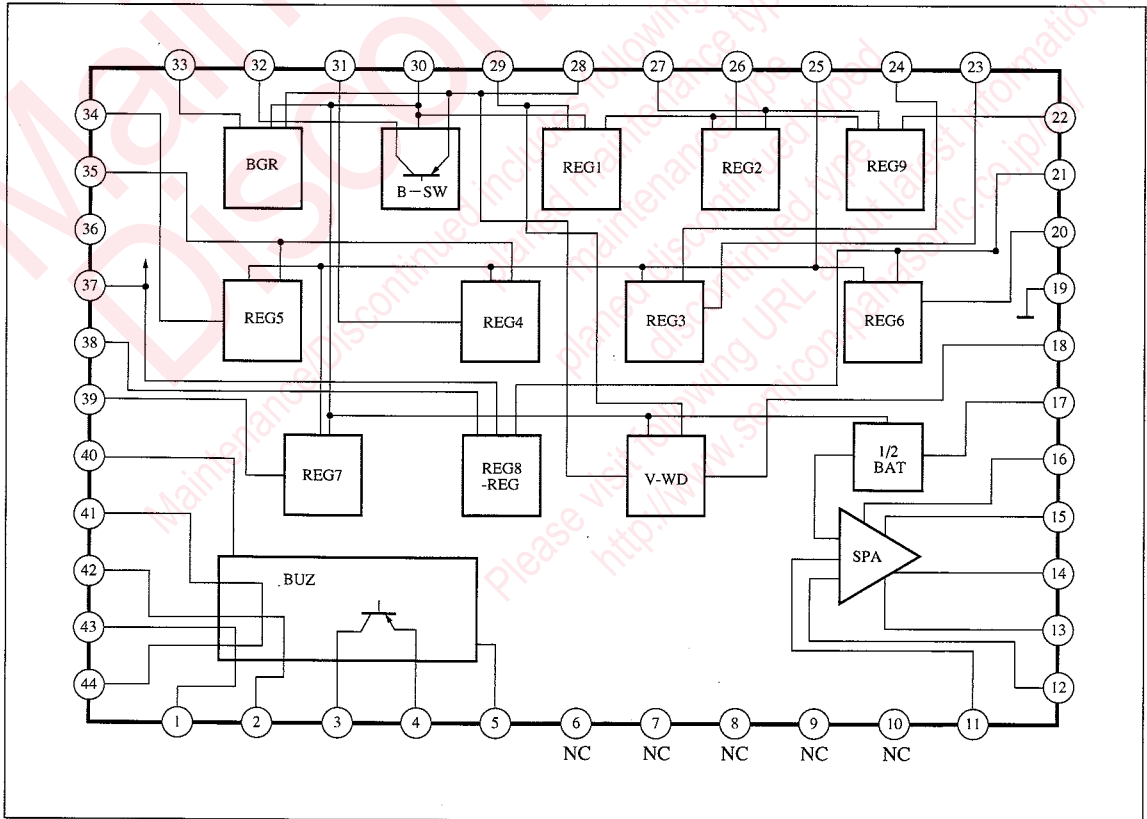
The AN6484FBP provides 9 regulated voltage outputs, a buzzer function, and a loudspeaker amplifier to make cellular telephones more compact and consuming less power.

Features

- Nine 3.7V regulated voltage outputs
- Incorporates a buzzer function.
- Incorporates a loudspeaker amplifier.
- Incorporates a voltage detection function.



Block Diagram



■ Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	8	V
Supply current	I_{CC}	300	mA
Power dissipation	P_D	1660	mW
Operating ambient temperature	T_{opr}	-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

■ Recommended Operating Range ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Range
Operating supply voltage range	V_{CC}	3.2 to 7V

■ Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Condition	min	typ	max	Unit
3.7V regulator output voltage (V_L, V_S)	V_{REG1}	$V_C=5\text{V}, I_{REG}=-30\text{mA}$	3.563	3.74 ($\pm 3.7\%$)	3.837	V
3.7V regulator saturation voltage	V_{RF}	$BATT=4\text{V}, I_{REG}=-30\text{mA}$	3.5	—	3.837	V
3.7V regulator output voltage	V_{RM}	$I_{REG}=-50\text{mA}$	3.4	3.6	3.837	V
3.7V regulator response speed	T_{REG}	$R_{REG}=120\Omega, C_{REG}=10\mu\text{F}$	—	0.7	1.0	ms
Voltage detection reset voltage (BATT)	V_{BR}	$V_L=3.7\text{V}, BATT=5\text{ to }3\text{V}$	3.4	3.6	3.8	V
Voltage detection set voltage (BATT)	V_{BS}	$V_L=3.7\text{V}, BATT=3\text{ to }5\text{V}$	3.6	3.8	4.0	V
Voltage detection reset voltage (V_L)	V_{LR}	$BATT=5\text{V}, V_L=4\text{ to }2.5\text{V}$	3.1	3.25	3.45	V
Voltage detection reset voltage (V_L)	V_{LS}	$BATT=5\text{V}, V_L=2.5\text{ to }4\text{V}$	3.15	3.45	$V_L-0.15\text{V}$	V
Loudspeaker amp. dynamic range	D_{R1}	gain=26dB, $R_L=1\text{k}\Omega$, THD=5%, $f=1\text{kHz}$	1	2	—	Vrms
Loudspeaker amp. dynamic range	D_{R2}	gain=26dB, $R_L=32\Omega$, THD=5%, $f=1\text{kHz}$	1	2	—	Vrms

Note) Unless otherwise specified, BATT=5V.

Pin Descriptions

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	B5	Buzzer output	23	VK	REG3 output
2	B8	Buzzer output	24	CT2	REG3 control
3	B4	Buzzer output	25	VBS	Ref. voltage input
4	BATT2	Buzzer battery	26	VB	REG2 output
5	GND2	Buzzer ground	27	CB	REG2/REG9 control
6	NC		28	BATT1	Regulator battery
7	NC		29	V _L	REG1 output
8	NC		30	KB	BGR/V-WD/REG1/REG7/VR (SP) control
9	NC		31	VR2	REG4 output
10	NC		32	B-OUT	Battery output
11	CV2	SP control	33	VBGR	Ref. voltage output
12	VIN	SP input	34	VR1	REG5 output
13	GND3	SP ground	35	CR	REG4/REG5 control
14	V1	SP output (1)	36	GND1A	Regulator ground (BCR/REG4/REG5/REG7)
15	V2	SP output (2)	37	VT3	REG8 input
16	BATT3	SP battery	38	VT2	REG8 output
17	SPVR	SP reference	39	VP	REG7 output
18	R1	V-WD reset output	40	B3	Buzzer input (pulse)
19	GND1B	Regulator ground (REGs. 2, 3, 6, 8, 9, V-WD)	41	B2	Buzzer input
20	VT1	REG6 output	42	B7	Buzzer input
21	CT	REG6/REG8 control	43	B1	Buzzer input
22	VIF	REG9 output	44	B6	Buzzer output

Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products. No license is granted in and to any intellectual property right or other right owned by Panasonic Corporation or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
 - Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of our company.