IC 99W028A

Variable output, negative voltage IC BD6111FV

Description

The BD6111FV is a charge-pump, negative supply IC containing a regulator. The charge pump block inverts a positive power supply voltage that is inputted to VBAT pin into a negative voltage and outputs it from the NEGOUT pin. The regulator block stabilizes this negative voltage with low-noise and outputs it from OUT pin. Output voltage values of this regulator can be controlled by voltage value inputted to VIN pin and determined by OUT=-1.6 ×VIN.

Dimension(Units:mm)



SSOP-B8

Features

- 1) Highly efficient, built-in inverting charge pump
- 2) Built-in variable, negative voltage linear regulator.
- 3) Built-in stand-by switch circuit (pull down resistor 1M Ω)
- 4) Compact SSOP-B8 package

Applications

Compact information computer terminal, such as PDC, PHS and PDA. Battery driving apparatus requiring negative voltage.

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Parameter	Symbol	Limits	Unit			
Maximum applied power supply voltage	V _{BAT}	-0.3 ~ +6.0	V			
Maximum applied input voltage	V _{IN}	-0.3 ~ +6.0	V			
Power dissipation	Pd	300 *	mW			
Operating temperature range	Topr	-20 ~ +70	°C			
Storage temperature	Tstg	-55 ~ +125	°C			

Absolute Maximum Ratings (Ta=25°C)

*Derating:3.0mW/°C for operation above Ta=25°C.

Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit
Power supply voltage	V _{BAT}	2.5	-	5.5	V

Electrical characteristics (Unless otherwise noted: Ta=25°C, VBAT=3.6V, STBY=3.6V)

Param	eter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Circuit current		lq1	-	0.6	3	mA	No-load, VIN=1.25V
Stand-by currer	nt	lq2	-	-	5	μA	No-load, VIN=0V, STBY=0V
<regulator block=""></regulator>							
Output voltage		Vo	-2.1	-2.0	-1.9	V	VIN=1.25V, IOUT=10mA
Output ripple vo	oltage	Vrr	-	-70	-60	dBV	VIN=1.25V, IOUT=10mA
Maximum outpu	ut current	Іомах	20	-	-	mA	Vin=1.25V, Vout ≦Vo+0.1V
Load stability		∆Vol	-	2	40	mV	VIN=1.25V, Io=0~10mA
Input stability		ΔVοι	-	5	40	mV	
VIN pin inflow c	urrent	lin	-	0	2	μA	VIN=1.25V
<charge block="" pump=""></charge>							
Oscillation frequ	Jency	fosc	-	120	-	kHz	
Voltage convers	ion efficiency	VCE	-	97	-	%	No-load, NEGOUT monitor
Stand-by pin pull	down resistor	RSTBY	0.6	1.0	1.6	MΩ	
Stand-by pin	Operation	VIH	2.0	-	-	V	
Control voltage	Non-operation	VIL	-0.3	-	0.3	V	

Application circuit



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