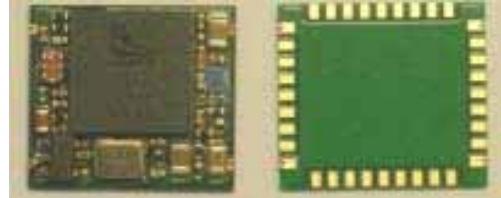


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DFBM-CF320 Bluetooth™ Module Class 2



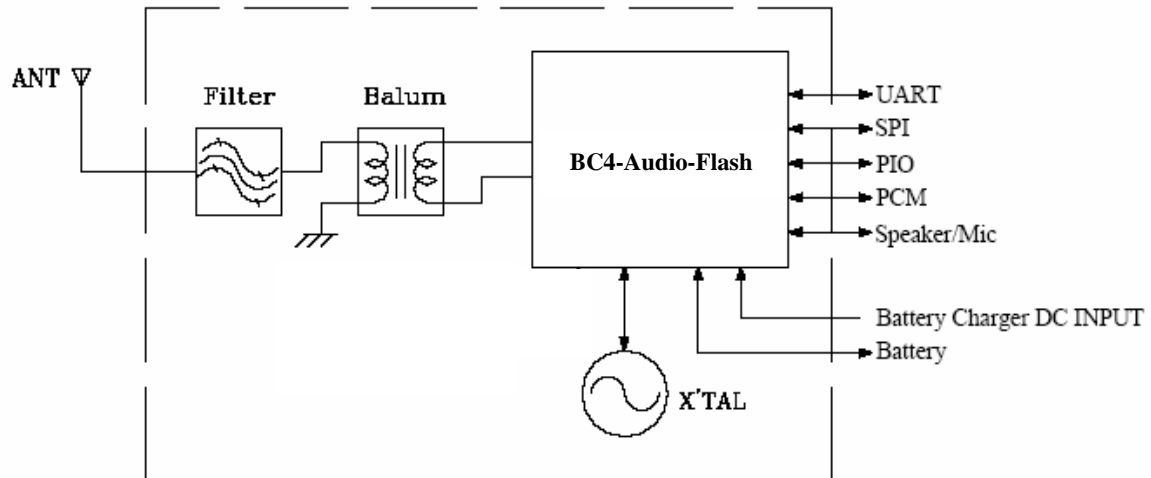
A Class 2 Bluetooth module compliant with Bluetooth Specification V2.0+EDR for various application.

FEATURES:

- ***Suitable for Headset application with Build-in codec.***
- ***Suitable for Automotive Hands-Free Kits.***
- ***Suitable for General purpose Bluetooth systems requiring an on-chip audio CODEC.***
- ***Small size and Low Profile using high-density packaging technology which compliant with RoHS.***
- ***High sensitivity for better reception.***
- ***Already embedded battery charger, LED driver and switch mode regulator.***
- ***Need few external parts for headset design.***
- ***Variable profiles with 6M Flash.***
- ***Various interfaces: UART, SPI and PCM.***
- ***Wide operating temperature range: -40~+80 .***

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Device diagram



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General Specification

Bluetooth Specification	Version 2.0+EDR
Frequency	2402~2480MHz
Modulation	GFSK/DQPSK/8DPSK
Transmission Rate	721K / 2M / 3M bps
Receive Sensitivity	Typ. -81.5dBm
Maximum Output Power	+4dBm (Class 2)
Operating Voltage	Refer to Recommend table
Power consumption	Up to 41 mA for SCO connection HV1 * Low to 0.1 mA for standby mode
Battery programmable charge current	25~100mA
Operating Temperature	-40~+80
Antenna Impedance	50Ω
Package Size	13.5*12*2.1 (mm)

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Interface

Interface	Description
Antenna	External Antenna 50
UART Interface	TX, RX, RTS, CTS(9600bps~1.5Mbps)
SPI Interface	Synchronous Serial Interface for firmware download
PCM Codec	Qualcomm MSM 3000/5000 , Motorola MC145483/ MC145481 OKI MSM7705 , STW 5093/5094
PIO Interface	8 terminals

Rating

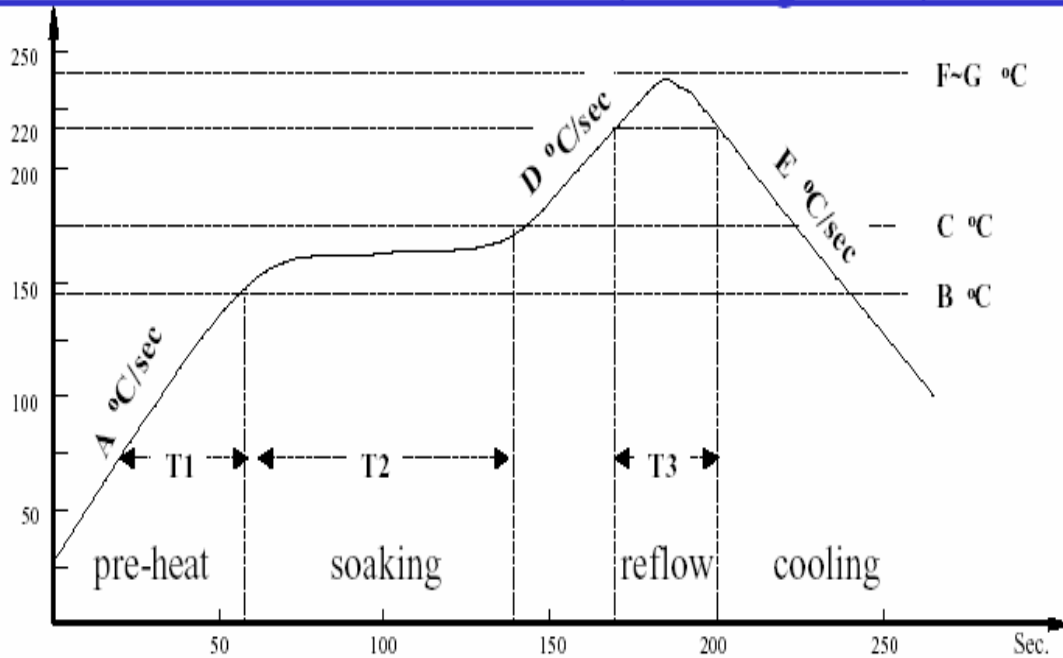
	Min	Max	Unit
Storage Temperature	-40	+150	
VDD_1.8V	-0.4	+2.2	V
VBAT	-0.4	+4.25	V
VREG_EN	-0.4	+4.25	V
VDD_CHG	-0.4	+6.5	V

Recommend

	Min	Max	Unit
VDD_1.8V	+1.7	+1.9	V
VBAT	+2.5	+4.2	V
VREG_EN	+2.5	+4.2	V
VDD_CHG	+4.35	+6.5	V
VDD_CHG current	25	100	mA

Recommended Reflow Profile

Reflow Profile Used at The Evaluation (Sn-3.0Ag-0.5Cu) –PF606-P



A: ramp up rate during preheat:	1.5-3.0 °C/sec
B-C: soaking temperature:	170± 15 °C
D: ramp up rate during reflow:	1.2-2.3 °C/sec
E: ramp down rate during cooling:	1.7-2.2 °C/sec
F-G: peak temperature:	240± 10 °C
T1: preheat time:	65± 15 sec
T2: dwel time during soaking:	75± 15 sec
T3: time above 220 °C :	30± 10 sec

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Pin description

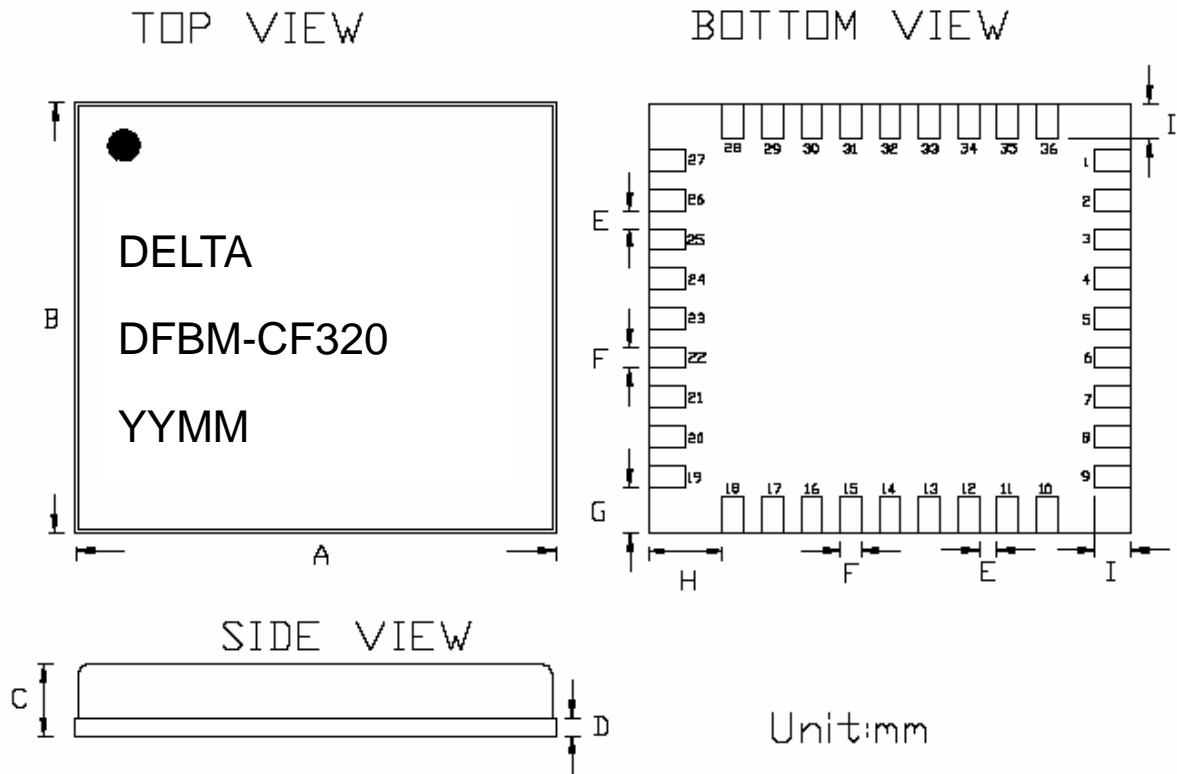
Pin No.	Name	Description
1	GND	Ground
2	ANT	RF input/output
3	PIO_11	Programmable input/output line
4	LED_0	Current sink to drive LED
5	LED_1	Current sink to drive LED
6	SP+	Speaker output positive
7	SP-	Speaker output negative
8	MIC+	Microphone input positive
9	MIC-	Microphone input negative
10	UART_RTS	UART request to send active low
11	UART_TX	UART data output active high
12	UART_RX	UART data input active high
13	UART_CTS	UART clear to send active low
14	PIO_10	Programmable input/output line
15	VBAT	Lithium Ion battery positive terminal
16	LX	Switch-mode power regulator output
17	VDD_1.8V	Supply Voltage (1.8V) input
18	VDD_CHG	Lithium Ion battery charger input

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19	GND	Ground
20	PCM_SYNC	Synchronous data sync
21	PCM_IN	Synchronous data input
22	PCM_CLK	Synchronous data clock
23	PCM_OUT	Synchronous data output
24	PIO_6	Programmable input/output line
25	PIO_7	Programmable input/output line
26	RESETB	Reset if low
27	GND	Ground
28	SPI_CLK	Serial Peripheral Interface clock
29	SPI_MISO	Serial Peripheral Interface data output
30	SPI_MOSI	Serial Peripheral Interface data input
31	SPI_CSB	Chip select for Serial Peripheral Interface, active low
32	VREG_EN	Regulator control pin
33	PIO_3	Programmable input/output line
34	PIO_2	Programmable input/output line
35	PIO_1	Programmable input/output line
36	PIO_0	Programmable input/output line

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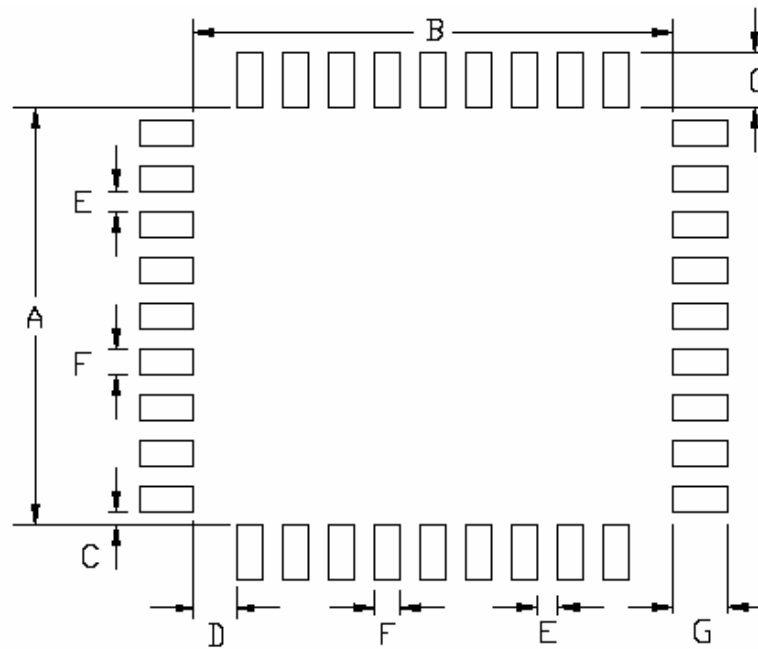
Dimensions (mm)



A	13.5±0.2	D	0.6±0.1	G	1.3±0.1
B	12.0±0.2	E	0.5±0.1	H	2.05±0.1
C	2.1 max	F	0.6±0.1	I	1.0±0.1

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Layout Guide



Unit:mm

A	10 ± 0.1	D	1.05 ± 0.1	G	1.3 ± 0.1
B	11.5 ± 0.1	E	0.5 ± 0.1		
C	0.3 ± 0.1	F	0.6 ± 0.1		

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Record of changes

Date	Content of change	Maker
Jan. 12,2007	Primarily release.	