

Product Flyer

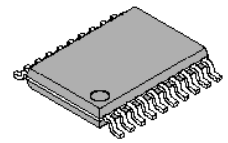
Product Group

MB15F8xUL

August 2002
Version 1.0

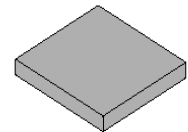
Fractional-N / Integer Dual PLL Frequency Synthesisers

The Fujitsu MB15F8xUL series dual PLLs are serial input Fractional-N (SCCT) / Integer frequency synthesisers. Fujitsu's own approach to reduce the fractional spurious without having impact on the chip size, is called Spurious Cancellation based on standardised Constant Time (SCCT). This results in a small, cost-effective chip that provides fast hopping during lockup and suppresses the spurious after the synthesiser has locked.



20-pin, Plastic TSSOP
FPT-20P-M06

The Fractional-N PLL operates up to 2.6 GHz and the integer PLL operates up to 1200 MHz. They have built-in dual-modulus prescalers enabling pulse swallow operation and fixed or selectable fractional modulo. The latest advanced BiCMOS technology is used resulting in a super low supply current. A refined charge pump design (Fujitsu's super Charger) provides fast tuning along with low spurious noise and phase noise characteristics. A new BCC-20 package decreases the mounting area by more than 30% over the previous BCC-16 package.

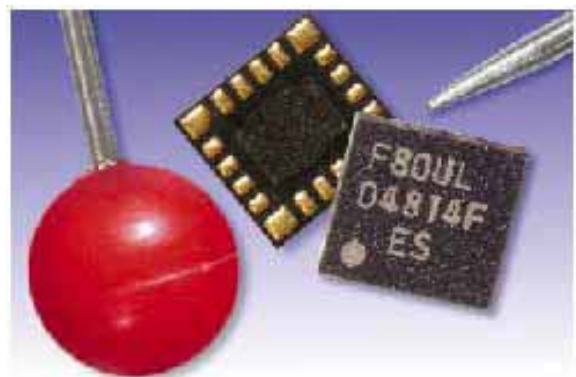


20-pad, Plastic BCC,
LCC-20P-M05

The MB15F8xUL series is ideally suited for digital mobile communications, including GSM, DCS1800, PCS1900, IS-136, IS-95 and ISM applications.

Features

- Fractional-N (SCCT) RF PLL and Integer IF PLL
- Fast hopping time
 - Lock up time down to 140us for GPRS application
- Very low spurious and phase noise characteristics
- Low operating voltage : 2,7V to 3,6V
- Advanced small packing available:
 - 20-pin BCC packages 3,4mmx3,60mm
- Software selectable charge pump current ($\pm 1,5$ or $\pm 6,0$ mA)
- Evaluation Kits available
 - MB1500EB16 (TSSOP)
 - MB1500EB16B (BCC)



Key Specifications:

Parameter	Symb ol	MB15F83UL	MB15F86UL	MB15F88UL
Operating Frequency IF (MHz)	f_{inIF}	100-600	100-600	100-1200
Operating Frequency RF (MHz)	f_{inRF}	400-2000	400-2500	1700-2600
Power Supply Current IF (mA)	ICC_{IF}	1,6	1,6	2,0
Power Supply Current RF (mA)	ICC_{RF}	4,2	4,2	4,0
Power-saving Current	IPS	0,1uA typ		
Power Supply Voltage	VCC	2,7 V – 3,6 V		
Prescaler Divide Ratios RF	P	RF = 16/17	RF = 64/65 or 32/33	RF = 32/33
Prescaler Divide Ratios IF	P	IF = 8/9 or 16/17	IF = 8/9 or 16/17	IF = 16/17 or 32/33
Reference Divider RF		RF = 3 to 127	RF = 3 to 255	RF = 8 to 16383
Reference Divider IF		IF = 3 to 16383	IF = 3 to 16383	IF = 8 to 16383
Fractional Function		RF = modulo 13 fixed	RF = modulo 3 to 16	RF = modulo 5 or 8
Fractional Counter		RF = 0 to 15		
Swallow Counter RF		RF = 0 to 31		
Swallow Counter IF		IF = 0 to 15	IF = 0 to 31	IF = 0 to 31
Programmable Counter RF		RF = 18 to 1023	RF = 18 to 1023	RF = 34 to 1023
Programmable Counter IF		IF = 3 to 2027		
Operating Temperature	Ta	-40°C to +85°C		

Evaluation Systems

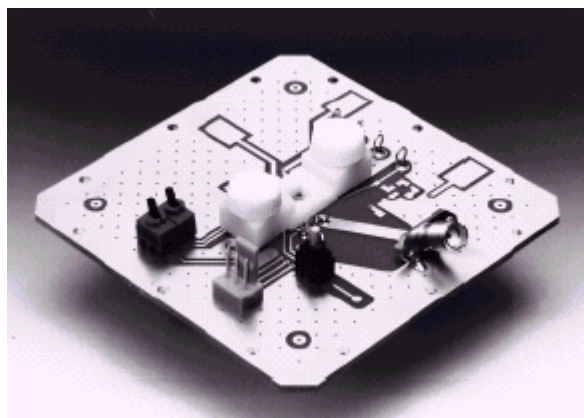
Designing a complex subsystem, such as a PLL, is no easy task. Therefore, Fujitsu has made available an evaluation system to aid in the development of reliable frequency synthesisers. Each evaluation system consists of two PCBs, controlling software, and instructions.

The RF PCB is laid out to allow the target MB15F8xUL to be optimised for the chosen application. The RF board is only semi-populated, which allows the user to configure it to fit the application.

Evaluation Board P/N's

MB1500EB16 for the TSSOP Package

MB1500EB16B for the BCC Package



Typical Evaluation Board