

Features

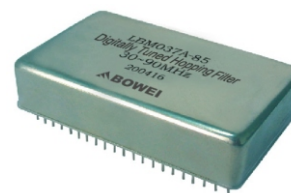
- Tuning Control: 8 bit parallel (TTL Level compatible)
- Wide dynamic : Input $P_{1\text{dB}}$ =30dBm
- 2 pole 0.1dB Chebyshev Response
- Tuned speed $\leq 10\mu\text{s}$ ($f_c > 30\text{MHz}$)
- Up to 250 steps ($F_c < 120\text{MHz}$) in band.
- Typical 2~3 octave bandwidth coverage within 30~700MHz
- High bias voltage low bias current (100V/1.5mA)
- Package : Pins or SMA connector
- Small DIP package
- Operating Temperature range: $-40^\circ\text{C} \sim +85^\circ\text{C}$

Specification

Electrical

Parameters

% 3dB Bandwidth	3~10%
Fractional BW flatness ¹⁾	$\leq 1\%$
I.L at center frequency ²⁾	2~6dB
I.L variance ³⁾	$\leq 2\text{dB}$
Shape Factor (BW_{30}/BW_3)	$\leq 7:1$
Impedance	50 Ω
VSWR	2.0:1max
Input $P_{1\text{dB}}$ ⁴⁾	+30dBm(TYP)
DC power:	+5V/90mA
	V_{bb} : +15~100V/1.5mA



Selection Guide:

LBM017A-85(40~110MHz), LBM037A-85(30~90MHz),
LBM038A-85(30~110MHz), LBM039A-85(90~200MHz),
LBM040A-85(200~400MHz), LBM041A-85(225~450MHz),
LBM041A512-85(225~512MHz),
LBM700A-85(400~700MHz)



LBM017A-85

- Note:** 1) This is the difference of % 3dB bandwidth within the frequency band, see Page 56 for typical curves
2) Insertion loss at center frequency is typical one, the wider passband the lower IL. Following method is used to calculate insertion loss: $IL \times BW_{3dB}\% = 20 \sim 25$, For example % BW is 5% then IL is 4~5dB
3) See typical curves on page 56
4) Decided by the bias voltage, refer to the "Input $P_{1\text{dB}}$ --- Bias voltage" typical curve on page 55

Environmental

	Standard	Special		Standard	Special
Vibration(5~2000Hz)	10G	20G	Operating Temp	-40~+60 $^\circ\text{C}$	-40~+85 $^\circ\text{C}$
Shock(11 mSec)	30G	50G	Storage Temp	-40~+100 $^\circ\text{C}$	-55~+125 $^\circ\text{C}$
Relative HUmidity	0~90%	95%			

Dimension and Pinout

LBM017A-85~LBM700A-85 have a same outline and pinout as LBM034A~LBM700A

LBM017A-85~LBM700A-85 $V_{bb}=15\sim100V$.

Note: $A_0\sim A_7$ are 8 control bit lines. Tune words from 00000000 to 11111010 results in the tuned frequency from lowest to highest

$$\text{Tuneword} = \left(\frac{f_{\text{desired}} - f_{\text{low}}}{f_{\text{high}} - f_{\text{low}}} \right) \times 250 \quad (\text{Note: It will be 200 for LBM039A-85~LBM700A-85})$$

Example: The tuneword of LBM037A-85 at $f_c=50\text{MHz}$ is:

$$\text{Tuneword} = \left(\frac{50 - 30}{90 - 30} \right) \times 250 = 83D = 53H$$

Notes

The accuracy of tune words is assured only with $V_{bb}=85V$ which is the case of manufacture. A low V_{bb} can cause errors of tune words so that you must declare to the factory of the exact V_{bb} used to adjust the errors before delivery.

- 1) The Input P_{-1} decided by the bias voltage, refer to the “Input P_{-1} —Bias voltage” typical curve on this page
- 2) Replacement alternative for MICRO-POLE series of POLE/ZERO
- 3) Zero DC resistance at both I/O port, additional DC blocking capacitance needed if necessary

Typical Curves

