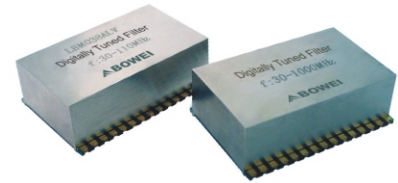


### Features

- High “Q” varactor tuning circuit
- Tuning control: 8 bit parallel (TTL compatible)
- Input P<sub>-1</sub>: +10dBm( $f_c \geq 90\text{MHz}$ ),  
0dBm( $f_c < 90\text{MHz}$ )
- DC Power: 3~3.6V/10~15mA
- Double tuned 0.1dB Chebyshev response
- Tuning Speed  $\leq 50\mu\text{s}$ ( $f_c > 30\text{MHz}$ )
- Up to 251 tuning step
- Typical 2~3 octave band cover the frequency band 30~1000MHz
- SMT Package (non-hermetic)
- Operating Temperature Range: -40°C~+85°C



### Selection Guide:

DVT30-90 (30~90MHz), DVT30-110 (30~110MHz)  
 DVT90-200(90~200MHz),  
 DVT200-400(200~400MHz)  
 DVT400-700(400~700MHz),  
 DVT550-865(550~865MHz)

Note: Custom frequency bands available

### Specification

#### Electrical

Parameter	
3dB Bandwidth(%)	3~10%
% 3dB Bandwidth flatness <sup>1)</sup>	$\leq 1\%$
Insertion Loss at center frequency <sup>2)</sup>	2~6dB
IL variance <sup>3)</sup>	$\leq 2\text{dB}$
Shape factor ( $BW_{30}/BW_3$ )	$\leq 7:1$
Impedance	50Ω
Maximum VSWR	2.0:1max
Input P <sub>-1</sub>	+10dBm(TYP, $f_c \geq 90\text{MHz}$ ) 0dBm(TYP, $f_c < 90\text{MHz}$ )
DC Power( $V_{CC}$ ):	+3.3V/15mA

**Example:** DVT30-90-5 means DVT30-90 series with 5% 3dB bandwidth.



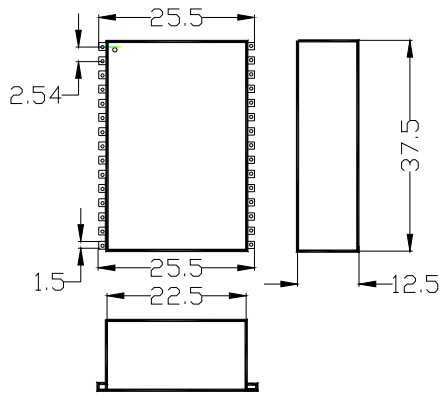
**Note:** 1) difference of % 3dB bandwidth within the frequency band, see Page60-61 for typical curves

2) Insertion loss at center frequency is typical one, the wider passband the lower IL. Following method used to calculate insertion loss:  $IL \times BW_{3dB}\% = 20\sim 25$ , For example % BW is 5% then IL is 4~5dB

3) See Page 60-61 for the typical curves

Environmental	Standard		Special		
	Standard	Special	Standard	Special	
Vibration(5~2000Hz)	10G	20G	Operating Temperature	-40~+60°C	-40~+85°C
Shock(11 mSec)	30G	50G	Storage Temperature	-40~+100°C	-55~+125°C
Humidity	0~90%	95%			

**Package Outline**



DVT30-90~DVT550-865

Outline tolerance 0.5mm;

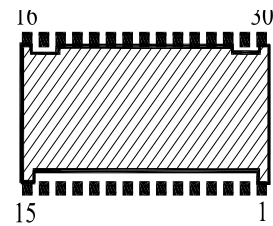
Orientation dot pin 1

**Pinout**

DVT30-90~DVT550-865

Pin	1	2	3	4	5	6	7
Descrip	Gnd	A7	A6	A5	A4	A3	A2
Pin	8	9	10-13		14	15	16
Descrip	A1	A0	N/C		V <sub>cc</sub>	GND	GND
Pin	17	18-28		29	30		
Descrip	RF	GND		RF	GND		

V<sub>cc</sub>=+2.7~3.3V



Bottom

A<sub>0</sub>~A<sub>7</sub> are 8 control bit lines. Tune words from 00000000 to 11111010 results in the tuned frequency from lowest to highest. The binary tuning word is determined by the following relationship:

$$\text{Tuneword} = \left( \frac{f_{desired} - f_{low}}{f_{high} - f_{low}} \right) \times 250$$

Example: If you wish to tune to 50MHz using a 30 to 90 MHz filter, the tune word is:

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

**Notes**

- 1) The relationship between tuneword and frequency is only an approximate one.
- 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
- 4) RF input and output ports are interchangeable
- 5) Special frequency bands are available

**Typical Plots**

