

#### GENERAL DESCRIPTION

The DTO/Synthesizer module is a compact, broadband frequency source, covering the frequency range of 2.0 to 18 GHz. In DTO mode, the unit features Linear Control, exhibiting frequency settling times of less than 1uSec, while in synthesizer mode frequency accuracy and stability of better than 1.5PPM is achieved. The ovenized internal VCOs assure repeatability under ambient temperature conditions.



#### KEY FEATURES

- Linear Control at DTO mode
- Fast Tuning
- Low Post Tuning Drift
- Low Spurious
- Heaters For
- Heater Power Control Switch

#### KEY FEATURES

- Phase Locked Loop For High Stability- Optional
- Lock Indication
- FM Linearized Modulation
- Chain Connection Option
- Revers and Transient Protection
- Latched Data Option

#### GENERAL SPECIFICATIONS

Frequency Range	2-18 GHz
RF Output Power	8 ÷ 13 dBm
RF Power Variations	± 1dBm
Output Impedance	50 Ohm
Load VSWR	1.5:1 Max
Harmonics	-20 dBc
Spurious	-60 dBc
Modulation Frequency	up to 5 MHz
Modulation Sensitivity	50 MHz/V min
FM Deviation	± 250 MHz Up to the edge of the VCO Band
Frequency Band Overlap	±50 MHz

#### GENERAL SPECIFICATIONS

Power Requirements	+15±0.5 VDC/1.7A, Max, -15±0.5 VDC/350mA, Max +28±1 VDC/3A for Heaters
Operating Temp.	0 to 50° C (-20°C to 50 °C - optional)
Humidity	95%
Non Operating Temp	-40 to 80 °C
Humidity	95% No Condensation
Connectors	D-37 – Data, Control D-25 – Power SMA-Output, Ref, FM Mode, Ext.
Size	186 X 115 X 50 (mm)
Weight	2 Kg max

**Note:** Specifications are subject to change without notice.

#### MicroKim

3 Ha'Yozma St.  
P.O. Box 2023  
Tirat Carmel, 39120  
Israel

Tel: +972 (0)4 857-7490  
Fax: +972 (0)4 858-0534  
Email: [marketing@microkim.com](mailto:marketing@microkim.com)  
Website: [www.microkim.com](http://www.microkim.com)

**MODE DEPENDANT FEATURES**

**DTO MODE**

	<u>2-6 GHz</u>	<u>6-12 GHz</u>	<u>12-18 GHz</u>
Frequency Resolution	500 KHz	1000 KHz	2 MHz
Linear tuning control 12 bits	250 KHz	500 KHz	1 MHz
Linear tuning control 13 bits	< 200 KHz	400 KHz	800 KHz
For standard tuning control	< ±1 MHz	±2 MHz	±4 MHz
Accuracy	±1 MHz	±2 MHz	±4 MHz
Freq' Settling time (in 1uSec)	±1.5 MHz	±3 MHz	±6 MHz
Post Tuning Drift (In 30 sec)			
Phase Noise			
@100 KHz	<-80 dBc/Hz	-72 dBc/Hz	-64 dBc/Hz
@1MHz	<-100 dBc/Hz	-94 dBc/Hz	-88 dBc/Hz
Tuning Control			
Standard tuning control	16 bits		
Linear tuning control	13 bits		
Latched Data	positive edge		
Internal Band selection	5 bits		
Frequency Pulling	± 100 KHz Max		

**MODE DEPENDANT FEATURES**

**SYNTHESIZER MODE**

	<u>2-6 GHz</u>	<u>6-12 GHz</u>	<u>12-18 GHz</u>
Frequency Resolution	250 KHz	500 KHz	1 MHz
Freq' Settling time (in 5 mSec)	±50 KHz	±100 KHz	±200 KHz
Phase Noise @10 KHz	< -70 dBc/Hz	-60 dBc/Hz	-52 dBc/Hz
@100 KHz	< -100 dBc/Hz	-90 dBc/Hz	-82 dBc/Hz
@1 MHz	< -120 dBc/Hz	-114 dBc/Hz	-108 dBc/Hz
Tuning Control	3 Wire Serial bus (Data, Clock, Enable)		
Internal Band selection	5 bits		
Accuracy	Int. ± 1.5 PPM		
Modulation Frequency	0.1 MHz to 5MHz		