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Series D60 Single-Band DTOs

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D6040C

Microwave Oscillator

18 GHz

100 dBm

RF

18 GHz

Digitally Tuned Oscillators

The Series D60 single-band DTO covers the frequency range of 0.5 to 18 GHz in 6 DTOs. Fig. 2 is the basic block diagram of the single band DTO.

When constant deviation bandwidth is required across the entire frequency band of the DTO, Option 2 should be used.

FREQUENCY MODULATION INPUT

DIGITAL TUNING INPUT

PROM

LATCH

VAR. ATT.

DAC

VCO

RF OUTPUT

PROPORTIONAL HEATER

OPTION 2

PARAMETER	MODEL							
	D6010C	D6020C	D6026C	D6040C	D6080C	D6120C		
FREQUENCY RANGE (GHz)	1-2	2-4	2.6-5.2	4-8	8-12	12-18		
ACCURACY, Incl. temp. (MHz)	±2	±2	±3	±4		±6		
FREQUENCY SETTling <sup>(1)</sup> , (MHz) within 1 µsec	±2			±3		±4		
MODULATION <sup>(2)</sup> Bandwidth, min (MHz)	DC to 15							
Sensitivity variation Standard unit, typ	3:1							
With Option 2, max	1.1:1							
Frequency deviation bandwidth, min @ 2v P-P (MHz)	100	200	260	400		600		
RF POWER Output, min (dBm)	+10							
Variation, incl. temp. and freq. max (dB)	±2	±1.5		±2.0				
RESIDUAL FM, P-P @ -3 dBc, typ (kHz)	50		75	100		150		
HARMONICS, max (dBc)	-15				-40	-20		
f/2, 3f/2, max (dBc)	N/A					-20		
SPURIOUS, max (dBc)	-60							
PULLING VSWR 2:1 max (MHz)	1							
PUSHING, max (kHz/V)	250							
NOMINAL LSB <sup>(3)</sup> (MHz)	0.5			1.0		1.5		
MONOTONICTY	Guaranteed							
TURN ON TIME, (minutes) to specified accuracy @ +25°	2							
CONNECTORS Control/Power	25 pin, D type male <sup>(4)</sup>							
RF output	SMA female							

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- (1)  $\Delta f$  relative to  $f$  after 1 sec
- (2) 50 Ohm input impedance
- (3) 12 Bit TTL input
- (4) Mating connector furnished
- (5) RF section and driver components hermetically sealed

Option No.	Description
2	Reduced Modulation Sensitivity Variation

Dimensional Tolerances, unless otherwise indicated: .XX ±.02; .XXX ±.005

CONTROL/POWER CONNECTOR	
PIN	FUNCTION
14	+28V (return)
15	+28V (return)
16	Not used
17	Tuning Word Bit 2
18	Tuning Word Bit 4
19	Tuning Word Bit 6
20	Tuning Word Bit 8
21	Tuning Word Bit 10
22	Tuning Word Bit 12 (MSB)
23	Latch <sup>(1)</sup>
24	Digital ground
25	-15V (analog)

(1) Logic "0" to latch input word.  
Logic "1" to unlatch input word.



