

## NPDO-I

## Phase-locked Dielectric Resonator Oscillators

### Internal Reference, 1~32GHz

#### Features:

- \* High Frequency Stability
- \* Ultra Low Phase Noise

#### Applications:

- \* Wireless
- \* Transceiver
- \* Laboratory Test
- \* Radar

#### Electrical

Output Frequency:	1~32GHz
Output Power:	13dBm min
External Reference:	50~300MHz (0±3dBm)
Reference Input Power:	3~10dBm
Phase Noise*1:	P+20lg(N)+3dBc/Hz
Spurious:	-70dBc max.
Harmonic:	-20dBc max.
Voltage:	+12V DC
Current:	240mA max.
Lock Indicator (LI):	TTL logic
	High: locked
	Low: unlocked

[1] The formula to calculate phase noise of the offset 1KHz, 10KHz and 100KHz, where P is the respective phase noise of the external reference, and N is the ratio of output frequency to reference.

#### Environmental

Operating Temperature:	-40~+70°C
Non-operating Temperature:	-55~+85°C

#### How To Order

##### NPDO-I-X-Y

X: Phase noise at 1kHz offset in dBc/Hz

Y: Out Frequency in GHz

1~16GHz - Outline A

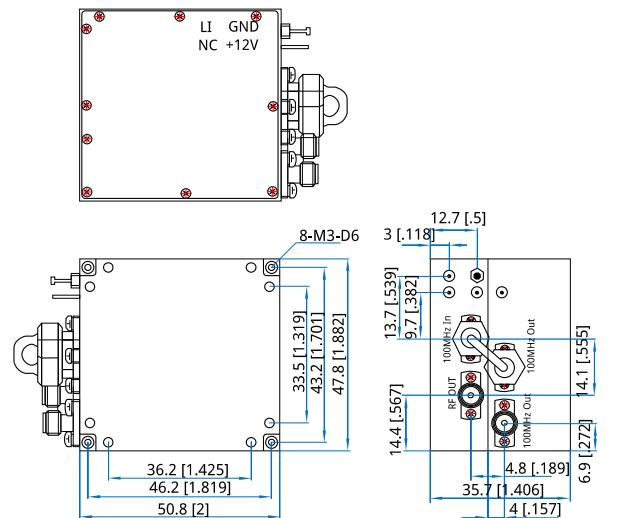
16~32GHz - Outline B

#### Examples:

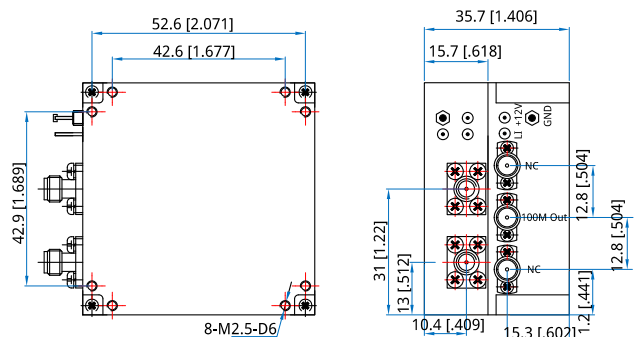
To order a PLDRO, internal reference, 12.4GHz, phase noise is -95dBc/Hz@ 1kHz, specify NPDO-I-95-12.4.

Customization is available upon request.

#### Outline Drawings



Outline A



Outline B

Unit: mm [in]

Tolerance: ±0.2mm [±0.008in]

## Phase-locked Dielectric Resonator Oscillators

### Phase Noise

Output Frequency (GHz)	Phase Noise				
	dBc/Hz@100Hz	dBc/Hz@1KHz	dBc/Hz@10KHz	dBc/Hz@100KHz	dBc/Hz@1MHz
1	108	-133	-135	-135	-140
2	102	-126	-131	-131	-140
4	-96	-120	-126	-126	-140
6	-92	-116	-120	-120	-140
8	-92	-115	-120	-120	-140
10	-88	-113	-120	-120	-140
12	-88	-110	-120	-120	-140
14	-86	-108	-118	-118	-140
16	-83	-102	-105	-110	-140
17	-83	-108	-114	-114	-138
18	-83	-108	-114	-114	-138
20	-80	-104	-113	-113	-136
22	-80	-104	-112	-112	-136
24	-80	-104	-112	-112	-135
26	-80	-102	-110	-110	-135
28	-78	-102	-110	-110	-133
30	-78	-96	-99	-104	-132
32	-78	-96	-99	-104	-132