



## Section 3-2: Dielectric Resonant Phase Locked Oscillator Series

[www.3jmicrowave.com](http://www.3jmicrowave.com)

Frequency Coverage: 18 to 110 GHz

### Applications:

- Microwave and Millimeter Local Oscillators
- Transmitter Sources
- Instrumentations

### Features:

- Various Bandwidth Coverage
- Low Level Harmonics and spurious
- Low Phase Noise
- Coax or Waveguide RF connectors



### Descriptions:

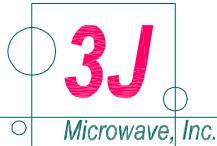
**3J Microwave, Inc.** offers a complete line of dielectric resonant phase locked oscillators in frequency range of 18 to 110 GHz. The available state-of-the-art solid-state technologies, devices, harmonics filtering, packaging, phase lock & frequency multiplication techniques are utilized in the dielectric resonant phase locked oscillators to meet various requirements. Coax RF connectors are available in the frequency range below 67 GHz. Waveguide connectors are also designed to cover eight waveguide bands from K to W-Band in the frequency range of 18 to 110 GHz. The series dielectric resonant phase locked oscillators

are designed for the various applications such as local oscillators for Receivers, Transmitters and transceivers, instrumentations and transmitter sources, which have high stability, low phase noise or synchronization features etc. The series dielectric resonant phase locked oscillators are sorted in three categories: 1) **PDRO** series internal reference dielectric resonant phase locked oscillator; 2) **SPDRO** series single loop external reference dielectric resonant phase locked oscillator; 3) **DPDRO** series dual loop external reference dielectric resonant phase locked oscillator.

### PDRO Series Internal Reference Phase locked DRO Specs:

Model Number*	Freq (GHz)	Pout (dBm)	Phase Noise (dBc)		Spurious/Harmonics (dBc)	Freq Stability (PPM)**	DC Bias (V/mA)	RF Output Connector	Outline
			@10KHz	@100KHz					
PDRO-xxxxx-00	18-27	10-30	-103	-100	S: -80dB H: -20dB	± 2.5 ppm	Voltage: +12V or +15V Current: Stable: 450-2500mA Surge: 900-3000mA	UG595-U UG595-UM UG599-U UG383-U UG383-UM UG385-U UG387-U UG387-UM	K01, K02
	22-33		-103	-100					
	26-40		-99	-96					
	33-50	10-23	-99	-96					
	40-60		-99	-96					
	50-75		-96	-93					
	60-90		-90	-87					
	75-110		-90	-87					

\* Please see "how to order" for the model number details



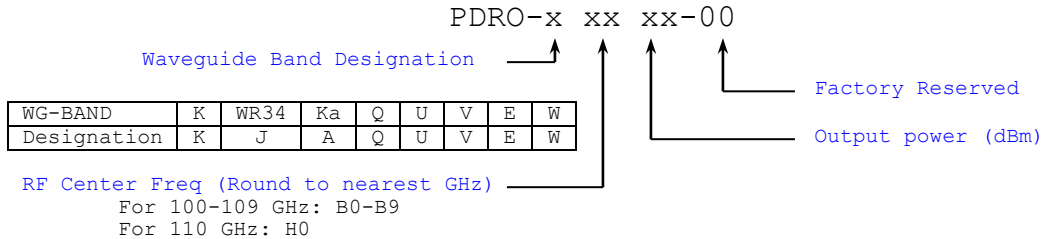
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Frequency Coverage: 18 to 110 GHz

\*\* Operating Temperature: -20 to +70°C

### How to Order:



### PDRO Model Number Example:

Model Number of a W-Band Internal Reference DRO:

Specifications	Model number
<b>RF Frequency:</b> 100 GHz <b>Output Power:</b> 15 dBm	<b>PDRO-WB015-00</b>

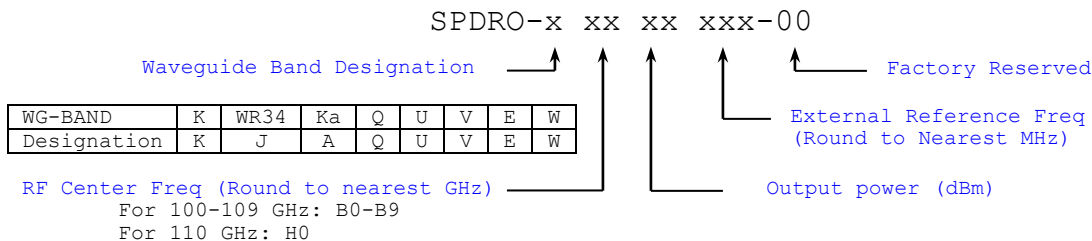
### SPDRO Series External Reference Phase Locked DRO Specs:

Model Number*	Freq (GHz)	Pout (dBm)	Phase Noise (dBc)		Spurious/Harmonics (dBc)	Freq Stability (PPM)**	DC Bias (V/mA)	RF Output Connector	Outline
			@10KHz (Typ.)	@100KHz (Typ.)					
SPDRO-xxxxxxxx-00	18-27	10-30	-103	-100	S: -80dB H: -20dB	Reference Dependant  EXT REF: 50-300MHz 0dBm ±3dB	Voltage: +12V or +15V  Current: 400- 2000mA	UG595-U UG595-UM UG599-U UG383-U UG383-UM UG385-U UG387-U UG387-UM	K01, K02
	22-33		-103	-100					
	26-40		-99	-96					
	33-50	10-23	-99	-96					
	40-60		-99	-96					
	50-75		-96	-93					
	60-90		-90	-87					
	75-110		-90	-87					

\* Please see "how to order" for the model number details

\*\* Operating Temperature: -40 to +70°C

### How to Order:



### SPDRO Model Number Example:

Model # of a W-Band Single Loop External Reference Phase Locked DRO:

Specifications	Model number
<b>RF Frequency:</b> 96 GHz <b>Output Power:</b> 13 dBm <b>External Reference Frequency:</b> 100 MHz	<b>SPDRO-W9613100-00</b>



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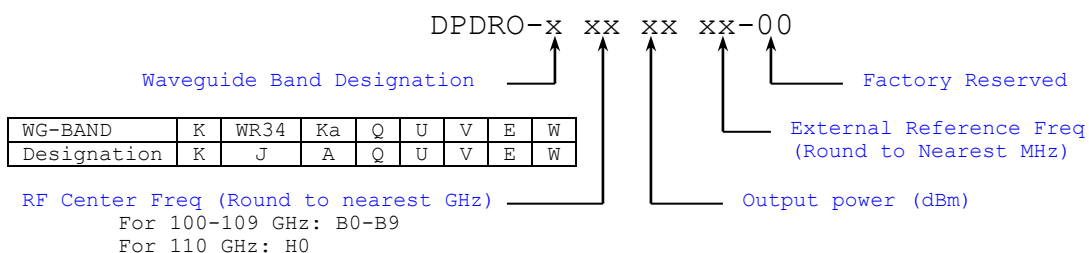
### DPDRO Series DualLoop External Reference DRO Specifications:

Model Number*	Freq (GHz)	Pout (dBm)	Phase Noise (dBc)		Spurious/Harmonics (dBc)	Freq Stability (PPM)**	DC Bias (V/mA)	RF Output Connector	Outline
			@10KHz (Typ.)	@100KHz (Typ.)					
DPDRO-xxxxxxx-00	18-27	10-30	-103	-100	S: -80dB H: -20dB	Reference Dependant  EXT REF: 5-15 MHz 0dBm ±3dB	Voltage: +12V or +15V Current: 580- 2180mA	UG595-U UG595-UM UG599-U UG383-U UG383-UM UG385-U UG387-U UG387-UM	K01, K02
	22-33		-103	-100					
	26-40		-99	-96					
	33-50	10-23	-99	-96					
	40-60		-99	-96					
	50-75		-96	-93					
	60-90		-90	-87					
	75-110		-90	-87					

\* Please see "how to order" for the model number details

\*\* Operating Temperature: -40 to +70°C

### How to Order:



### DPDRO Model Number Example:

Model # of a W-Band Dual Loop External Reference Phase Locked DRO:

Specifications	Model number
RF Frequency: 95 GHz Output Power: 16 dBm External Reference Frequency: 10 MHz	DPDRO-W951610-00

Outline: K01 and K02