Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMVC13015
DATA SHEET

VCO (Voltage Controlled Oscillator) 0.5 inch Hermetic SMT (Surface Mount), Frequency of 3.7 GHz to 4.35 GHz, Phase Noise -83 dBc/Hz

FMVC13015 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 3700 MHz to 4350 MHz frequency band with a voltage tuning range from 0.0V to 7.5V. This design features exceptional phase noise performance of -83 dBc/Hz @ 10 kHz offset. Supply Voltage is +8V with a generated output power level of +4 dBm and 2nd harmonic output of -25 dBc typical. The assembly is RoHs compliant and available in a hermetically sealed 0.5" surface mount package with exposed leads that meets MIL-STD-883, Method 1014 fine & Gross leak conditions. This rugged package operates over a temperature range of -40oC to +85oC and is designed to also meet a variety of MIL-STD-202 test conditions including Humidity, Shock, and Vibration.

Features:

- 3700 MHz to 4350 MHz Bandwidth
- -83 dBc/Hz @ 10kHz offset
- Tuning Voltage 0.0V to 7.5V
- Pout = +4 dBm
- Harmonics = -25 dBc
- RoHs Compliant Assembly
- Hermetically Sealed Rugged SMT Package
- Designed to meet Fine & Gross leak per MIL-STD-883 Method 1014
- Designed to meet MIL-STD-202 Environmental Conditions

Applications:

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	3.7		4.35	GHz
Tuning Voltage	0		7.5	Vdc
Supply Voltage (DC)	7.5	8	8.5	Vdc
Supply Current (DC)		20	22	mA
Phase Noise @1kHz Offset		-55	-50	dBc/Hz
Phase Noise @10kHz Offset		-83	-78	dBc/Hz
Phase Noise @100kHz Offset		-106	-100	dBc/Hz
Output Power	+3	+4	+5.5	dBm
Tuning Sensitivity (Kvco)	80		150	MHz/V
Pushing		6	10	MHz/V
Pulling (pk-pk)		15	25	MHz
Tuning Port Capacitance		3.9		pF
Load Impedance		50		Ohms
2nd Harmonics		-25	-20	dBc

Mechanical Specifications

Size

Length	0.5 in [12.7 mm]
Width	0.5 in [12.7 mm]
Height	0.215 in [5.46 mm]
Weight	0.021 lbs [9.53 g]
Body Material and Plating	Copper Clad Nickel, Gold
Design	Hermetic

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +125 deg C
Humidity	MIL-STD-202, Method 103, 90% RH, +65 C
Shock	MIL-STD-202, Method 213I
Vibration	MIL-STD-202, Method 204D
Hermetic Seal	Fine Leak MIL-STD-883 Method 1014C/Gross Leak MIL-STD-883, Method 1014A, 1 x 10-8 atm cc/s

Fairview Microwave
1130 Junction Dr. #100
Allen, TX 75013
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

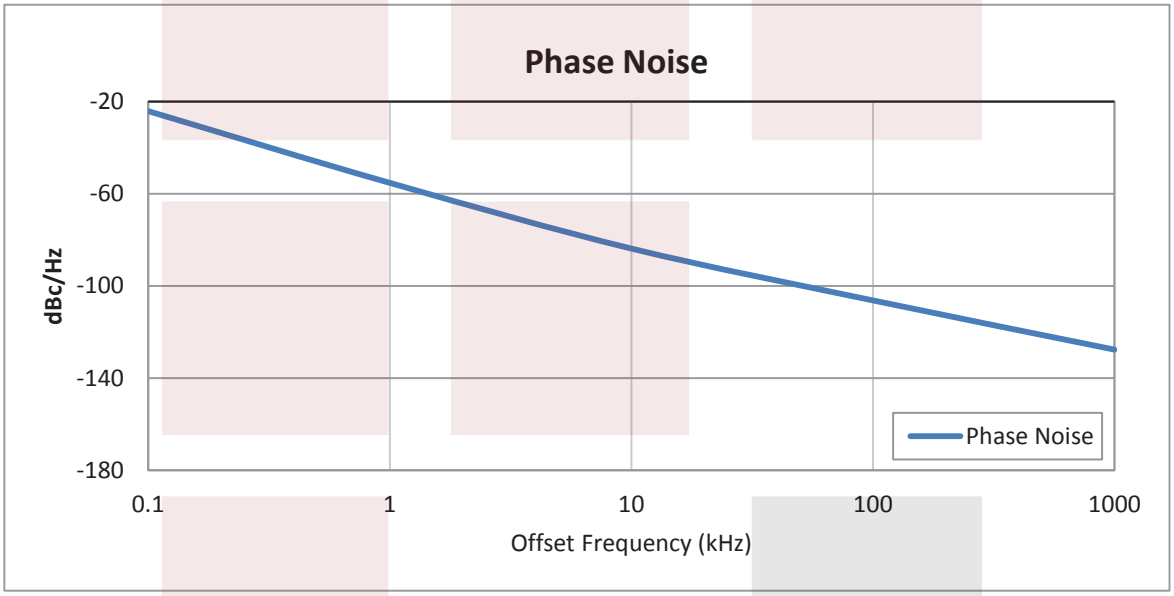
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

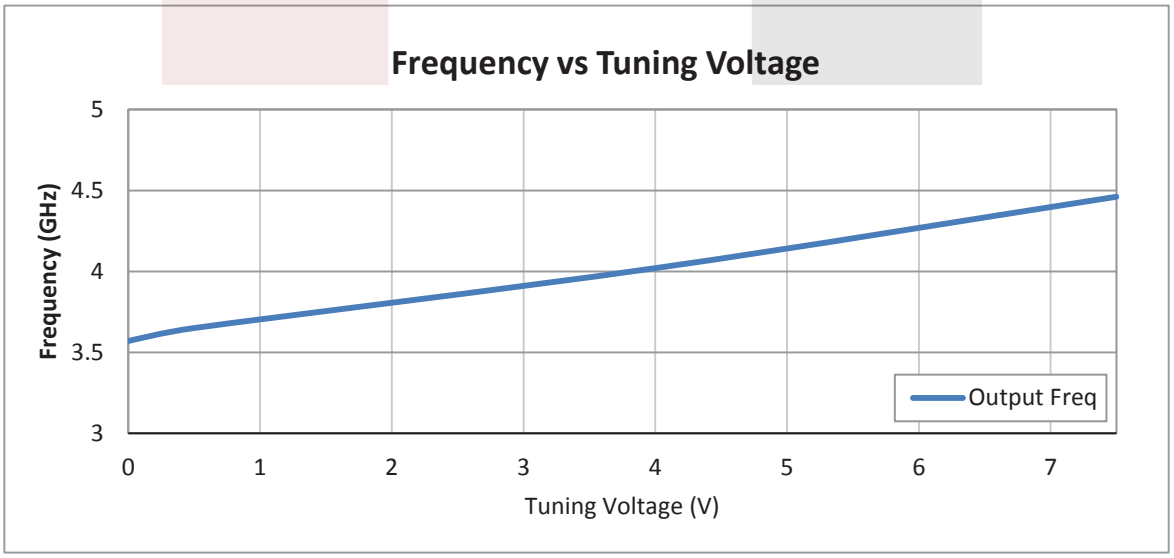
RoHS Compliant	Yes
REACH Compliant	12/17/2015

Plotted and Other Data

Notes:

Typical Performance Data

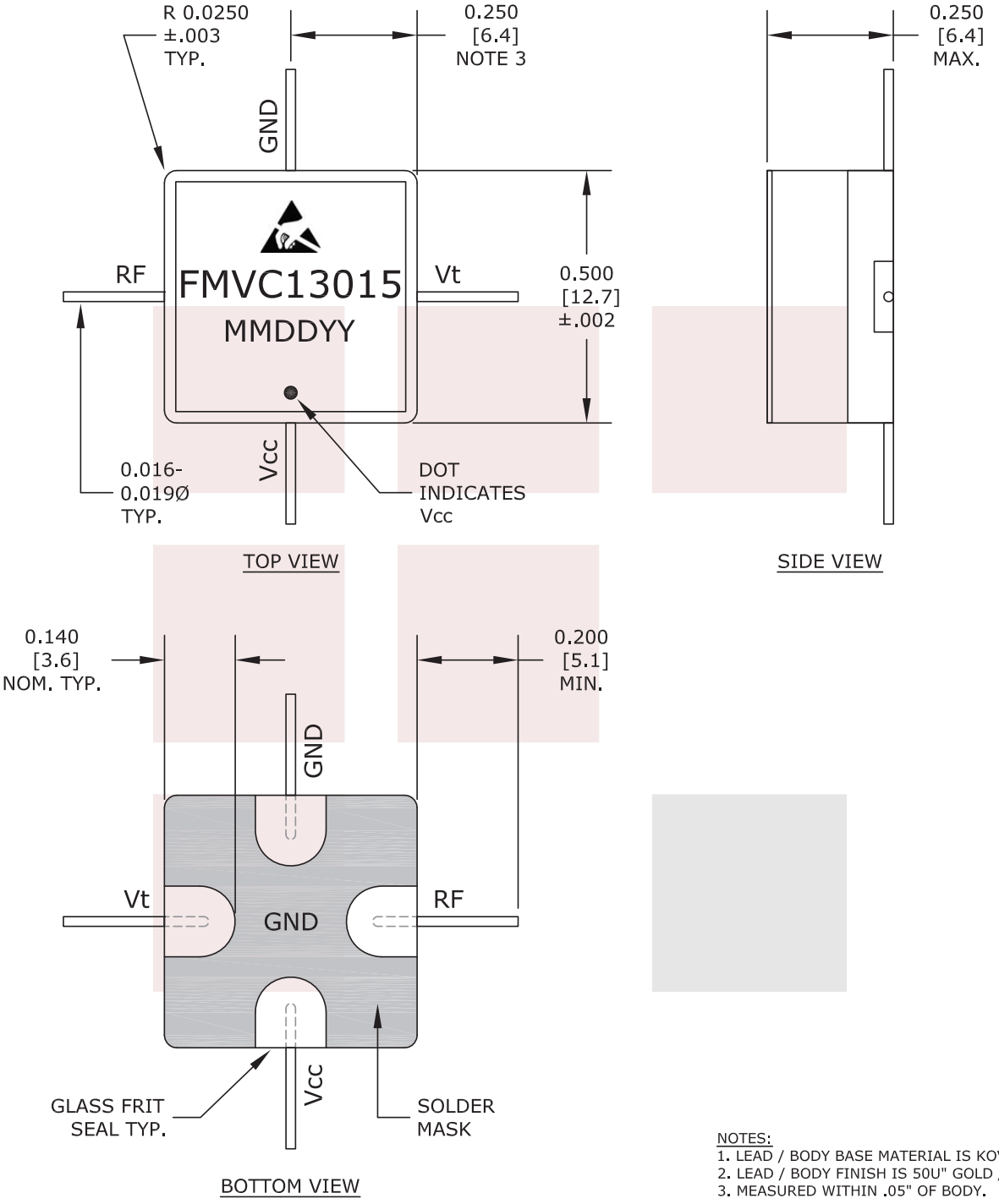




VCO (Voltage Controlled Oscillator) 0.5 inch Hermetic SMT (Surface Mount), Frequency of 3.7 GHz to 4.35 GHz, Phase Noise -83 dBc/Hz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: VCO (Voltage Controlled Oscillator) 0.5 inch Hermetic SMT (Surface Mount), Frequency of 3.7 GHz to 4.35 GHz, Phase Noise -83 dBc/Hz FMVC13015

URL: https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-smt-surface-mount-4.35-ghz-fmvc13015-p.aspx



NOTES:
1. LEAD / BODY BASE MATERIAL IS KOVAR.
2. LEAD / BODY FINISH IS 50U" GOLD / NI.
3. MEASURED WITHIN .05" OF BODY.

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM	NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
TITLE VCO (Voltage Controlled Oscillator) 0.5 inch Hermetic SMT (Surface Mount), Frequency of 3.7 GHz to 4.35 GHz, Phase Noise -83 dBc/Hz	DWG NO FMVC13015		CAGE CODE 3FKR5		
CAD FILE 020816	SHEET	SCALE N/A	SIZE A	2233	

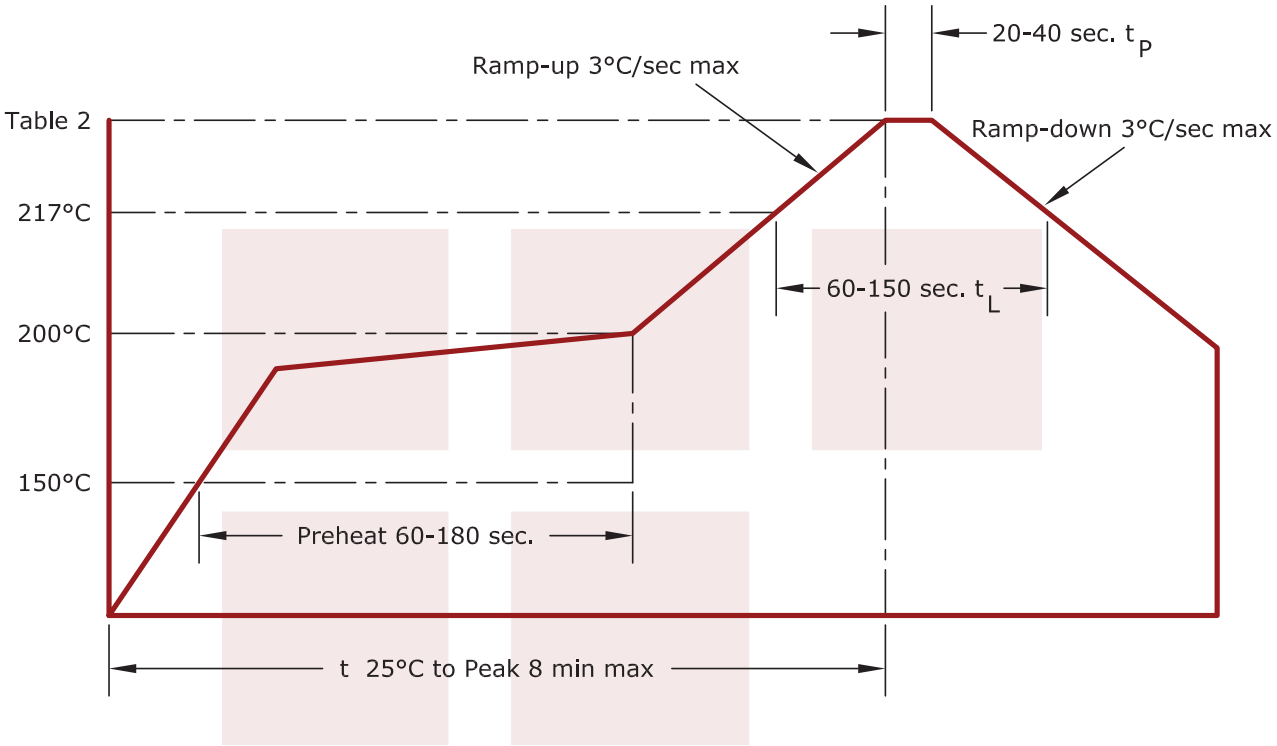


Table 1 Hand Soldering	
Item	Condition
Tip Temp. (max.)	260°
Iron Power (max.)	20 W
Time (max.)	3 Sec.
Note.	Avoid excess pressure to castelations

Table 2 Package re-flow temp	
Pkg.	tp (°C)
FMVC Series	260
FMVC11 Series	245
All Others	245

NOTES:
1. ALL VCO'S HAVE A MS RATING OF 1
2. ALL PRODUCTS CONFORM TO JEDEC J-STD-020C FOR LEAD FREE PROCESSING.

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM	NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
TITLE VCO (Voltage Controlled Oscillator) 0.5 inch Hermetic SMT (Surface Mount), Frequency of 3.7 GHz to 4.35 GHz, Phase Noise -83 dBc/Hz	DWG NO FMVC13015		CAGE CODE 3FKR5		
CAD FILE 020816	SHEET	SCALE N/A	SIZE A	2233	