

VCO (Voltage Controlled Oscillator) 0.5 inch Commercial SMT (Surface Mount), Frequency Range of 2 GHz to 2.75 GHz, Phase Noise -85 dBc/Hz

FMVC11022 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 2000 MHz to 2750 MHz frequency band with a voltage tuning range from 0.0V to 10V. This design features exceptional phase noise performance of -85 dBc/Hz @ 10 kHz offset. Supply Voltage is +15V with a generated output power level of +7.0 dBm and 2nd harmonic output of -12 dBc typical. The assembly is RoHs compliant and available in a compact 0.5 inch SMT package with an industry standard mounting footprint. The bottom surface is copper clad with 2-5 micro inches of immersion Gold over 150 - 250 micro inches of Electro less Nickel which makes it resistant to oxidation for ease of soldering. The VCO operates over a temperature range of -40°C to +85°C and is designed to meet a variety of MIL-STD-202 test conditions including Humidity, Shock, and Vibration.



Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	2		2.75	GHz
Tuning Voltage	0		10	Vdc
Supply Voltage (DC)		11		Vdc
Supply Current (DC)			21	mA
Phase Noise @10kHz Offset			-85	dBc/Hz
Output Power	+7			dBm
2nd Harmonics			-12	dBc

Mechanical Specifications

Size	
Length	0.5 in [12.7 mm]
Width	0.5 in [12.7 mm]
Height	0.13 in [3.3 mm]
Body Material and Plating	Copper Clad, Nickel, Gold
Design	Commercial
Package Style	Surface Mount

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
Temperature Cycle	MIL-STD-202, Method 107B
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

Features:

- 2000 MHz to 2750 MHz Bandwidth
- -85 dBc/Hz @ 10kHz offset
- Tuning Voltage 0.0V to 10V
- Pout = +7.0 dBm
- Harmonics = -12 dBc
- RoHs Compliant Assembly
- 0.5" SMT package
- Industry Standard Mounting Footprint
- 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



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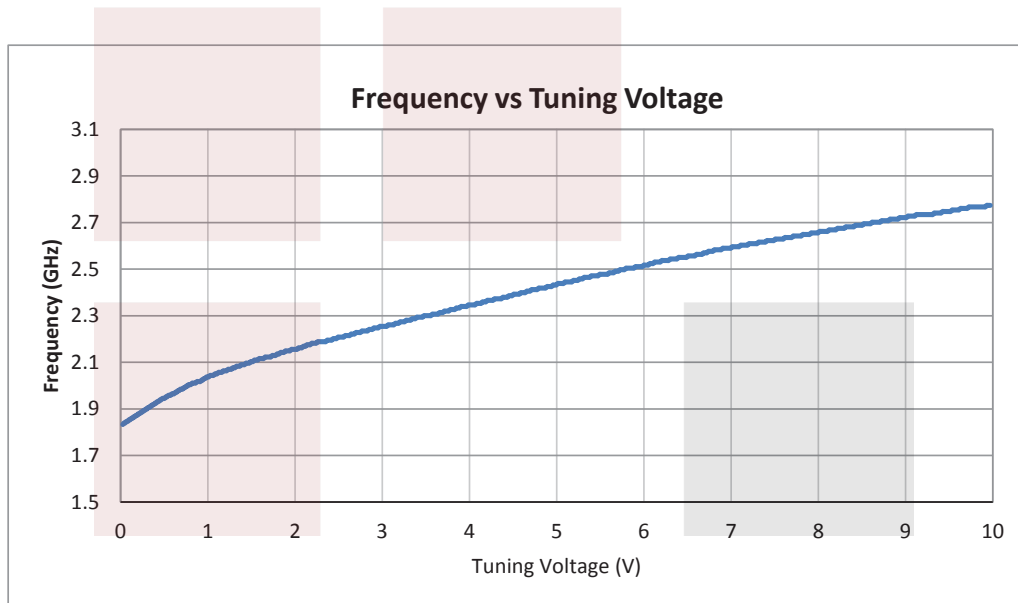
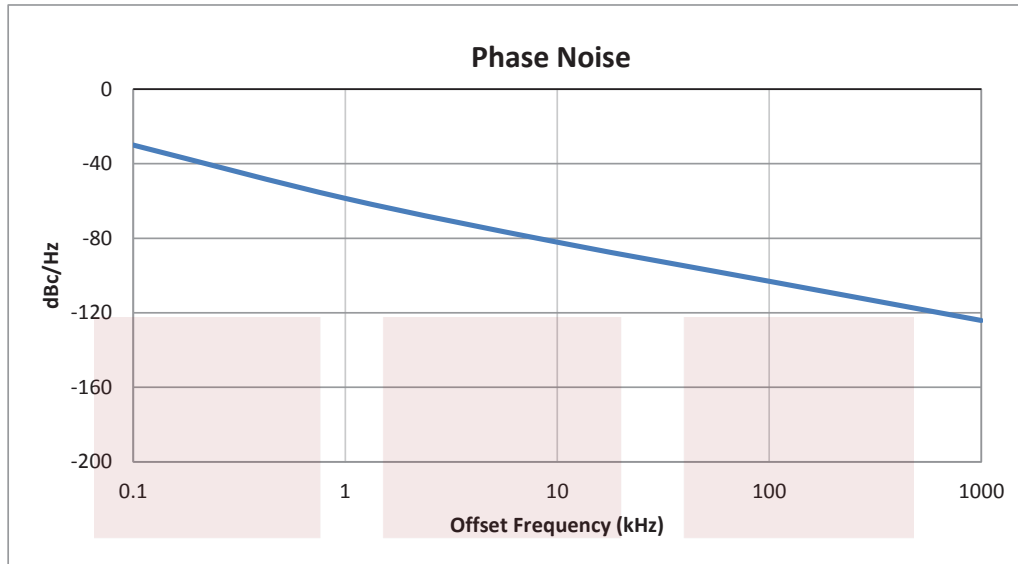
Compliance Certifications (visit www.FairviewMicrowave.com for current document)
RoHS Compliant Yes

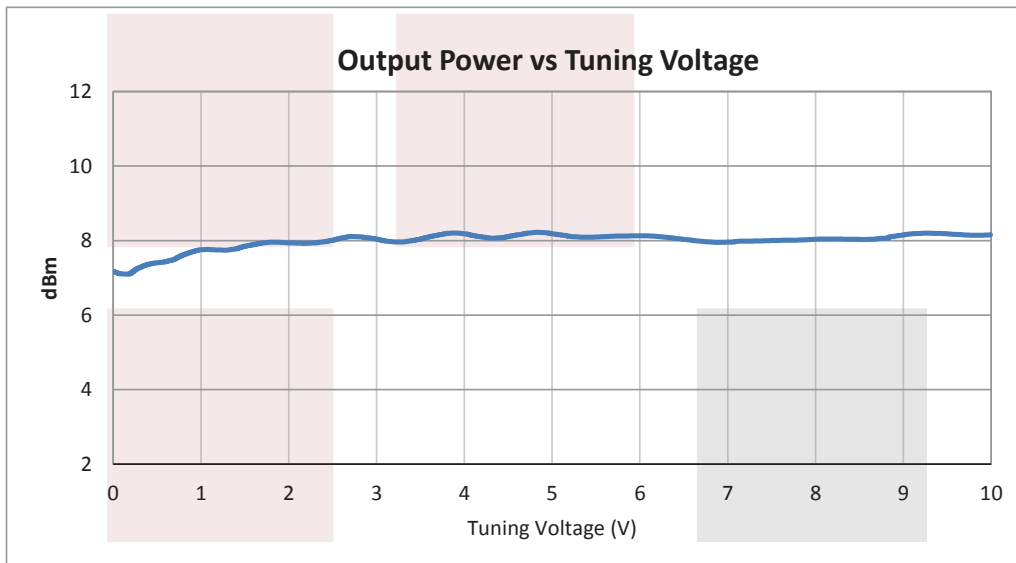
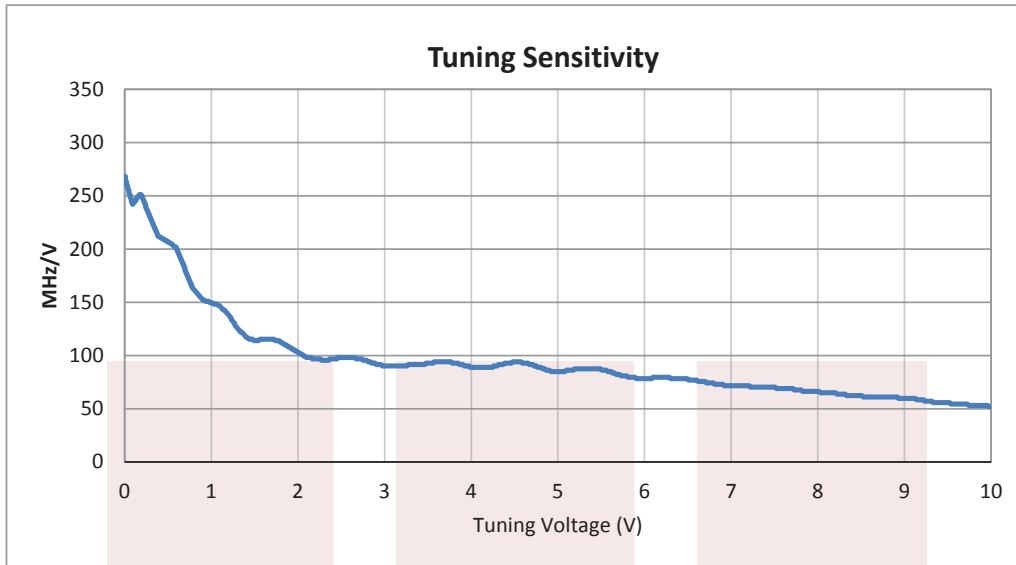
Plotted and Other Data

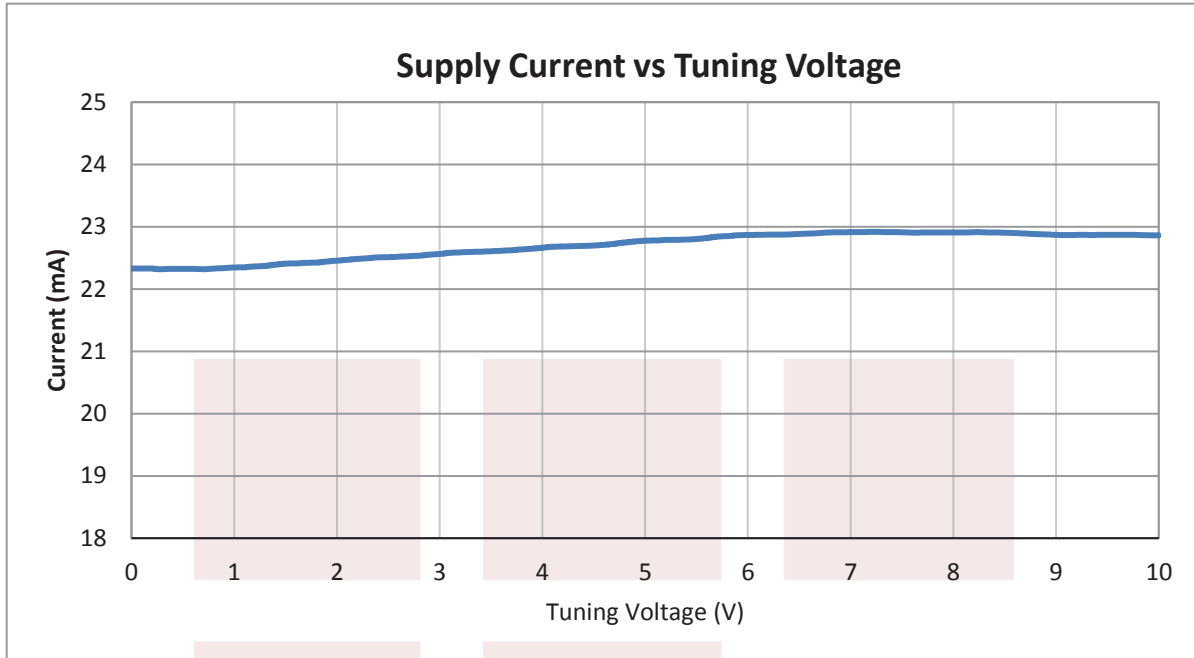
Notes:



Typical Performance Data





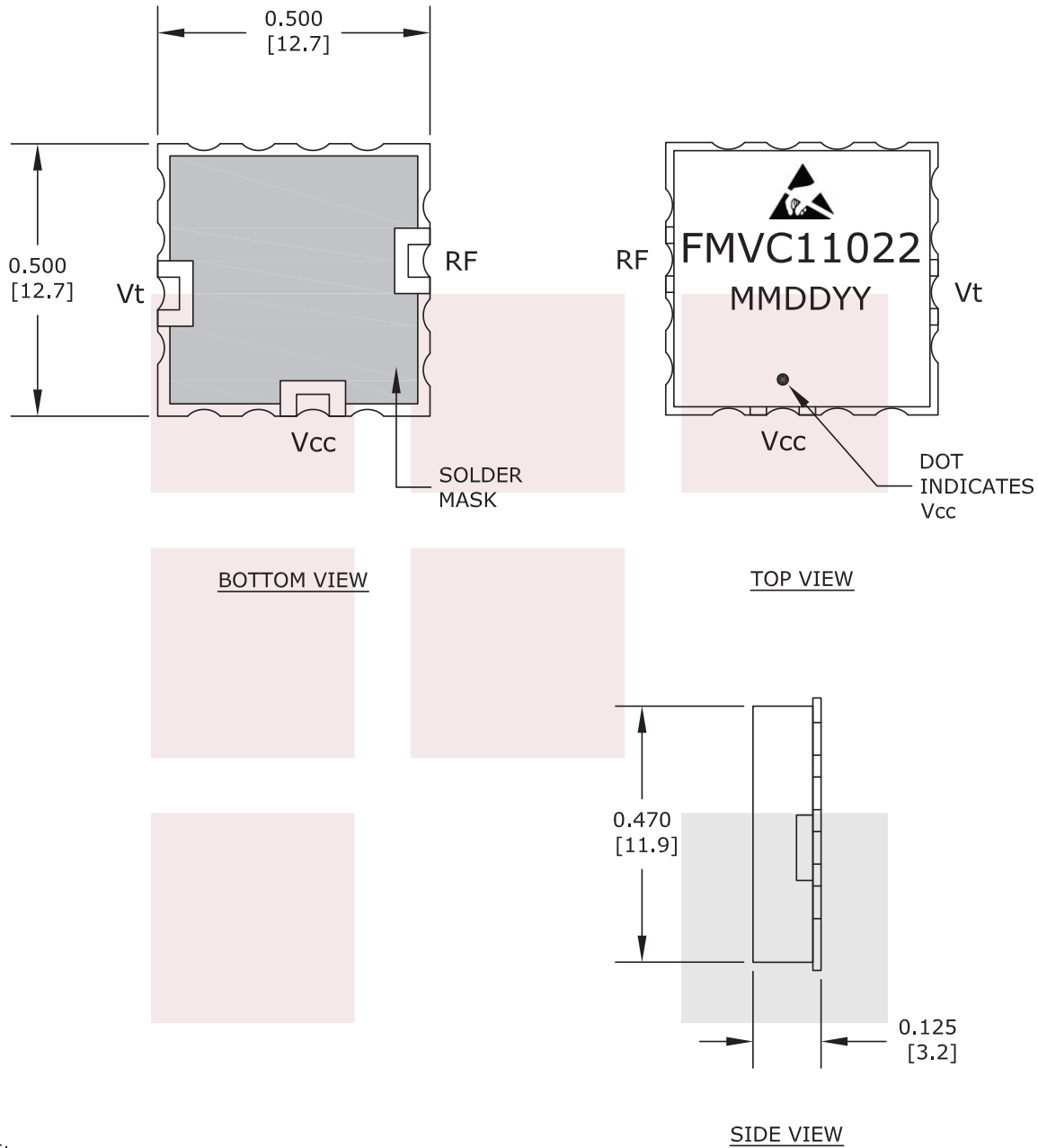


VCO (Voltage Controlled Oscillator) 0.5 inch Commercial SMT (Surface Mount), Frequency Range of 2 GHz to 2.75 GHz, Phase Noise -85 dBc/Hz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities 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 Commercial SMT \(Surface Mount\), Frequency Range of 2 GHz to 2.75 GHz, Phase Noise -85 dBc/Hz FMVC11022](http://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-smt-surface-mount-2.75-ghz-fmvc11022-p.aspx)

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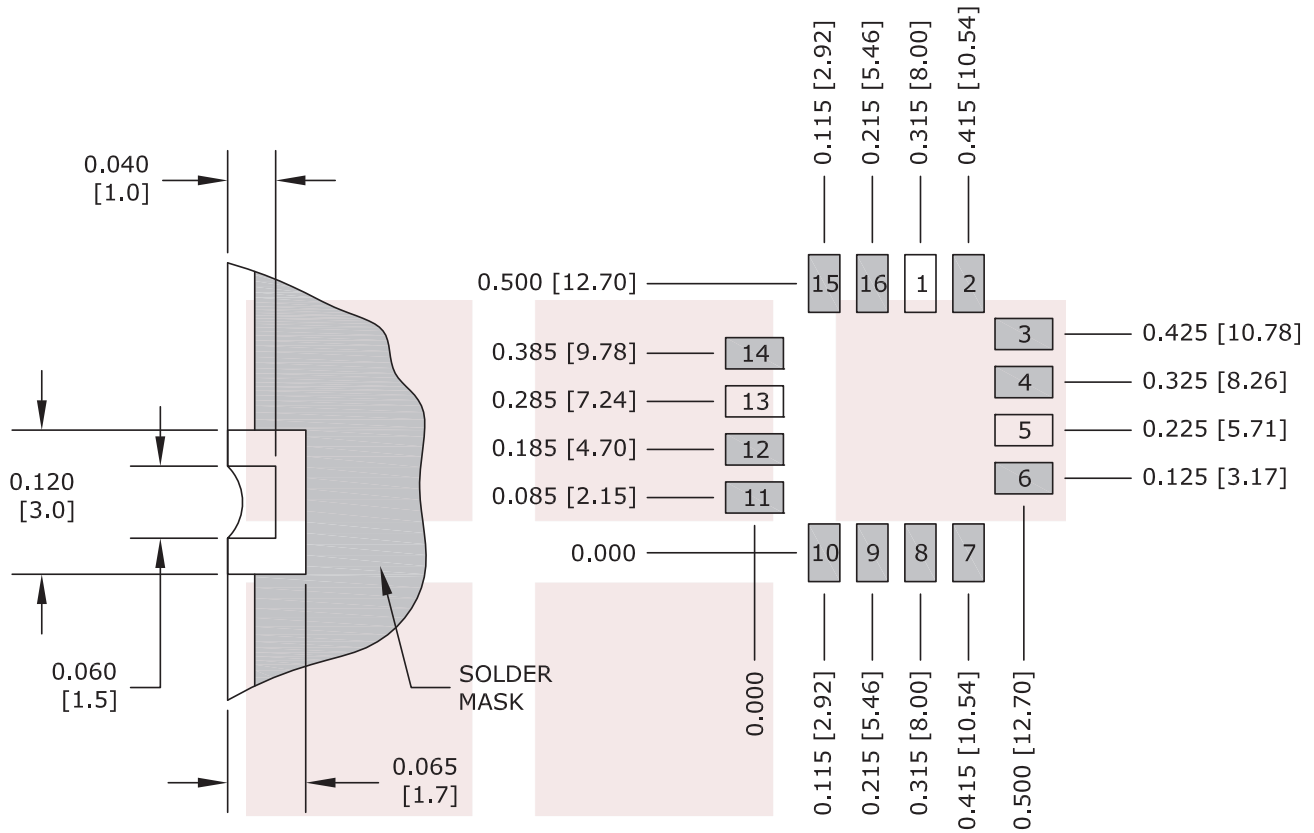
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NOTES:

1. THE CASE IS GROUND.
2. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES [mm].
3. UNLESS OTHERWISE SPECIFIED FINISH IS 150-250 MICRO INCHES ELECTROLESS NICKEL OVER COPPER CLAD PCB, 2-5 MICRO INCHES IMMERSION GOLD, OVER NICKEL.
4. MOD PORT NOT AVAILABLE ON ALL MODELS.

FAIRVIEW MICROWAVE INC.		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].			
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		DWG NO	FMVC11022	CAGE CODE	3FKR5
TITLE VCO (Voltage Controlled Oscillator) 0.5 inch Commercial SMT (Surface Mount), Frequency Range of 2 GHz to 2.75 GHz, Phase Noise -85 dBc/Hz		CAD FILE	101515	SHEET	2233
		SCALE	N/A	SIZE	A



Pin	Con.
1	Vcc
5	RF
13	Vt
Others	GND

PCB PAD LAYOUT

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CAD FILE	101515	SHEET	SCALE	N/A	SIZE A 2233

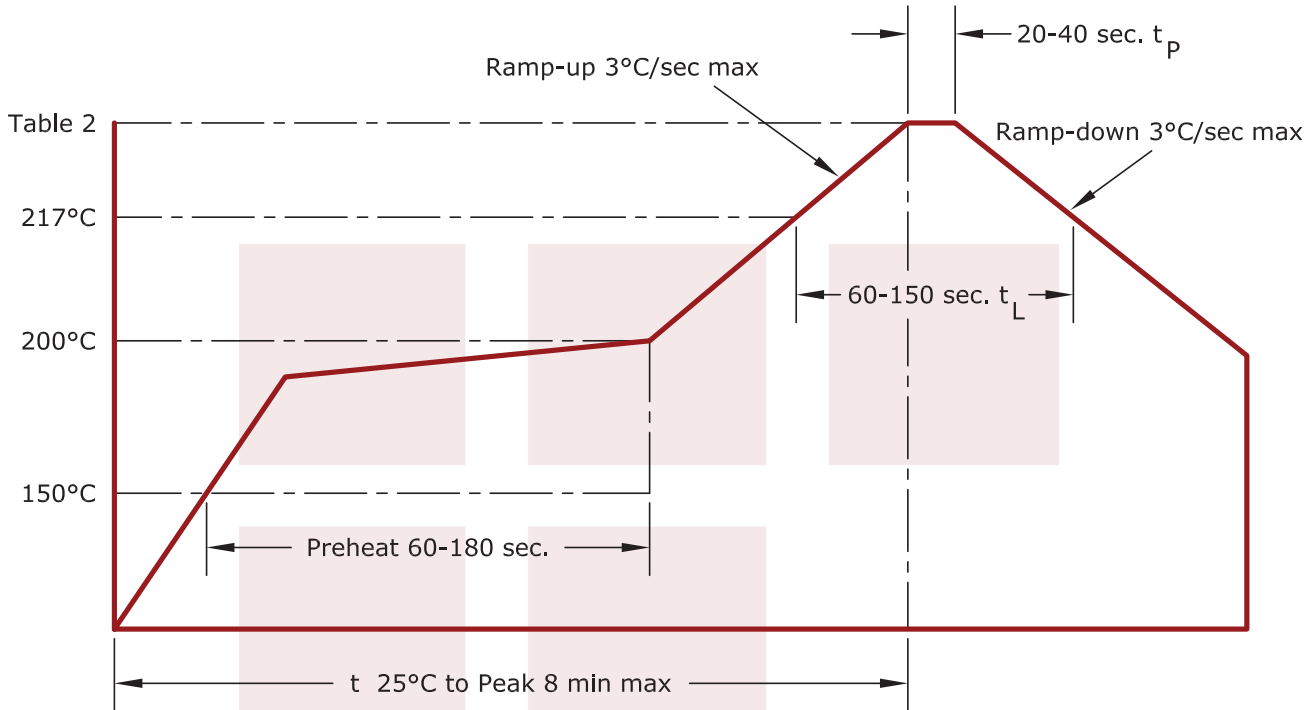


Table 1 Hand Soldering	
Item	Condition
Tip Temp. (max.)	260°
Iron Power (max.)	20 W
Time (max.)	3 Sec.
Note.	Avoid excess pressure to castelations

Table 2 Package re-flow temp	
Pkg.	tp (°C)
VS	260
MMS	260
MS	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.

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