KEY FEATURES

- **generates 1.485GHz or 1.485/1.001GHz signal for HD-LINX™II ICs**
- **low current consumption**
- **50Ω output impedance**
- **operates from a single 2.5V supply**
- **8 pin tape on reel**

APPLICATIONS

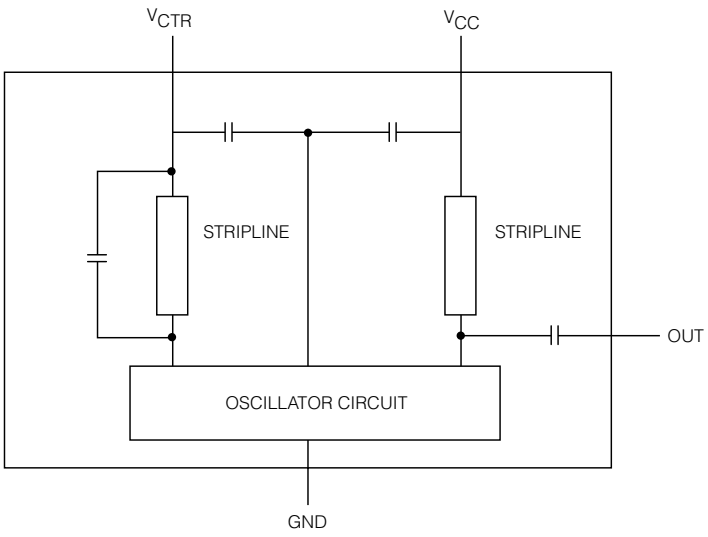
- VCO for the GS1560 and GS9060 Deserializers, and the GS1532 and GS9062 Serializers

DESCRIPTION

The GO1525 is a self contained, miniature Voltage Controlled Oscillator (VCO). It produces a clean 1.485GHz reference clock signal for the GS1560 and GS9060 deserializers, and for the GS1532 and GS9062 serializers. The control voltage range is from 1.0 volts to 1.5 volts and is derived from the on-chip PLLs. The GO1525 frequency can be pulled approximately 32MHz for every one volt of control.

The output level is typically -9.0dBm with low spurious and noise content. It is designed to drive 50Ω strip lines.

The VCO requires a single 2.5V supply and draws a maximum of 15mA of current. It is packaged in a miniature 8-pin proprietary surface mount package and operates over the normal commercial temperature range of 0°C to +70°C.

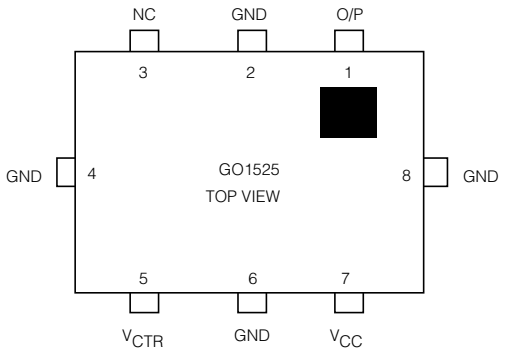


GO1525 FUNCTIONAL BLOCK DIAGRAM

GENNUM CORPORATION P.O. Box 489, Stn. A, Burlington, Ontario, Canada L7R 3Y3
Tel. +1 (905) 632-2996 Fax. +1 (905) 632-5946 E-mail: info@gennum.com
www.gennum.com

1. PIN OUT

1.1 PIN ASSIGNMENT



NOTE: Pin numbers are arbitrary
There are no pin markings on the device itself

1.2 PIN DESCRIPTIONS

PIN NUMBER	NAME	TYPE	DESCRIPTION
2, 4, 6, 8	GND	Power	Most negative power supply connections.
5	V_{CTR}	Input	Control voltage for the VCO.
7	V_{CC}	Power	Most positive power supply connection.
1	O/P	Output	VCO signal output.
3	NC		No connection.

Note: Pin numbering different from GO1515

2. ELECTRICAL CHARACTERISTICS

V_{CC} = 2.5V ±0.25V, Temperature = 0°C to 70°C, unless otherwise shown

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	V_{CC}		2.25	2.5	2.75	V	Supply Voltage
Supply Current	I_S		-	-	15	mA	Supply Current
Control Voltage Range	V_{CTR}		1.0	-	1.5	V	Control Voltage Range
Control Voltage Sensitivity	df/dV		25	32	39	MHz/V	Control Voltage Sensitivity
Operating Frequency Range	f_{VCO}	VCTR = 1.0V	1483.5	-	-	MHz	Operating Frequency Range
		VCTR = 1.5V	-	-	1485.0	MHz	
Output Signal Level	V_{OUT}		-12	-9	-6	dBm	Output Signal Level
Pushing Figure		V_{CC} = 2.5V ± 0.25V, ref: V_{CC} = 2.5V	-	1.5	-	MHz	Pushing Figure
Pulling Figure		VSWR = 2.0 for all phase, ref: 50Ω	-	1.0	-	MHz	Pulling Figure
Temperature Stability	T_{COEF}	0°C to 70°C, ref. = 25°C	-	-	±3	MHz	Temperature Stability
Spurious Response			-	-	-10	dBc	Spurious Response
Output Impedance	Z_O		-	50	-	Ω	Output Impedance

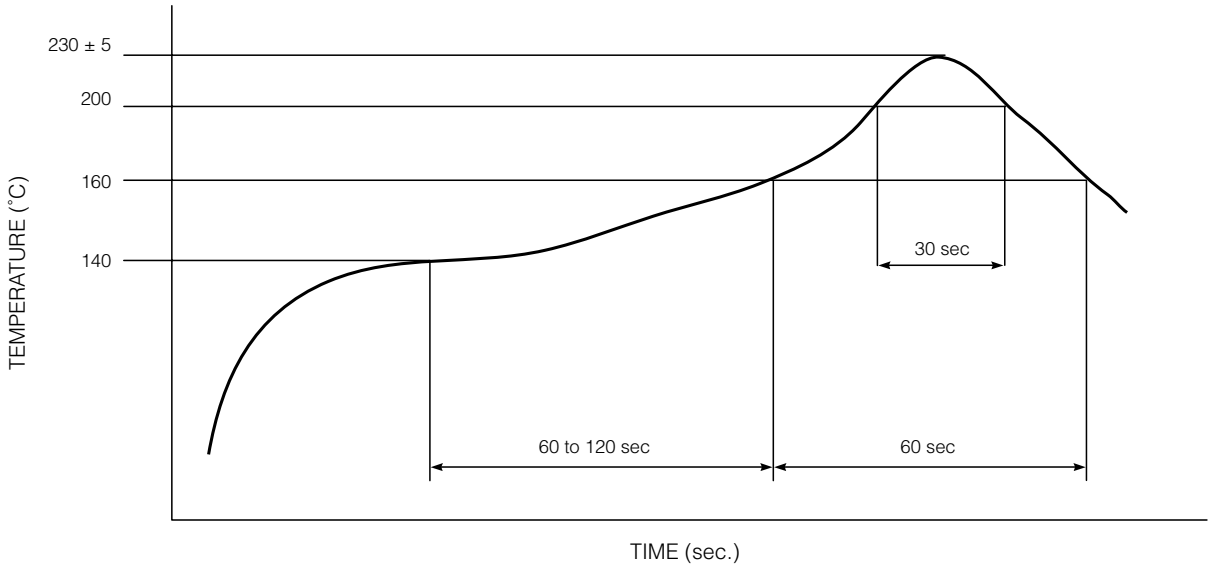


Fig. 1 Reflow Solder Profile

3. SOLDERING RECOMMENDATIONS

3.1 Reflow Conditions

The device will meet the data sheet specifications after completing the reflow process according to the profile shown in Figure 1. Recommended soldering conditions are as follows:

Preheating	150±10°C, 60 to 120 sec.
Soldering	Peak 230±5°C Over 200°C within 30 sec.

3.2 Soldering Flux

Do not use cleaning type flux. Washing the devices after using cleaning type flux may damage inner parts and affect performance.

3.3 Solder Type

Use solder H60, H63 (in JIS Z 3282) or an equivalent type. This also applies to solder paste.

3.4 Rework or Repair

Rework or repair must only be done once. Do not reflow the device more than twice; once for initial soldering and once for remounting after rework.

Do not vibrate the VCO during reflow soldering.

3.5 Endurance To Warp

When the device is soldered on a printed circuit board (dimension: 100mm x 100mm; thickness: 1.6mm) and the PCB is warped as shown in Figure 2, the device will not be cracked or damaged.

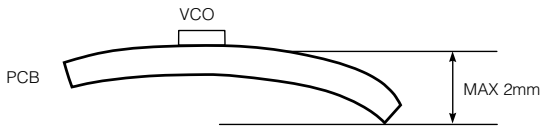


Fig. 2 PCB Warp

4. HANDLING RECOMMENDATIONS

4.1 Cleaning

Do not wash the devices.

4.2 Storage

Store the devices out of direct sunlight, at a stable temperature and humidity. Avoid extreme temperatures, high humidity and wide temperature fluctuations. Condensation on the devices may result in reduced quality and lowered solderability.

Avoid dust, sea breezes and corrosive gases (Cl_2, NH_3, SO_2, NO_X, etc.).

Use within 6 months after delivery. If the devices are stored for more than one year, solderability may be degraded.

4.3 Transport

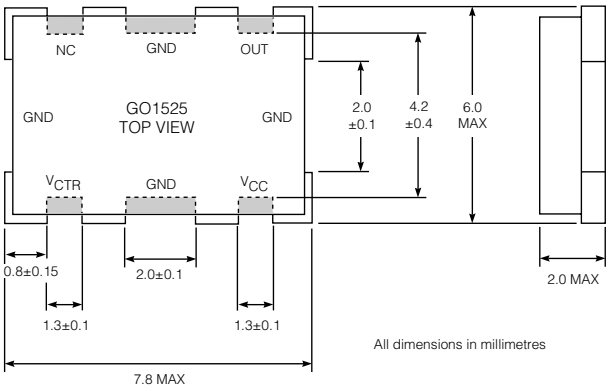
Package the devices for transportation to avoid mechanical vibration or shock.

4.4 ESD Warning

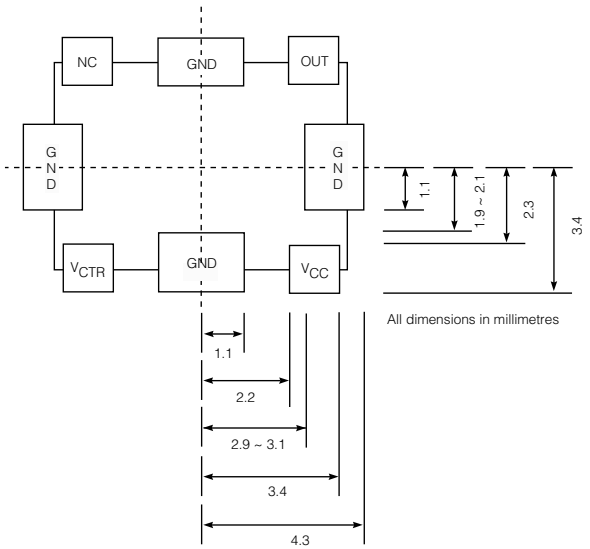
Avoid poor ground connections and electrostatic discharge or induction in production.

5. PACKAGE & ORDERING INFORMATION

5.1 PACKAGE DIMENSIONS



Recommended Footprint for PCB Layout



5.2 ORDERING INFORMATION

PART NUMBER	PACKAGE	TEMPERATURE RANGE
GO1525 - CTA	8-pin tape on reel	0°C to 70°C

6. REVISION HISTORY

VERSION	ECR	DATE	CHANGES AND/OR MODIFICATIONS
0	120395	January 2002	New Document
1	125583	July 2002	Update Document from AIN to Data Sheet. Changed Supply Voltage Range in Electrical Characteristics Table.
2	127841	February 2003	More detailed information added to the soldering and handling recommendations sections. Document reformatted.

DOCUMENT IDENTIFICATION
DATA SHEET
The product is in production. Gennum reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

CAUTION
ELECTROSTATIC
SENSITIVE DEVICES
DO NOT OPEN PACKAGES OR HANDLE
EXCEPT AT A STATIC-FREE WORKSTATION

GENNUM CORPORATION

MAILING ADDRESS:
P.O. Box 489, Stn. A, Burlington, Ontario, Canada L7R 3Y3
Tel. +1 (905) 632-2996 Fax. +1 (905) 632-5946

SHIPPING ADDRESS:
970 Fraser Drive, Burlington, Ontario, Canada L7L 5P5

GENNUM JAPAN CORPORATION
Shinjuku Green Tower Building 27F, 6-14-1, Nishi Shinjuku,
Shinjuku-ku, Tokyo, 160-0023 Japan
Tel. +81 (03) 3349-5501, Fax. +81 (03) 3349-55

GENNUM UK LIMITED
25 Long Garden Walk, Farnham, Surrey, England GU9 7HX
Tel. +44 (0)1252 747 000 Fax +44 (0)1252 726 523