

Typical Applications

2, 5, 10 Gbit/s standard
 Sonet / SDH

Features

Surface Mount Package
 Reflow Process Compatible
 Crystal-based Oscillator

Output Frequency Range

155.52 to 670MHz

Frequencies

622.08 & 624.694 MHz
 622.08 & 669.326 MHz
 155.52 & 166.628 MHz

Frequency stabilities¹

| Parameter | Min | Typ | Max. | Units | Operating temp range | Ordering Code ⁵ |
|--|-------|-----|-------|-------|-----------------------|----------------------------|
| Overall (vs. initial, vs. operating temperature range, vs. supply voltage change, vs. load change, vs. 15 years aging) | -40.0 | | +40.0 | ppm | -5 ... +70°C | |
| vs. supply voltage change | -1.0 | | +1.0 | ppm | Vs ± 5% load ± 10% | |
| vs. load change | -1.0 | | +1.0 | ppm | | |
| vs. activity dips | -1.0 | | +1.0 | ppm | | |

Supply voltage

| Parameter | Min | Typ | Max. | Units | Condition | Ordering Code ⁵ |
|---------------------|-------|-----|-------|-------|--------------------|----------------------------|
| Supply voltage (Vs) | 3.135 | 3.3 | 3.465 | VDC | | SV033 |
| Current consumption | | | 120 | mA | @ LVPECL (no load) | |

RF output

| Parameter | Min | Typ | Max. | Units | Condition | Ordering Code ⁵ |
|--------------------|-----|------|------|-------|-----------------------|----------------------------|
| Signal | | PECL | | | | RFP |
| Load | | 50 | | Ω | Vs - 2V 20 to 80 % | |
| Rise and Fall time | | | 800 | ps | | |
| Duty cycle | 45 | | 55 | % | | |

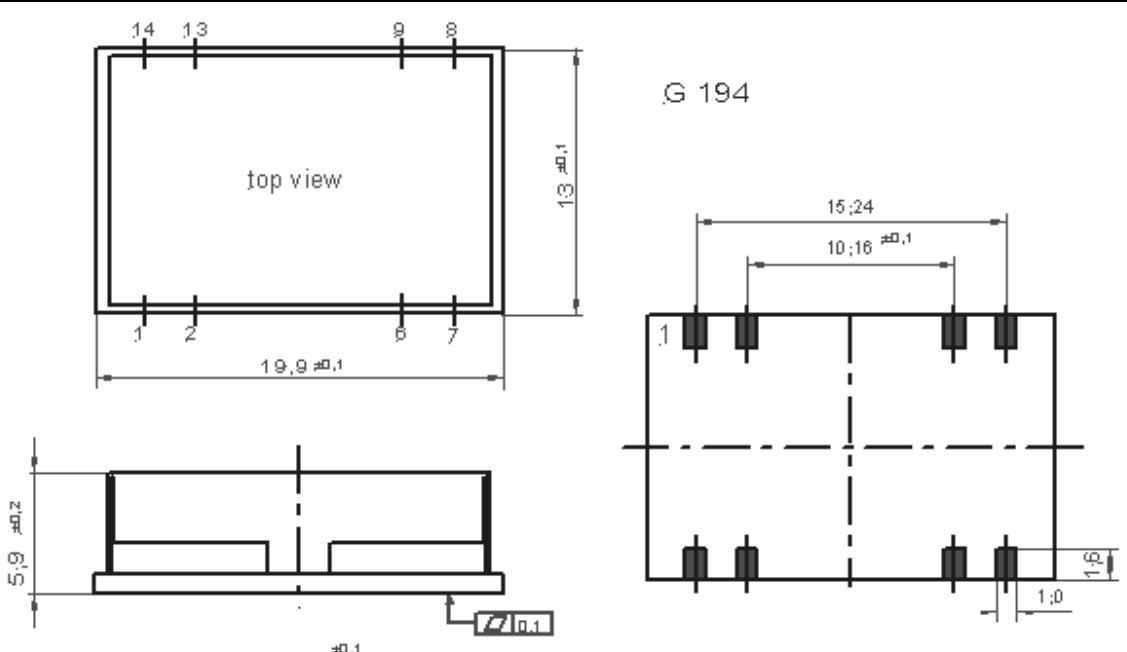
Frequency Tuning (EFC)

| Parameter | Min | Typ | Max. | Units | Condition |
|------------------------------|-----|----------|------|-------|------------------|
| Tuning Range | | ±90.0 | | ppm | |
| Absolute Pulling Range (APR) | ±50 | | | ppm | |
| Linearity | | | 10 | % | |
| Tuning Slope | | Positive | | | |
| Control Voltage Range | 0.3 | 1.65 | 3.0 | VDC | with Vs=3.3 VDC |
| Control Input Impedance | 20 | | | kΩ | |
| Modulation Bandwidth | 0 | | 20 | kHz | Related to 1 kHz |

Additional parameters

| Parameter | Min | Typ | Max. | Units | Condition |
|----------------------|--------------------------|------|------|--------|--------------------|
| Phase Noise | | -120 | | dBc/Hz | 10 kHz @ 666 MHz |
| Jitter | | | 1 | ps RMS | @ 12 kHz to 20 MHz |
| Weight | | | 4 | g | |
| Processing & Packing | handling&processing note | | | | |

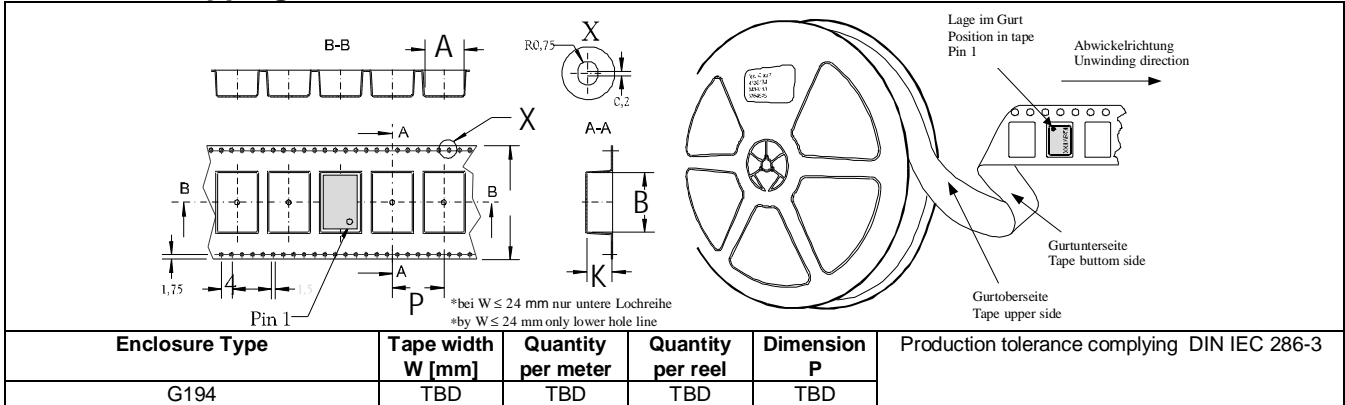
Enclosures

| Type G194 | | |
|--|--|----------------------|
| Code A1 | Height "H" 5,9 | Pin Length "L" NA |
|  <p style="text-align: center;">Dimensions: mm</p> | | |
| Pin Connections | | |
| <ul style="list-style-type: none"> 1 Control Voltage (Vc) 2 Frequency select f1/f2 6 Enable / Disable 7 Ground (Case) 8 RF Output 9 Complementary RF Output 13 N/C 14 Supply Voltage Input (Vs) <p>Outline Drawing: G194</p> | <ul style="list-style-type: none"> Low (0) = 622.08 Mhz High (1) = 624.494 MHz Low (0) = Enable High (1) = Disable | |
| Marking | | |
| C5430A1-xxxx 622M08/624M694 * VI AYYWW | | |

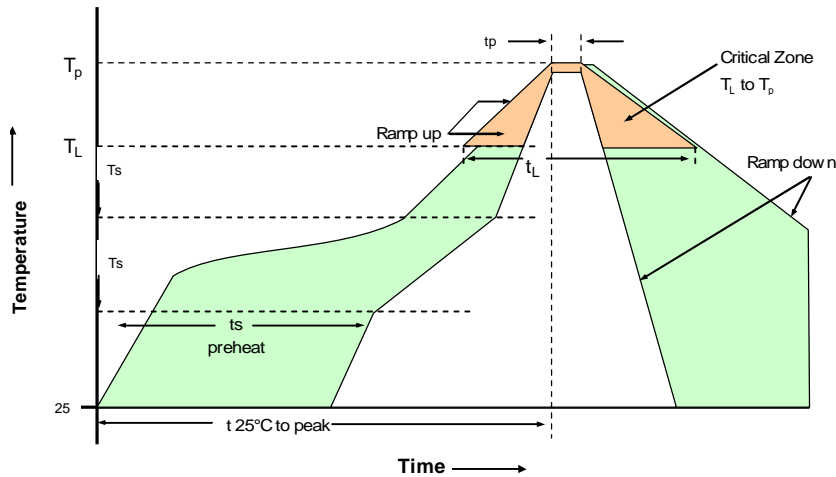
Absolute Maximum Ratings

| Parameter | Min | Typ | Max. | Units | Condition |
|----------------------------|-----|-----|------|-------|-----------|
| Supply voltage (Vs) | | | 7 | V | |
| Operable temperature range | -40 | | +85 | °C | |
| Storage temperature range | -40 | | +90 | °C | |

Standard Shipping Method



Recommended Reflow Profile



SMD oscillators must be on the top side of the PCB during the reflow process.

| Profile Feature | Pb-Free Assembly/Sn-Pb Assembly |
|--|----------------------------------|
| Average ramp-up rate (T_L to T_p) | 3°C/second max. |
| Preheat -Temperature Min $T_{s_{min}}$ -Temperature Min $T_{s_{max}}$ -Time (min to max) (t_s) | 150°C 200°C 60-180 seconds |
| $T_{s_{max}}$ to T_L - Ramp-up Rate | 3°C/second max. |
| Time maintained above - Temperature (T_L) - Time (t_L) | 217°C 60-150 seconds |
| Peak Temperature (T_p) | max 260°C |
| Time within 5°C of actual Peak Temperature (t_p) | 20-40 seconds |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |

Note: All temperatures refer to topside of the package, measured on the package body surface.

How to Order this Product:

| Step 1 | Use this worksheet to forward the following information to your factory representative: | | | |
|--------|---|---------------------|----------------|--------------|
| Model | Stability Code | Supply Voltage Code | RF Output Code | Package Code |
| C5430 | | | | |

Example: C5430

SV033

RFP

A1

| Step 2 | The factory representative will then respond with a Vectron Model Number in the following Configuration: | | | |
|--------|--|------|------------------------------------|--|
| Model | Package Code | Dash | Dash Number | |
| C5430 | [Customer Specified Package Code] | - | [Factory Generated 4 digit number] | |

Typical P/N = C5430A1-0001

Notes:

- 1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
- 3 Phase noise degrades with increasing output frequency.
- 4 Subject to technical modification.
- 5 Contact factory for availability.