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|----------------------|---------------|---------|------------------|
| Specification | AXGS20 | Rev.: 1 | Date: 2016-03-19 |
|----------------------|---------------|---------|------------------|

Oscillator type: SAW Oscillator in SMD Package with Gating Option

| Parameter | min. | typ. | max. | Unit | Condition |
|----------------------------------------|-------------------------|------|------|------|-----------------------|
| Frequency Range | 950 | | 1532 | MHz | |
| Standard frequencies | 970/1030/1090/1150/1532 | | | MHz | |
| Frequency stability | | | | | |
| Initial tolerance at @ +25°C | | | ±150 | ppm | |
| vs. operating temperature range | | | ±350 | ppm | Ref. to (fmax+fmin)/2 |
| Long term (aging) per year | | | ±5 | ppm | |
| Gate function (optional) | Option 1 | | | | |
| Low level input voltage V_{GL} | | 0 | 1.5 | V | |
| High level input voltage V_{GH} | 3.5 | 5.0 | 5.5 | V | |
| Input resistance | 10 | | | kΩ | |
| Input capacitance | | 5 | 10 | pF | |
| Turn-on time | | | 40 | ns | |
| Turn-off time | | | 30 | ns | |
| RF output | | | | | |
| Signal waveform | Sine wave | | | | |
| Load R_L | 50 | | | Ω | |
| Output level Gate ON | +9 | +11 | +13 | dBm | @ $V_{GATE} > +3.5$ V |
| Output level Gate OFF | | | -50 | dBm | @ $V_{GATE} < +1.5$ V |
| Harmonics | | | -30 | dBc | |
| Subharmonics | | none | | | |
| Supply voltage V_S | 4.75 | 5.0 | 5.25 | V | |
| Current consumption | | | | | |
| Gate ON (@ $V_{GATE} > +3.5$ V) | | 45 | 60 | mA | |
| Gate OFF (@ $V_{GATE} < +1.5$ V) | | 10 | 20 | mA | |
| Operating temperature range | -40 | | +85 | °C | |
| Enclosure (see drawing) (LxWxH) | 20.7x13.1x5.2 max. | | | mm | IEC 60679-3 CO 02 |
| Weight | | | 5 | g | |
| Packing | Palette or Tube | | | | IEC 60286-3 |

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Oscillator circuitry and driving gate buffers must not present voltage transients above maximum ratings

Absolute Maximum Ratings

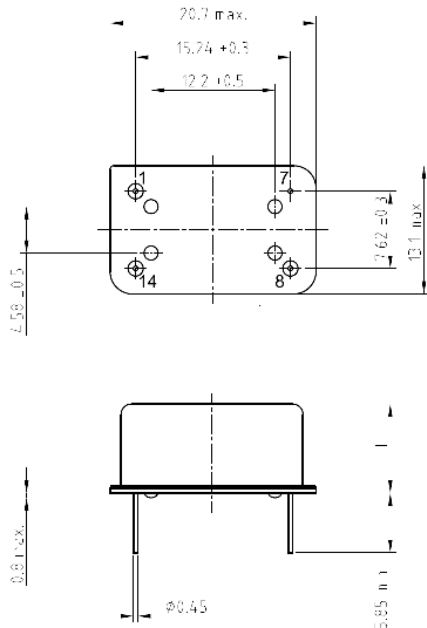
| Parameter | min. | max. | Unit | Condition |
|----------------------------------|------|--------------|------|-------------------|
| Supply Voltage V_S | -0.5 | $V_S + 10\%$ | V | V_S to GND |
| Gate Voltage V_{GATE} (Note 1) | -0.5 | V_S | V | V_{GATE} to GND |
| Storage Temperature | -55 | +125 | °C | |

Ordering Code

| Model | Option [Gate Function] | Revision | Frequency [MHz] |
|--------|----------------------------------------------------|----------|-----------------|
| AXGS20 | G = With Gate function Blank = No Gate function | Rev.1 | 1090.000 |

Example: AXGS20G_Rev.1-1090.000MHz, or AXGS20_Rev.1-1090.000MHz

Enclosure drawing



Pin connections

| Pin # | Symbol | Function |
|-------|-------------------|--------------------|
| 1 | V _{GATE} | Gate Input or N.C. |
| 7 | GND | Ground, case |
| 8 | RF OUT | RF Output |
| 14 | V _S | Supply Voltage |

Handling and Testing

| Parameter | Procedure | | Source |
|-------------------------------|---------------------------------------------------------------------|-----|---------------|
| Handling and Testing | Application Note AXAN-011 | | www.axtal.com |
| Processing | Application Note AXAN-012 | | www.axtal.com |
| Parameter | Procedure | | Condition |
| Electrostatic discharge (ESD) | | | |
| THD devices | IEC60749-26 | HBM | 2000 V |
| SMD devices | IEC60749-27 | MM | 200 V |
| Washable | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| RoHS compliant | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

Environmental conditions

| Test | IEC 60068 Part ... | IEC 60679-1 Clause | MIL-STD- 202G Method | MIL-STD- 810F Method | MIL-PRF- 55310D Clause | Test conditions (IEC) |
|--------------------------------------------------|--------------------------|--------------------------|----------------------------|----------------------------|------------------------------|------------------------------------------------------------------------------------|
| Sealing tests (if applicable) | 2-17 | 5.6.2 | 112E | | 3.6.1.2 | Gross leak: Test Qc, Fine leak: Test Qk |
| Solderability Resistance to soldering heat | 2-20 2-58 | 5.6.3 | 208H 210F | | 3.6.52 3.6.48 | Test Ta Method 1 Test Td ₁ Method 2 Test Td ₂ Method 2 |
| Shock* | 2-27 | 5.6.8 | 213B | 516.4 | 3.6.40 | Test Ea, 3 x per axes 100g, 6 ms half-sine pulse |
| Vibration, sinusoidal* | 2-6 | 5.6.7.1 | 201A 204D | 516.4-4 | 3.6.38.1 3.6.38.2 | Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g |
| Vibration, random* | 2-64 | 5.6.7.3 | 214A | 514.5 | 3.6.38.3 3.6.38.4 | Test Fdb |
| Endurance tests - ageing - extended aging | | 5.7.1 5.7.2 | 108A | | 4.8.35 | 30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C |

Other environmental conditions on request

Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice.

Revision History

| Rev. | Drawing | Date [dd.mm.yyyy] | Remarks | Author | Checked |
|------|---------|----------------------|-----------------------------------------------------|--------|---------|
| 1 | D0 | 19.03.2016 | First issue AXGS20 | BN | BN |
| 1 | D1 | 18.01.2018 | Maximum ratings updated with additional information | HH | HH |