

3.3V LOW EMI SMD SPREAD SPECTRUM CLOCK OSCILLATOR



7.0 x 5.0 x 1.8mm

ASSV SERIES



RoHS
Compliant

FEATURES:

- Integrated spread spectrum technology
- EMI reduction up to 20dB
- Solve EMI failures as a drop in replacement for std. 5x7mm Osc.
- Cost effective EMI reduction

APPLICATIONS:

- Printers, Digital Copy Machines, Scanners, Projectors, Modems, LAN, WAN, Navigation Equipment, Automotive, Audio, Medical Electronics, Hand-held readers, Industrial Automation

STANDARD SPECIFICATIONS:

| PARAMETERS | |
|---|---|
| ABRACON P/N | ASSV |
| Frequency Range | 5.000 MHz to 160.000 MHz |
| Spread Type | ±0.5 (see table 1 for options) |
| EMI Reduction (reduction is applied to the entire frequency spectrum) | -7dBc min. 100MHz at C0.25; -9dBc min. 100MHz at C0.5 -15dBc min. 100MHz at C1.5 With respect to the dB level when no modulation. |
| Operating Temperature | 0°C to + 70°C (see options) |
| Storage Temperature | - 65°C to + 150°C |
| Frequency Stability | ± 100 ppm (see options) |
| Supply Voltage (Vdd) | 3.3 Vdc ± 5% |
| Start-up Time | 2ms typ, 5ms max. |
| Stabilization Time | 2ms max. |
| Rise time / Fall time | 4n sec. max. (10% VDD <-> 90% VDD) |
| Load | 15pF |
| Current Consumption | 20mA max. |
| Duty Cycle | 50% ± 5% (CL = 15pF at 50% VDD) |
| Output Logic | CMOS Square wave |
| Cycle to cycle Jitter | ±250ps typ; ±300ps max. |
| Output Impedance | 40Ω |
| Static Discharge Voltage | >2,000V (per MIL-STD-883, method 3015) |
| Aging | ±5ppm per year max.; Ta=+25°C |
| Output Voltage "High"; "1" | 2.0V min.; 3.2V typ (at 90% VDD) |
| Output Voltage "Low"; "0" | 0.8V max. ; 0.2V typ (at 10% VDD) |
| Modulation Carrier Freq. (Dither rate) | 6.9KHz min.; 55.5KHz max; Freq dependent call for details. |
| Pin 1 Function | Output is high impedance when taken low. Output enable/disable time: 100 ns max. |



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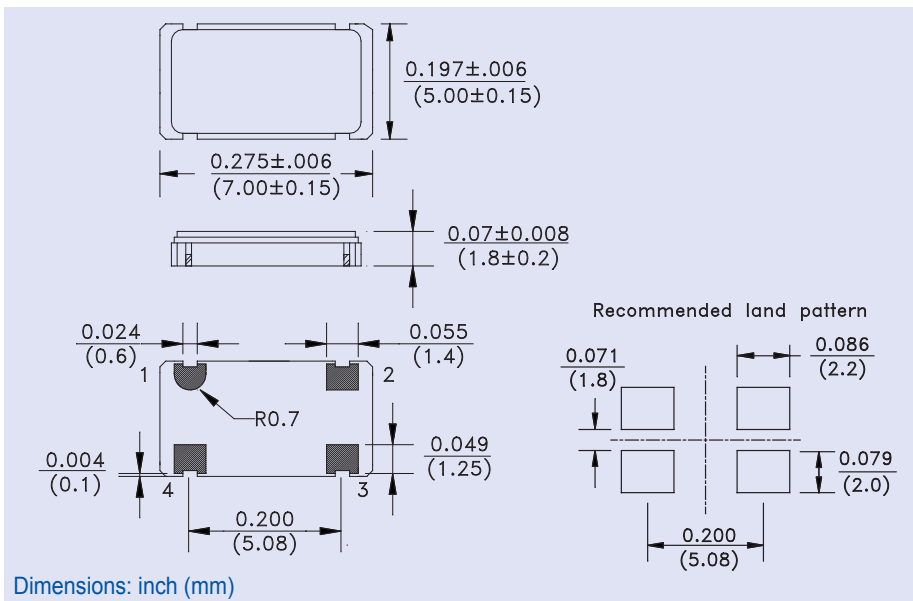
OPTIONS & PART IDENTIFICATION:

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ASSV - Frequency - □ - □ - □ - □

| Operating Temperature | | Frequency Stability | | Spread Type | | Packaging | |
|-----------------------|----------------|---------------------|---------|---------------|-------|------------|-------------|
| Black | 0°C to +70°C | Blank | ±100ppm | Down Spread | | T | Tape & Reel |
| L | -40°C to +85°C | R | ±25ppm | D1 | -1% | | |
| | | C | ±50ppm | D1.5 | -1.5% | | |
| | | | | D3 | -3% | | |
| | | | | Center Spread | | | |
| | | | | C0.5 | ±0.5% | ← Standard | |
| | | | | C1.5 | ±1.5% | | |

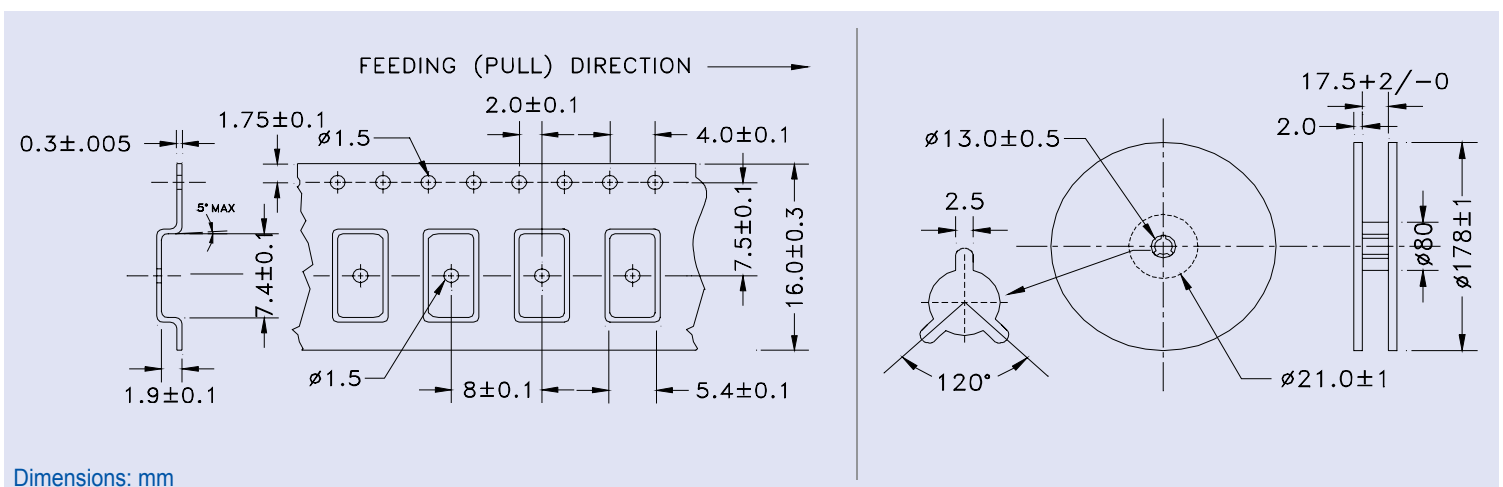
OUTLINE DRAWING:



| PIN | FUNCTION |
|-----|-----------|
| 1 | Tri-state |
| 2 | Ground |
| 3 | Output |
| 4 | Vdd |

Note: It is recommended to use an approximately 0.01uF bypass capacitor between PIN 2 and 4.

TAPE & REEL:



Dimensions: mm

ABRACON IS
ISO 9001 / QS 9000
CERTIFIED



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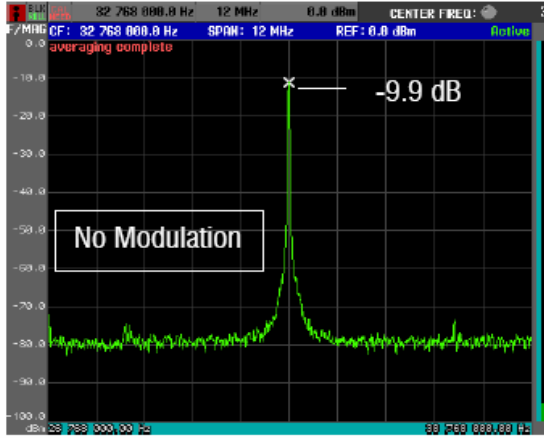
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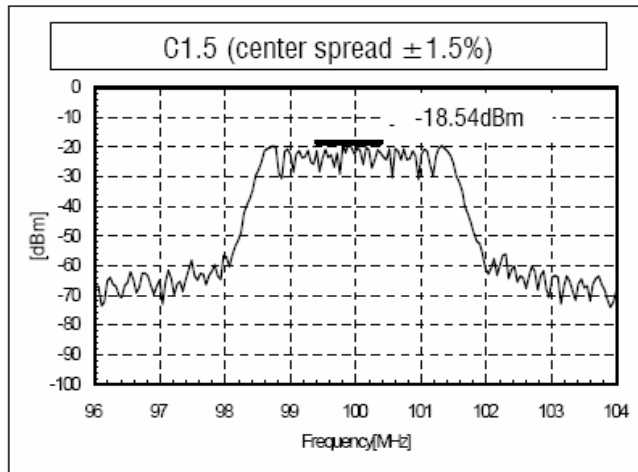
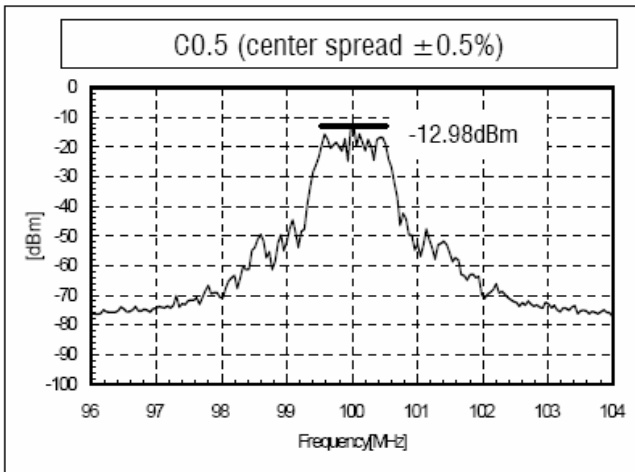
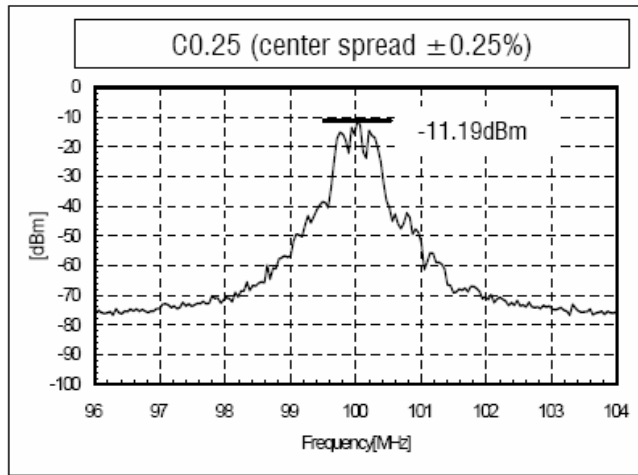
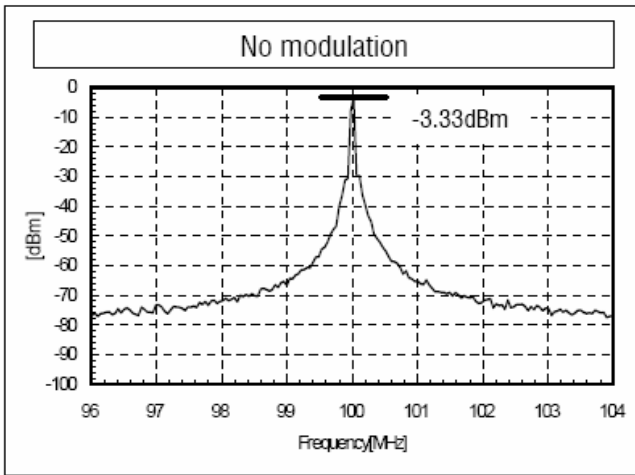
➤ Modulation and EMI Reduction:

ASSV-32.768MHz at No Modulation and at Center Spread 1.5%: 13.1 dBc EMI reduction



EMI Reduction of ASSV-100 MHz at C0.5 and C1.5 (main mode only)

Modulation Carrier Frequency = 34.687 KHz



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EMI Reduction:

EMI Reduction of ASSV-100 MHz at C0.5 and C1.5 (the whole spectrum)

