

General Description

The DSC612RI3A-010J is a two-output low power MEMS clock generator.

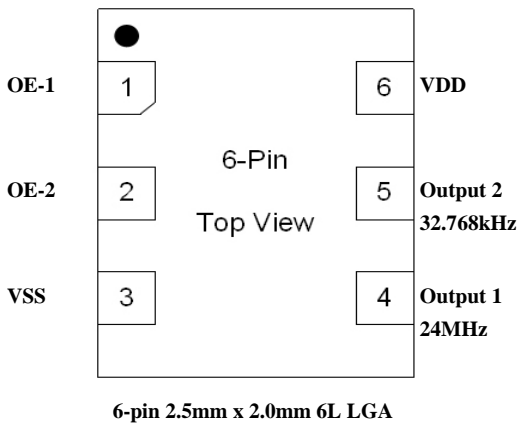
The MEMS based clock generator eliminates the need of external crystal or reference clock.

Refer to [DSC612 master data sheet](#) to read full descriptions.

Features

- Two LVCMOS clock outputs: 24MHz, 32.768kHz
- Ultra-small package size: 2.5mm x 2.0mm 6L LGA
- High stability: ± 20 ppm
- Temperature range: -40°C to $+85^{\circ}\text{C}$
- Low power consumption: $\sim 5\text{mA}$ (both outputs active)
- Wide supply voltage range: 1.71V -3.63V VDD
- Excellent shock and vibration immunity
- High reliability
- Lead free and RoHS compliant
- AEC-Q100 automotive grade available

Pin Configuration and Description



| Pin Number | Pin Name | Pin Type | Pin Description |
|------------|----------|----------|--|
| 1 | OE-1 | I | Output Enable H = Output Active L = Output Disabled (High Impedance) |
| 2 | OE-2 | I | Output Enable H = Output Active L = Output Disabled (High Impedance) |
| 3 | VSS | Power | Power Supply Ground |
| 4 | Output 1 | O | 24MHz LVCMOS Clock Output Controlled by Pin 1 (OE-1) |
| 5 | Output 2 | O | 32.768kHz LVCMOS Clock Output Controlled by Pin 2 (OE-2) |
| 6 | VDD | Power | Power Supply |

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Ordering Information

| Ordering Part Number | Temperature Range | High Stability | Shipping | Package |
|----------------------|-------------------|----------------|---------------|----------------------|
| DSC612RI3A-010J | -40°C to +85°C | ±20ppm | Tube | 2.5mm x 2.0mm 6L LGA |
| DSC612RI3A-010JT | -40°C to +85°C | ±20ppm | Tape and Reel | 2.5mm x 2.0mm 6L LGA |

Devices are Green and RoHS compliant. Sample material may have only a partial top mark.

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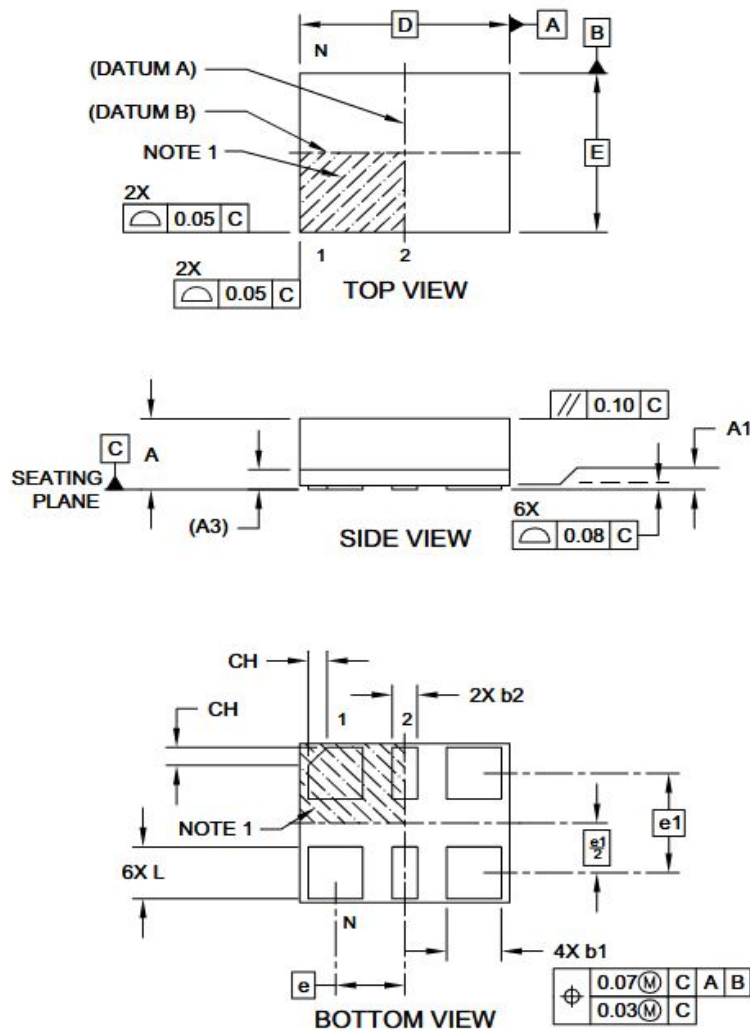
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6-Lead 2.5 mm x 2.0 mm VFLGA Package Outline and Recommended Land Pattern

6-Lead Very Thin Fine Pitch Land Grid Array (AWA) - 2.5x2.0 mm Body [VFLGA]

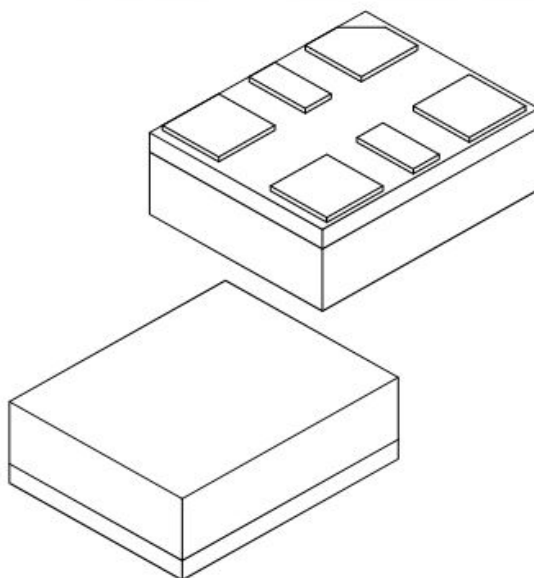
Note: For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



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6-Lead Very Thin Fine Pitch Land Grid Array (AWA) - 2.5x2.0 mm Body [VFLGA]

Note: For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



| Dimension Limits | Units | MILLIMETERS | | |
|--------------------------------------|-------|-------------|-------|------|
| | | MIN | NOM | MAX |
| Number of Terminals | N | 6 | | |
| Terminal Pitch | e | 0.825 BSC | | |
| Terminal Pitch | e1 | 1.25 BSC | | |
| Overall Height | A | 0.79 | 0.84 | 0.89 |
| Standoff | A1 | 0.00 | 0.02 | 0.05 |
| Substrate Thickness (with Terminals) | A3 | 0.20 REF | | |
| Overall Length | D | 2.50 BSC | | |
| Overall Width | E | 2.00 BSC | | |
| Terminal Width | b1 | 0.60 | 0.65 | 0.70 |
| Terminal Width | b2 | 0.25 | 0.30 | 0.35 |
| Terminal Length | L | 0.60 | 0.65 | 0.70 |
| Terminal 1 Index Chamfer | CH | - | 0.225 | - |

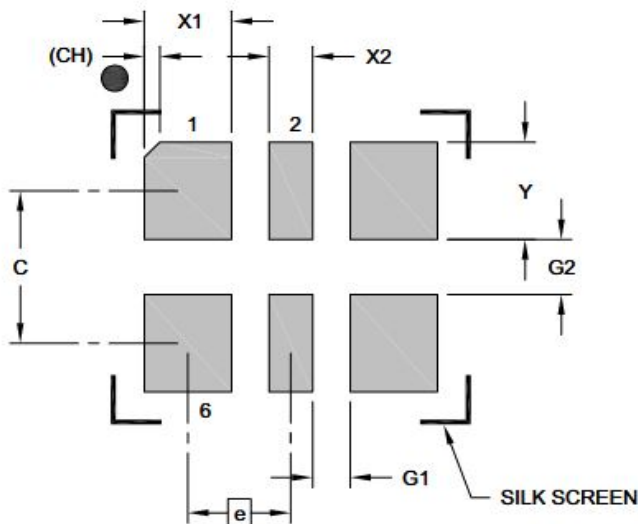
Notes:

- Pin 1 visual index feature may vary, but must be located within the hatched area.
- Package is saw singulated
- Dimensioning and tolerancing per ASME Y14.5M
BSC: Basic Dimension. Theoretically exact value shown without tolerances.
REF: Reference Dimension, usually without tolerance, for information purposes only.

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6-Lead Very Thin Fine Pitch Land Grid Array (AWA) - 2.5x2.0 mm Body [VFLGA]

Note: For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



RECOMMENDED LAND PATTERN

| Dimension Limits | Units | MILLIMETERS | | |
|-----------------------------|-------|----------------|-----|------|
| | | MIN | NOM | MAX |
| Contact Pitch | E | 0.825 BSC | | |
| Contact Spacing | C | 1.25 BSC | | |
| Contact Width (X4) | X1 | | | 0.70 |
| Contact Width (X2) | X2 | | | 0.35 |
| Contact Pad Length (X6) | Y | | | 0.80 |
| Space Between Contacts (X4) | G1 | 0.30 | | |
| Space Between Contacts (X3) | G2 | 0.45 | | |
| Contact 1 Index Chamfer | CH | 0.13 X 45° REF | | |

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing C04-3204A