

## Inverted Mesa Crystals Blanks 30 - 360MHz 0.200 round clip mount designs

The SM141 series of electrode plated Square inverted Mesa blanks are designed to mount in standard 0.200" mounts, at much lower cost than CM200 round crystals, and offer excellent performance for both filter and oscillator applications.

XECO's proprietary process yields a mesa which is clean and free of defects, enabling high performance operation for oscillators and filters.

XECO plated versions provide cost effective high performance alternatives to in-house plating operations. XECO offers three plating options and a range of electrodes to match performance needs.

Special or custom designs are supported, including multiple-pole filter designs.

### Features

XECO high quality low spurs crystals  
Electrodes plated to opposite corners  
Electrodes in various sizes targeted for frequencies and C1/C0 ratios  
Tune Low and Tune High options  
High Q, chemically etched, free of etch channels

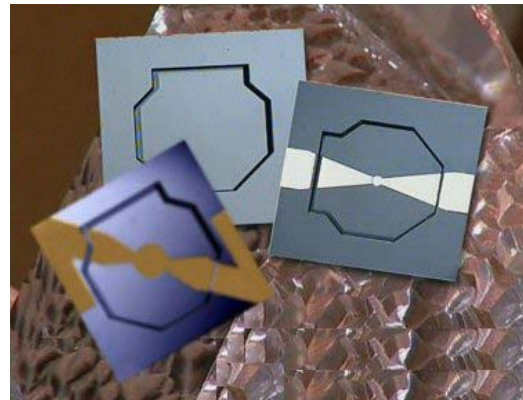
### Benefits:

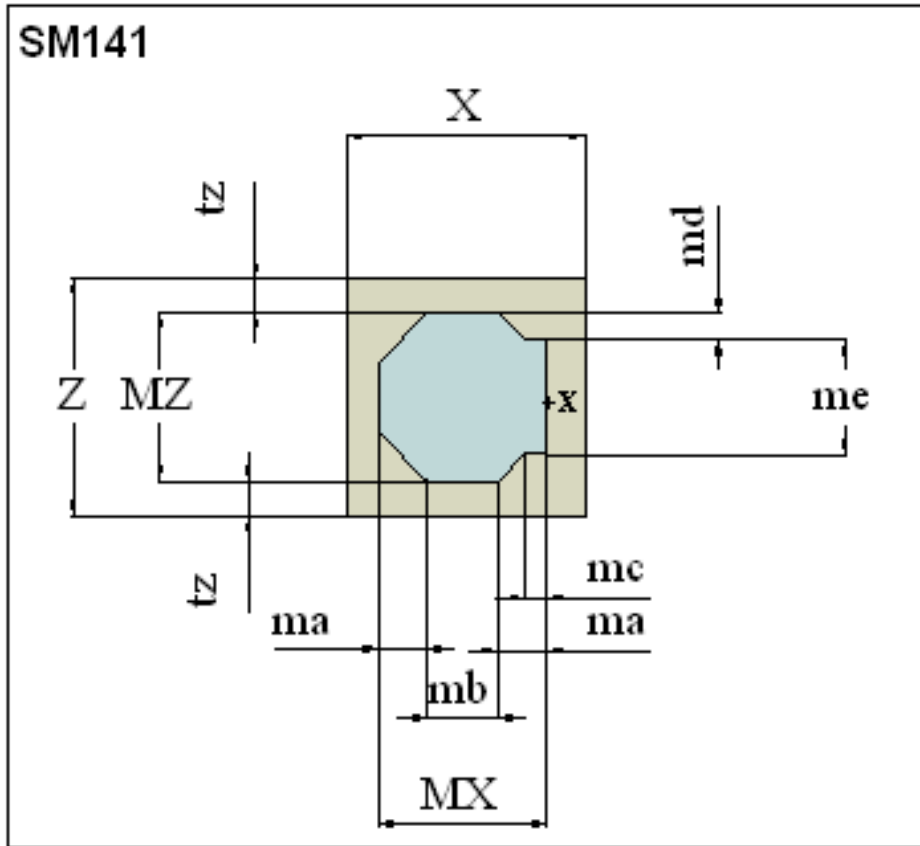
Lower cost implementation than with round blanks  
Low spurs for filter (with small electrodes and Aluminum plating)  
Fit wide range of mounts  
High yield potential

### Applications

Standard 0.200 round mount applications  
High performance VCXO, XO, OCXO, filters, and specials requiring hybrid design  
Telecom, communications, networking, military

|                              |  |
|------------------------------|--|
| <b>Operation Mode</b>        | Fundamental or Overtone  |
| <b>Frequency Range</b>       | 30 to 360 MHz  |
| <b>Frequency Range 3Rd:</b>  | 90 to 1.08 GHz   |
| <b>Frequency Tolerance</b>   | +/- 0.010 F <sup>2</sup> (489KHz at 156.25)                    |
| <b>Material and Q</b>        | Low Etch Channel Pure Z Quartz with a Q minimum of 1.8 Million |
| <b>Surface Finish</b>        | Polished   |
| <b>Angle</b>                 | Std AT cut 35D8' to 35D29' [EFG 3D6' t                         |
| <b>Angle Tolerance</b>       | +/- 2', +/-1', +/-0.5'   |
| <b>Dimensions (mm)</b>       | 3.581 x 3.581 x 0.080 mm                                       |
| <b>Dimensions (inches)</b>   | 0.141 x 0.141" (0.200 across diagonal) x                       |
| <b>Electrode Size</b>        | 0.125mm to 1.27 mm, 5 mils to 50 mils                          |
| <b>Electrode Style</b>       | Plated to opposite corners and opposing sides                  |
| <b>Electrode Material</b>    | Chrome Gold or Aluminum  |
| <b>Electrode Freq. Tol.:</b> | +/- 0.015 F <sup>2</sup> (                                     |
| <b>Contact Material:</b>     | Same as Electrode or Chrome-Gold with Aluminum                 |
| <b>Ship Pack Method</b>      | Vacuum sealed wafflepack                                       |
| <b>Specification Note</b>    | Custom or special requirements are available                   |





#### Device Dimensions

| mm   |       |               |
|------|-------|---------------|
|      | mm    | Tolerances    |
| X    | 3.581 | +0.000 -0.025 |
| Z    | 3.581 | +0.000 -0.025 |
| MX   | 2.540 | +0.025 -0.025 |
| MZ   | 2.540 | +0.025 -0.025 |
| ma   | 0.744 | +0.001 -0.001 |
| mb   | 1.052 | +0.003 -0.003 |
| mc   | 0.372 | +0.001 -0.001 |
| md   | 0.372 | +0.001 -0.001 |
| m:   | 1.780 | +0.002 -0.002 |
| tx   | 0.521 | +0.013 -0.013 |
| t:   | 0.521 | +0.013 -0.013 |
| m:   | NA    | NA            |
| arcS | NA    | NA            |

| Inches |               |             |
|--------|---------------|-------------|
|        | mils (0.001") | Tolerances  |
| X      | 141.00        | +0.00 -1.00 |
| Z      | 141.00        | +0.00 -1.00 |
| MX     | 100.00        | +1.00 -1.00 |
| MZ     | 100.00        | +1.00 -1.00 |
| ma     | 29.29         | +0.05 -0.05 |
| mb     | 41.42         | +0.10 -0.10 |
| mc     | 14.65         | +0.05 -0.05 |
| md     | 14.65         | +0.05 -0.05 |
| m:     | 70.07         | +0.08 -0.08 |
| tx     | 20.50         | +0.5 -0.5   |
| t:     | 20.50         | +0.5 -0.5   |
| m:     | NA            | NA          |
| arcS   | NA            | NA          |