The SM156 series of electrode plated Square inverted Mesa blanks are designed to mount in standard 0.220 mounts (two or four point mounts).

This series offers an much lower pricing than CM220 series.
XECO's proprietary process yields a mesa which is clean and free of defects, enabling high performance operation for oscillators and filters.

## Features

XECO high quality low spurs crystals
Electrodes plated to opposite corners
Electrodes in various sizes possible 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 0.220 round mount applications
High performance VCXO, XO, OCXO, filters, and specials requiring hybrid design
Telecom, communications, networking, military

| Operation Mode | Fundamental or Overtone |
| :--- | :--- |
| Frequency Range | 30 to 250 MHz |
| Frequency Range 3Rd: | 90 to 750 MHz |
| Frequency Tolerance | $+/-0.010 \mathrm{~F} \wedge 2(489 \mathrm{KHz}$ at 156.25) |
| Material and Q | Low Etch Channel Pure Z Quartz with a |
|  | Q minimum of 1.8 Million |
| Surface Finish | Polished |
| Angle | Std AT cut 35D8' to 35D29' [EFG 3D6' t |
| Angle Tolerance | $+/-2^{\prime}$ or +/- 1' |
| Dimensions (mm) | $3.962 \times 3.962 \times 0.080 \mathrm{~mm}$ |
| Dimensions (inches) | $0.156 \times 0.156 "(0.220$ across diagonal) x |
| Electrode Size | Contact Sales |
| Electrode Style | Plated to opposite corners and opposing sides |
| Electrode Material | Chrome Gold or Aluminum |
| Electrode Freq. Tol.: |  |
| Contact Material: | Same as Electrode or Chrome-Gold with Aluminum |
| Ship Pack Method | Vacuum sealed wafflepack |
| Specification Note | Custom or special requirements are available |



Device Dimensions

| mm |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| mm |  |  | Tolerances |  |
| X | 3.962 | +0.000 | -0.025 |  |
| Z | 3.962 | +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 |  |
| $\mathrm{~m}:$ | 1.780 | +0.002 | -0.002 |  |
| tx | 0.711 | +0.013 | -0.013 |  |
| $\mathrm{t}:$ | 0.711 | +0.013 | -0.013 |  |
| $\mathrm{~m}:$ | NA | NA |  |  |
| arcS | NA | NA |  |  |


| Inches |  |  |
| :---: | :---: | :---: |
| mils (0.001") | Tolerances |  |
| X | 156.00 | $+0.00-1.00$ |
| Z | 156.00 | $+0.00-1.00$ |
| 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 | $+0.05-0.05$ |
| $\mathrm{~m}:$ | 70.07 | $+0.08-0.08$ |
| tx | 28.00 | $+0.5-0.5$ |
| $\mathrm{t}:$ | 28.00 | $+0.5-0.5$ |
| $\mathrm{~m}:$ | NA | NA |
| arcS | NA | NA |

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