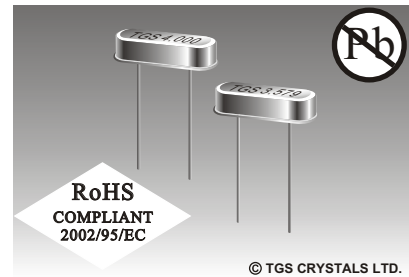


FEATURES

- Wide Frequency Range
- Low Profile
- Resistance Weld
- Various Type for I.C. Height
- Bulk, Tape & Reel
- Available 3 Pins
- Offer Fitted Insulators, Cropped Leads & Crimped Leads
- Lead Free available

APPLICATIONS

- Microprocessor Systems
- Data Communications
- Consumer Electronics
- Automotive Electronics



SPECIFICATION *

| Parameters | Product | | Option Code | |
|--|---------|---------|---------------------------------|---------|
| | 49S | 49SS | CS | CSS |
| Frequency Range: 3.2000~100MHz | △ | | Specify | |
| Oscillation Mode: AT Fund. (3.2~40MHz) BT Fund. (20~40MHz) 3rd OT (24~100MHz) | △ | △ | A | B C |
| Frequency Tolerance: ±5ppm ±10ppm ±20ppm ±30ppm ±50ppm Other Values | △ | △ | 5 10 20 30 50 | Specify |
| Load Capacitance: 12pF 16pF 18pF 20pF 30pF Series Resonant Other Values | △ | △ | 12 16 18 20 30 S | Specify |
| Frequency Stability: ±10ppm ±20ppm ±30ppm ±50ppm Other Values | △ | △ | 10 20 30 50 | Specify |
| Operating Temp. Range: 0°C~+50°C -10°C~+60°C -20°C~+70°C -40°C~+85°C Other Values | △ | ▲ | 0 10 20 40 | Specify |
| Storage Temp. Range: -40°C~+85°C | ▲ | | | |
| Equivalent Series Resistance (ESR): See Table 1 | △ | Specify | | |
| Drive Level: 1000 uW Max. | ▲ | | | |
| Shunt Capacitance (C 0): 7.0 pF Max. | ▲ | | | |
| Aging: ±5ppm Max. | ▲ | | | |
| Package: AMNO-Pack Bulk Tape/Reel | △ | △ | A B T | |
| Other Values: 3 pins Leads Cropped to 4.0mm Fitted Insulating Washer Crimped Leads Lead Free | △ | △ | 3 L4.0 W C LF | |

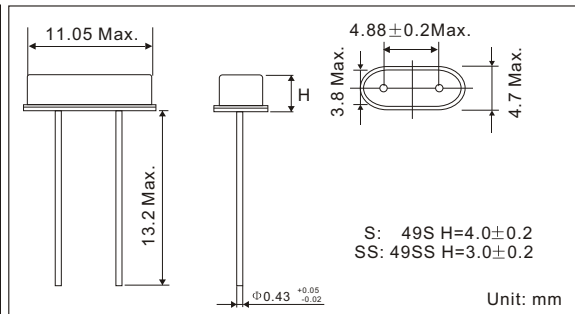
▲ Standard * Specifications Subject to Change Without Notice
△ Optional: please specify required code when inquiring or ordering

PARTNUMBER GUIDE

| | | | | | | | | | | | |
|------|-----------------|--------------------|-------------|------------------|-----------------|------------------|-----------------|-----------------------|------|---------|--------------|
| TGS | C | S | 6M0 | A | 50 | - 20 | - 50 | -10 | - 80 | - B | 3 |
| Mark | Quartz Crystals | S: 49S SS: 49SS | Freq. Range | Oscillation Mode | Freq. Tolerance | Load Capacitance | Freq. Stability | Operating Temp. Range | ESR | Package | Other Values |

e.g. Full P/N.: TGS CS 6M0A50-20-50-10-80B 3
Short P/N.: CS 6M0A20B 3 (Others is standard Spec.)

DIMENSIONS



ESR VALUES

Table 1

| Frequency Range (MHz) | ESR Max (ohm) | Frequency Range (MHz) | ESR Max (ohm) |
|-----------------------|---------------|-----------------------|---------------|
| 3.2000 ~ 3.5780 | 250 | 7.00000 ~ 9.99900 | 80 |
| 3.5790 ~ 3.9990 | 150 | 10.0000 ~ 13.9990 | 50 |
| 4.0000 ~ 4.9990 | 120 | 14.0000 ~ 25.9990 | 40 |
| 5.0000 ~ 5.9990 | 100 | 26.0000 ~ 39.9990 | 100 |
| 6.0000 ~ 6.9990 | 80 | 40.0000 ~ 100.000 | 80 |

STANDARD FREQUENCIES

Frequency in MHz

| | | | |
|----------|----------|-----------|----------|
| 3.200000 | 7.680000 | 14.18181 | 22.11840 |
| 3.276800 | 8.000000 | 14.31818 | 24.00000 |
| 3.579545 | 8.064000 | 14.74560 | 24.57600 |
| 3.686400 | 8.192000 | 15.00000 | 25.00000 |
| 4.000000 | 8.867237 | 15.36000 | 27.00000 |
| 4.032000 | 9.830400 | 16.00000 | 28.22400 |
| 4.096000 | 10.00000 | 16.38400 | 28.32200 |
| 4.194304 | 10.24000 | 16.93440 | 29.49120 |
| 4.433619 | 10.24500 | 17.734475 | 30.00000 |
| 4.915200 | 11.05920 | 18.00000 | 32.00000 |
| 5.000000 | 12.00000 | 18.43200 | 32.76800 |
| 6.000000 | 12.28800 | 19.66080 | |
| 6.144000 | 12.80000 | 20.00000 | |
| 7.372800 | 13.50000 | 20.11840 | |

PACKAGE

- Standard package in bulk: 200pcs/bag, 10 bags/inner box, 10 box/carton
 - Available on T/R & AMNO-Pack - 1000pcs per reel.
- See page 115 for detail dimensions