

Date	Rev.	Description

## CRYSTAL UNIT SPECIFICATION

### 1. General Provision

- 1-1 Holder Type: 49US DIP
- 1-2 Application: 20PF 30PPM
- 1-3 Oscillation Mode:  Fundamental or  3<sup>rd</sup> Overtone
- 1-4 Visualization & Dimension: As per attached Drawing.

### 2. Electrical Data

- 2-1 Nominal Frequency: 4.000 MHZ .
- 2-2 Tolerance of Center Frequency: +/-30 PPM x 10<sup>-6</sup>MHZ at 25 °C .
- 2-3 Center Frequency Drift: +/- 30 x 10<sup>-6</sup> MHZ In 2-4.
- 2-4 Working Temperature Range: -10 °C to +60 °C .
- 2-5 Aging: Less than +/- 5 x 10<sup>-6</sup> MHZ / 1 Year.
- 2-6 Circuit: Measured in S&A 250B.
- 2-7 Load Capacitance: 20 PF
- 2-8 Drive Level: 0.1 mW MAX.
- 2-9 Effective Resistance Rr: Less t han 120 OHMS.
- 2-10 Shunt Capacitance: 7.0 PF Max.
- 2-11 Insulation Resistance: More than 500 M ohms at DC 100V.

### 3. Reliability

- 3-1 Bend Test: Pins withstand 2 bends of 90° ref. To base.  
(Ref. MIL-STD 202F, Method 211, Condition C)
- 3-2 Vibration: 10~55 Hz, duration of 6 hours, displacement  
1.5mm, 3 mutually perpendicular plans.  
(Ref. MIL-STD 202F, Method 210A)

DCC. NO.
A4 DRAWING NO.

MATERIAL		<b>GOLDSUN ELECTRONICS CO., LTD.</b>	
DRAWN: Ivan Wang		JAMECO NO. 324962	GOLDSUN NO. AT-4.000 20/30 49US
VERIFY PEOPLE: Jenny		Description CRYSTAL,ECS-40-20-4,HC49/US 4.000MHZ 20PF	Rev. 1
UNIT: mm	SCALE:	SHEET 1 OF 1	CAS No: ERN No:

Date	Rev.	Description

3-3 Shock: 1000G, 0.35ms, half sine-wave, 3 shocks of each plan.

(Ref. MIL-STD 883C, Method 2002.3, Condition C)

3-4 Solderability: 90% coverage using 63/37 solder at 245°C for 5 sec. Dippin after immersion in Alpha 611 flux 5 sec.

(Ref. MIL-STD 883C, Method 2003.5)

3-5 Fine lead: Mass spectrometer leak rate less than  $2 \times 10^{-8}$  atm.cc/sec of Helium.

(Ref. MIL-STD 883C, Method 1014.8, Condition B)

3-6 Humidity: 85% relative humidity at 85°C for 500 hours,

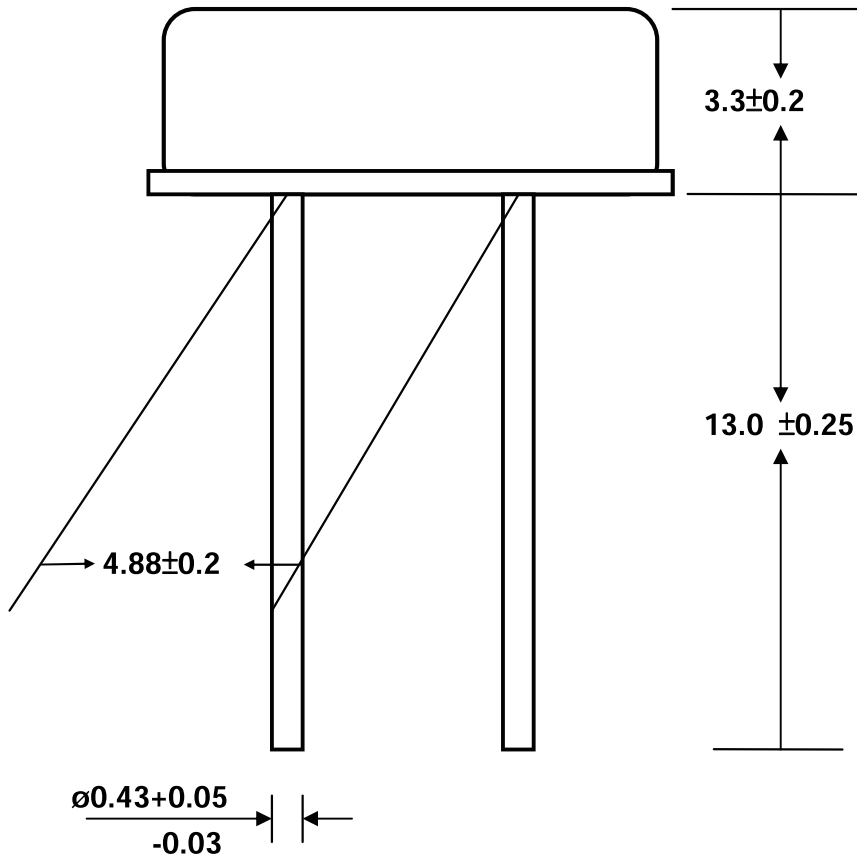
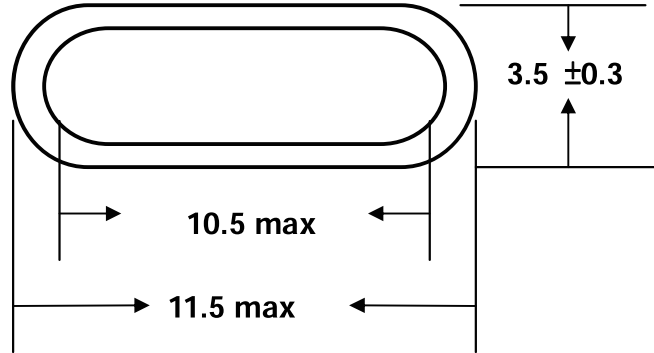
(Ref. MIL-STD 883C, Method 1004.6)

DCC. NO.
A4 DRAWING NO.

MATERIAL		<b>GOLDSUN ELECTRONICS CO., LTD.</b>			
		JAMECO NO.	GOLDSUN NO.		
		324962	AT-4.000 20/30 49US		
DRAWN: Ivan Wang		Description		Rev.	
VERIFY PEOPLE: Jenny		CRYSTAL,ECS-40-20-4,HC49/US 4.000MHZ 20PF		1	
UNIT:	SCALE:	SHEET 1 OF 1		CAS No:	
mm				ERN No:	

Date	Rev.	Description

**DIMENSIONS : (UNIYT=mm)**



MATERIAL
DRAWN: Ivan Wang
VERIFY PEOPLE: Jenny

<b>GOLDSUN ELECTRONICS CO., LTD.</b>			
JAMECO NO.	324962	GOLDSUN NO.	AT-4.000 20/30 49US
Description	CRYSTAL,ECS-40-20-4,HC49/US		Rev. 1
UNIT: mm	SCALE:	SHEET 1 OF 1	CAS No: ERN No:

DCC. NO.
A4 DRAWING NO.