

SPEC NO.: CU-003SDIP

Specification

TO:STE

Model Name: Crystal Unit

PART NO: STF38-32.768K-12.5-20D

CUSTOMER PART NO.:

Approval sheet:

Approved	Yes
	No.
Customer's comments are welcomed here.	
Please return this copy as a certificate of your approval by email.	
Approved By	Date: _____

STRONG ELECTRONICS&TECHNOLOGY LIMITED

Service Hotline:86-755-84528985 Fax: 86-755-84528986

Email:info@strongfirst.com.cn

www.strongfirst.com.cn

History Record

Date	Part No.	SPEC No.	Description.	Remarks.
RoHS Compliant Lead free Lead-free soldering	ISO9001:2000 ISO14001:2004	Approved by	Check by	Design by
		May-15-2007	May-10-2005	Jan-16-2005
versions	Total Page	<i>Xu gang dong</i>	<i>Liu jun</i>	<i>Wang hon</i>

1. Range:

This specification shall cover the characteristics of crystal unit with STRONG'S
P/N: **STF38-32.768K-12.5-20D**

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
PACKAGE TYPE	STF38
NOMINAL FREQUENCY	32.768KHz
LOAD CAPACITANCE	12.5PF
FREQUENCY TOLERANCE (25°C ± 2°C)	± 20PPM
EQUIVALENT SERIES RESISTANCE	30K Ω max
DRIVE LEVEL	1.0 μ W
OPERATING TEMPERATURE RANGE	-20°C~+70°C
STORAGE TEMPERATURE	-40°C~+85°C
AGING	± 3PPM/YEAR
INSULATION RESISTANCE	>500M Ω

3. MECHANICAL SPECIFICATION

1) Terminal Strength

Lead pulling test

Conditions: Load 907.2 gram
Direction To the downward
Duration of applied force 5 seconds

Results: There should be no distortion in appearance.

* Lead bending test

Conditions: Load 453.6 gram
Bending angle 90° to normal position
Rate of bending 3 seconds in each cycle
Number of bending 3

Results: There should be no distortion in appearance.

2) Lead solderability test

Conditions: Dipping in solder(+230°C ± 5°C)for 5 seconds

Results: More than 95% of surface being tested should be coated uniformly with solder.

3) Vibration test

Conditions: Frequency 10 – 55Hz
Amplitude 0.762mm
Sweep 1.0 minute
Duration 2 hours

Results: Frequency and wave form of tested products must Remain within specifications.

4) Drop test

Conditions: Method of drop Natural drop

	Dropping floor	Hard wood board
	Height	30cm
	Number of drops	3 times
Results:	Frequency and wave form of tested products must remain within specifications.	

4.ENVIRONMENTAL SPECIFICATION

1) Temperature test

* Temperature cycling test

Conditions:	Steps of cycle	1) At -55°C,30 minutes 2) At +25°C,10 - 15 minutes 3) At +85°C,30 minutes 4) At +25°C,10 - 15 minutes
	Number of cycles	3 times

Results: Frequency and wave form of tested products must remain within specifications.

* Low Temperature test

Conditions:	Temperature	-20°C ± 2°C
	Length of test	96 hours

Results: There should be no stain on surface of products.
Frequency and wave form of tested products must remain within specifications.

2) Aging test

Conditions:	Temperature	+85°C ± 20°C
	Length of test	96 hours
Results:	Deviation of frequency must be less than ±3ppm	

3) Salt spray test

Conditions:	Temperature	+35°C ± 2°C
	Length of test	48 hours
	NaCl %	5%

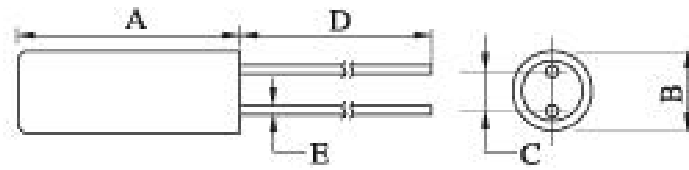
Results: There should be no stain on surface of products.

4) Humidity test

Conditions:	Temperature	+40°C ± 2°C
	Relative humidity	90 - 95%
	Length of test	96 hours

Results: a. Insulation resistance must be 500 MΩ /100 Vac. minimum
b. Resistance and wave form must remain within specifications.

5.DIMENSION (Unit: mm)



A	B	C	D	E
8.0	ϕ 3.0	1.1	10.0	ϕ 0.3

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