



SPEC NO.: CRS-015M

## Specification

TO:STE508

Model Name: Crystal Unit

**PART NO: STF26FA-32.768K-12.5-20**

CUSTOMER PART NO.:

Approval sheet:

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

**STRONG ELECTRONICS&TECHNOLOGY LIMITED**

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

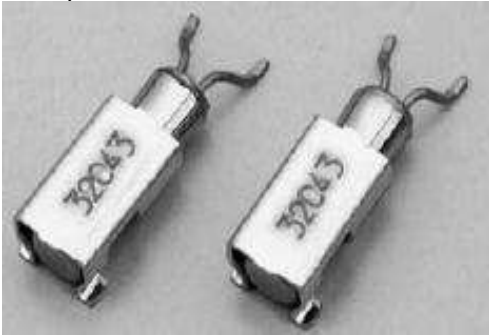
Email:info@strongelectronics.net

www.strongelectroncis.net



1. Range:

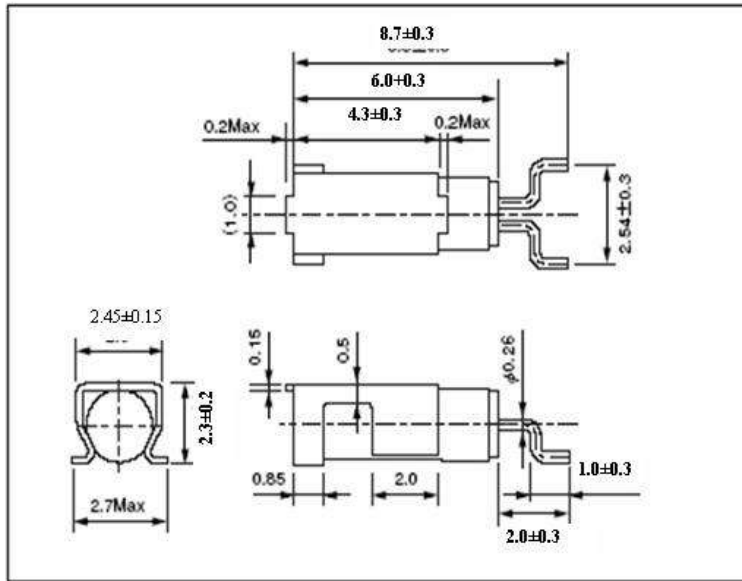
This specification shall cover the characteristics of Crystal Unit with Strong's P/N: **STF26FA-32.768K-12.5-20**



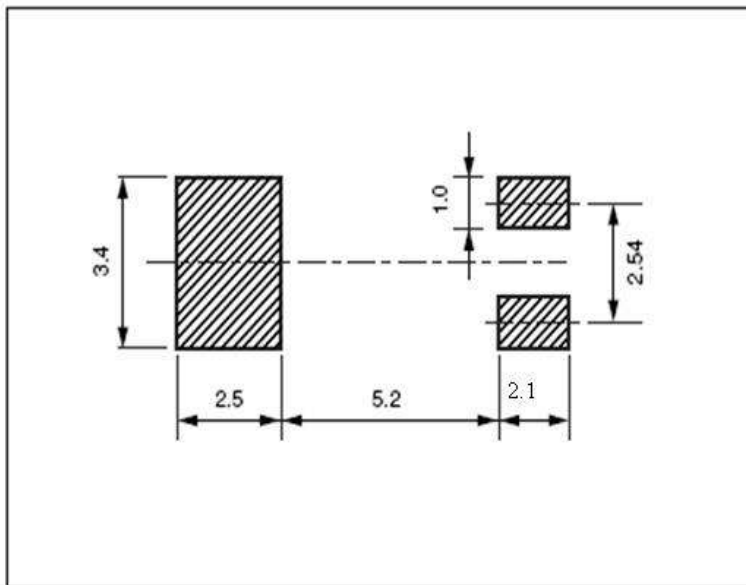
2. ELECTRICAL SPECIFICATION:

Frequency Range	32.768KHz
Load Capacitance	12.5pF
Drive Level	1.0μW Max
Frequency Tolerance	±20ppm
Series Resistance	50Kohm Max
Turnover Temperature	25±5℃
Temperature Coefficient	[-0.035±0.01]ppm/℃
Operating Temperature Range	-20~+70℃
Storage Temperature Range	-40~+85℃
Motional Capacitance	0.0028pF Typical
Shunt Capacitance	1.45pF Typical
Capacitance Ratio C0/C1	500 Typical
Aging[first year]	±5ppm Max
Quality Factor	50000Typical
Insulation Resistance	500Mohm Min.

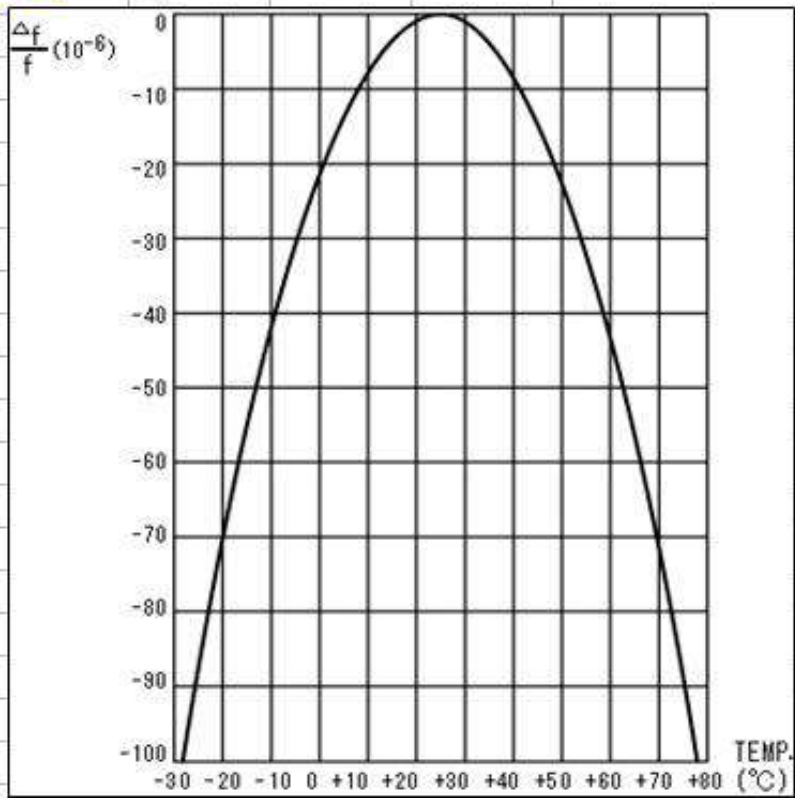
OUTLINE:



SOLDER PATTERN



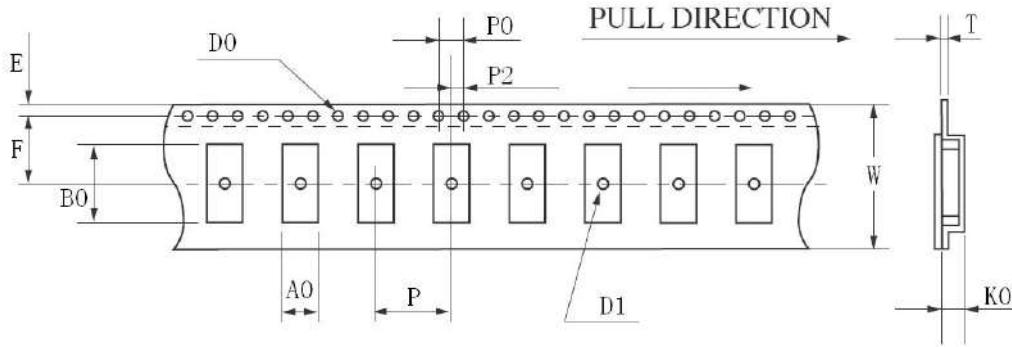
**FREQUENCY VS. TEMPERATURE**



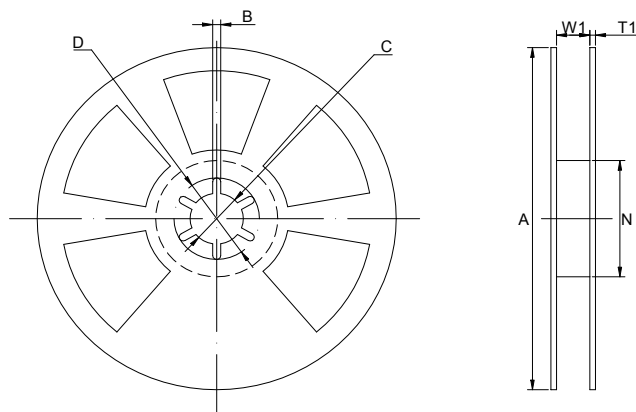
**3. Reliability Specification**

	Item	Condition	Reference
1.	Drop characteristics	3 times Free drop from 75cm height table to 3cm thickness hard wooden board.	MIL-STD-202F
2	Vibration	Frequency: 10~1000Hz, Amplitude: 1.5mm, 40 minutes in each direction x/y/z, total 120 minutes	MIL-STD-883E
3.	Humidity characteristics	Temperature: 85±2°C Humidity: 85% R.H. Time: 500 hours	MIL-STD-883E
4.	Thermal shock	Temperature T1: -55±10°C, T2: 125±10°C, Temperature change between T1 and T2: 5seconds. 10cycles, maintain T1 and T2 for 30 minutes each in one cycle	MIL-STD-883E
5.	High temperature characteristics	Temperature: 125±10°C, Time: 1000±24 hours,	MIL-STD-883E
6.	Solder Heat Resistance	Pre-heat: 125±10°C, 60~120 seconds Solder Temperature: 260±10°C, Time: 10 seconds	MIL-STD-202F
7.	Steam Aging	Temperature: 97°C, Time: 8 hours, 230°C solder pot to check solderability	MIL-STD-883E
8.	Solderability	Dip in flux 5~10 seconds Pb-free: peak 260±10°C for 10 seconds max	MIL-STD-883E
9	Aging	Temperature: 85±2°C Time: 500 hours	MIL-STD-883E
10	Temperature cycle	Temperature T1: -55±10°C, T2: 125±10°C, Temperature change between T1 and T2 at soonest Run 10cycles, maintain T1 and T2 for 30 minutes each in one cycle	MIL-STD-883E

## 4. Type &amp; Reel



	49S-SMD	S8045	S7050	S6035	S5032	S4025	S3225
W	24.00±0.30	16.00±0.05	16.00±0.05	12.00±0.05	12.00±0.05	12.00±0.05	12.00±0.05
E	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10
F	11.5±0.10	7.5±0.10	7.5±0.10	5.5±0.10	5.5±0.10	5.5±0.10	5.5±0.10
T	0.40±0.05	0.35±0.05	0.35±0.05	0.35±0.05	0.35±0.05	0.35±0.05	0.30±0.05
P	12.00±0.10	8.00±0.10	8.00±0.10	8.00±0.10	8.00±0.10	8.00±0.10	8.00±0.10
P0	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10
P2	2.00±0.10	2.00±0.10	2.00±0.10	2.00±0.10	2.00±0.10	2.00±0.10	2.00±0.10
D0	φ	φ	φ	φ	φ	φ	φ
D1	φ 1.50MIN	φ 1.50MIN	φ 1.50MIN	φ 1.50MIN	φ 1.50MIN	φ 1.50MIN	φ 1.50MIN
A0	4.60±0.10	4.85±0.10	5.40±0.10	3.90±0.10	3.60±0.10	2.80±0.10	2.85±0.10
K0	4.40±0.10	1.90±0.10	1.80±0.10	1.50±0.10	1.10±0.10	0.90±0.10	0.85±0.10
B0	14.20±0.15	8.60±0.15	7.40±0.10	6.40±0.10	5.40±0.10	4.30±0.10	3.55±0.10



	HC-49SMD	8045	7050	6035	5032	4025	3225
A	φ 330±1.0	φ 178±	φ 178±	φ 178±	φ 178±	φ 178±	φ 178±
B	2.30±0.20	2.00±0.50	2.00±0.50	2.00±0.50	2.00±0.50	2.00±0.50	2.00±0.50
C	φ 13.5±	φ 13.2±	φ 13.2±	φ 13.2±	φ 13.2±	φ 13.2±	φ 13.2±
D	φ 21.5±	φ 20.0	φ 20.0	φ 20.0	φ 20.0	φ 20.0	φ 20.0

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N	$\phi 100.0 \pm$	$\phi 60.5 \pm$	$\phi 60.5 \pm$	$\phi 60.5 \pm$	$\phi 60.5 \pm$	$\phi 60.5 \pm$	$\phi 60.5 \pm$
W1	$24.5 \pm 0.20$	$16.5 \pm 0.20$	$16.5 \pm 0.20$	$12.5 \pm 0.20$	$12.5 \pm 0.20$	$12.5 \pm 0.20$	$12.5 \pm 0.20$
T1	$2.30 \pm 0.20$	$1.80 \pm 0.20$	$1.80 \pm 0.20$	$1.80 \pm 0.20$	$1.80 \pm 0.20$	$1.80 \pm 0.20$	$1.80 \pm 0.20$

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