MHz RANGE CRYSTAL UNIT

FA-128

- Nominal frequency range : 16 MHz to 54 MHz
- External dimensions : 2.0 × 1.6 × 0.5 mm
- Overtone order : Fundamental
- Applications : Mobile phone, Bluetooth, W-LAN
  ISM band radio, Clock for MPU

Pb Free **RoHS Compliant**

Product Number (please contact us)
Q22FA1280xxxx18

Actual size

Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks
		For RF Reference	For Clock	
Nominal frequency range	f_nom	16.000 MHz to 54.000 MHz		Fundamental Please contact us about available frequencies.
Storage temperature range	T_stg	-40 °C to +125 °C		Storage as single product.
Operating temperature range	T_use	-40 °C to +85 °C (+105 °C)		Please contact us about +85 °C < T_use
Level of drive	DL	100 µW Max.	200 µW Max.	Recommended: 1 to 100 µW
Frequency tolerance (standard)	f_tol	$\pm 10 \times 10^{-6}$ *1	$\pm 30 \times 10^{-6}$	+25 °C, Please contact us for requirements not listed in this specifications.
Frequency versus temperature characteristics (standard)	f_tem	$\pm 10 \times 10^{-6}$ *1	$\pm 30 \times 10^{-6}$	-20 °C to +75 °C, Please contact us for requirements not listed in this specifications.
Load capacitance	C_L	6 pF to ∞		Please specify.
Motional resistance (ESR)	R_1	As per table below		-20 °C to +75 °C
Frequency aging	f_age	$\pm 1 \times 10^{-6}$ / year Max.	$\pm 5 \times 10^{-6}$ / year Max.	+25 °C, First year

*1 Please contact us for available frequency tolerances as they are dependent upon the nominal frequency.

Motional resistance (ESR)

Frequency	Motional resistance
16.0 MHz ≤ f_nom < 18.0 MHz	200 Ω Max.
18.0 MHz ≤ f_nom < 20.0 MHz	150 Ω Max.
20.0 MHz ≤ f_nom < 24.0 MHz	100 Ω Max.
24.0 MHz ≤ f_nom < 26.0 MHz	80 Ω Max.
26.0 MHz ≤ f_nom ≤ 54.0 MHz	60 Ω Max.

Product name
(Standard form)

FA-128　24.000000MHz　12.0　+10.0-10.0
　①　　　②　　　　③　　　④
①Model　②Frequency　③Load capacitance(pF)　④Frequency tolerance($\times 10^{-6}$, +25 °C)
In addition to the above mentioned specification item, please specify frequency temperature characteristics
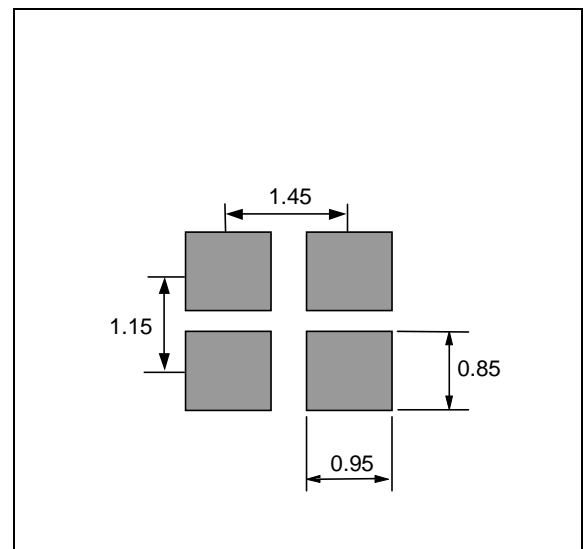and operating temperature range in case of inquiry.

External dimensions (Unit:mm)

2.0±0.1
1.6±0.1
#4 #3
2600M E66RA
#1 #2
0.5 Max.

0.65 0.6
#1 #2
0.5
0.45
C 0.2 Min.
#4 #3

Internal connection
(TOP VIEW)
#4 ___ #3
#1 ___ #2
#2 and #4 are connected to the cover.
(Please connect to ground)
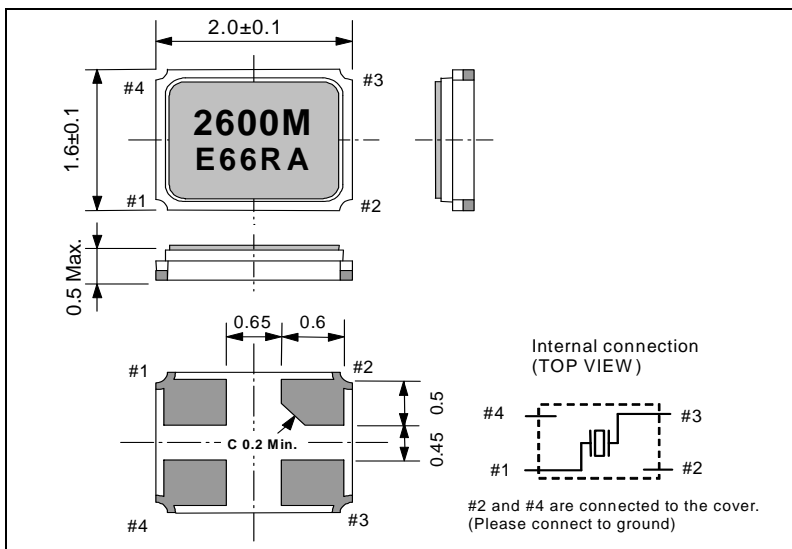
Footprint (Recommended) (Unit:mm)

1.45
1.15
0.85
0.95

PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

> ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs,

Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

> ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

►**Explanation of the mark that are using it for the catalog**

Pb Free	►Pb free.

RoHS Compliant	►Complies with EU RoHS directive.
	  *About the products without the Pb-free mark.
	   Contains Pb in products exempted by EU RoHS directive.
	   (Contains Pb in sealing glass, high melting temperature type solder or other.)

For Automotive	►Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
Automotive Safety	►Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

Notice

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Epson *manufacturer:*

Other Similar products are found below :

MA-505 24.0000M-C3 ROHS MC-405 32.7680K-G3: ROHS S5U13L02P00C100 SG5032CAN 10.000000M-TJGA3 SG-531P 7.3728MC:ROHS X1G0044810005 SG7050CAN 10 MHZ SG531P IC Socket for 2520 case S5U1C31W74T1300 S5U1C17W04T2100 IC Socket for 7050 case S5U1C17W36T2100 MC-306 32.7680K-E ROHS MA-505 24.0000M-C0:ROHS S5U13513P00C100 S5U13781R01C100 SG-210STF 13.5600ML3 SG-210STF 2.0480ML3 Q3851CA000055 XG-1000CA 50 MHZ EG-2121CA 644.53125MLGPA SG-636PCE 25.0000MC3:ROHS MA-506 4.0000M-C3 ROHS EG-2121CA2000000M-LGPAL3 S5U13U00P00C100 S5U13513R00C100 S5U13517P00C200 FA-238 16.0000MB50X-A3 S5U13748P00C100 S5U1C17W18T2100 IC Socket for 5032 case SG-210STF 8.0000ML Q325310110003 SG-531P 10 MHZ C MA-506 25.0000M-C3:ROHS M160 S5U1C17M13T2100 S5U1C17M13T1100 SG-210STF 7.3728ML3 FC-12M 32.7680KA-AC0 M150 S5U1C17W15T2100 XG-2121CA 156.2500M-PGSNB SG-210STF 32.7680ML SG-636PTF 20.0000MC3: ROHS SG-210STF 27.0000ML0 SG-8002JC MP BLANK:ROHS SG5032CCN 14.745600M-HJGA3 SG-615P 2.0000MC: ROHS Q13FC13F00001 FC-13F 32.768KHZ 12.5PF MA-306 18.4320M-C0:ROHS EG-2121CA 156.2500M-LHPAB