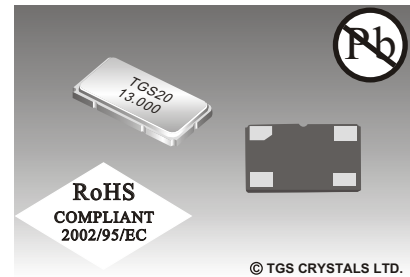


FEATURES

- Ultra Low Height
- Tight Tolerance and Stability
- 4 pads
- Tape & Reel
- Dimension 5.0x3.5x0.9mm
- Seam Weld Sealing
- Lead Free available

APPLICATIONS

- Cellular telephones
- PHS
- Cordless telephones and pagers



© TGS CRYSTALS LTD.

SPECIFICATION *

Parameters	Product	Option Code
	SMD0503	CM53
Frequency Range:	12.000~30.0MHz	△ Specify
Oscillation Mode:	AT Fund.	△ A
Frequency Tolerance:	±10ppm	△ 10
	±20ppm	△ 20
	±30ppm	△ 30
	±50ppm	▲ 50
	Other Values	△ Specify
Load Capacitance:	12pF	△ 12
	16pF	△ 16
	18pF	△ 18
	20pF	▲ 20
	30pF	△ 30
	Series Resonant Other Values	△ S △ Specify
Frequency Stability:	±10ppm	△ 10
	±20ppm	△ 20
	±30ppm	△ 30
	±50ppm	▲ 50
	Other Values	△ Specify
Operating Temp. Range:	0°C~+50°C	△ 0
	-10°C~+60°C	▲ 10
	-20°C~+70°C	△ 20
	-40°C~+85°C	△ 40
	Other Values	△ Specify
Storage Temp. Range:	-40°C~+85°C	▲
Equivalent Series Resistance (ESR):	80 ohm Max.: 12.00~13.999MHz	△ 80
	60 ohm Max.: 14.00~19.999MHz	△ 60
	50 ohm Max.: 20.00~30.000MHz	△ 50
	Other Values	△ Specify
Drive Level:	1000 uW Max.	▲
Shunt Capacitance (C 0):	7.0pF Max.	▲
Aging:	±5ppm Max.	▲
Package:	Tape/Reel	△ T
Other Values:	Lead Free	△ LF

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

PACKAGE

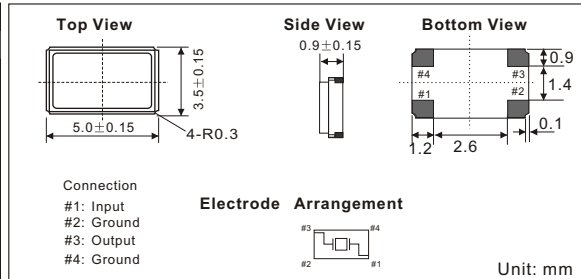
- Standard package in T/R: 1000pcs/Reel, 2Reel/ box, 5 box/carton
- See page 118 for detail dimensions

PART NUMBER GUIDE

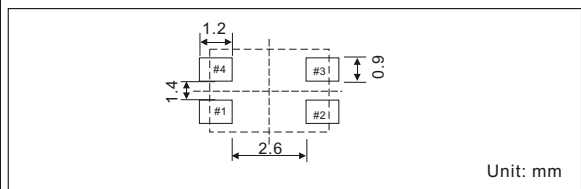
TGS	C	M	53	13M0	A	50	- 20	- 50	- 10	- 80	- T
Mark	Quartz Crystals	SMD Type	5.0X3.5X0.9mm	Freq. Range	Oscillation Mode	Freq. Tolerance	Load Capacitance	Freq. Stability	Operating Temp. Range	ESR	Package

e.g. Full P/N.: TGS CM53 13M0A50-20-50-10-80T
 Short P/N.: CM53 13M0A20T (Others is standard Spec.)

DIMENSIONS



RECOMMENDED SOLDER PAD LAYOUT



SOLDER REFLOW PROFILE

