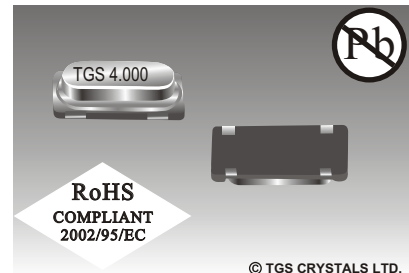


FEATURES

- Wide Frequency Range
- Low Profile
- 4 pads
- 5.0mm & 4.0mm Height for various I. C
- Tape & Reel
- Lead Free available

APPLICATIONS

- Microprocessor Systems
- Data Communications
- Consumer Electronics
- Automotive Electronics



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SPECIFICATION \*

Parameters	Product		Option Code	
	49SM4	49SSM4	CSM4	CSSM4
<b>Electrode Arrangement:</b>				
Type A	△		A	
Type B	△		B	
Type C	△		C	
<b>Frequency Range:</b> 3.2000~70MHz	△			Specify
<b>Oscillation Mode:</b>				
AT Fund.(3.2~40MHz)	△		A	
BT Fund. (20~40MHz)	△		B	
3rd OT (24~70MHz)	△		C	
<b>Frequency Tolerance:</b>				
±10ppm	△		10	
±20ppm	△		20	
±30ppm	△		30	
±50ppm	▲		50	
Other Values	△			Specify
<b>Load Capacitance:</b>				
12pF	△		12	
16pF	△		16	
18pF	△		18	
20pF	▲		20	
30pF	△		30	
Series Resonant	△		S	
Other Values	△			Specify
<b>Frequency Stability:</b>				
±10ppm	△		10	
±20ppm	△		20	
±30ppm	△		30	
±50ppm	▲		50	
Other Values	△			Specify
<b>Operating Temp. Range:</b>				
0℃~+50℃	△		0	
-10℃~+60℃	▲		10	
-20℃~+70℃	△		20	
-40℃~+85℃	△		40	
Other Values	△			Specify
<b>Storage Temp. Range:</b> -40℃~+85℃	▲			
<b>Equivalent Series Resistance(ESR):</b> See Table 1	△			Specify
<b>Drive Level:</b> 1000 uW Max.	▲			
<b>Shunt Capacitance (C0):</b> 7.0pF Max.	▲			
<b>Aging:</b> ±5ppm Max.	▲			
<b>Package:</b>				
Bulk	△		B	
Tape/Reel	△		T	
<b>Other Values:</b> Lead Free	△			LF

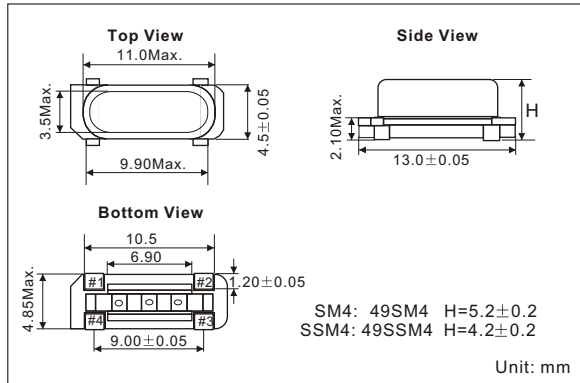
▲ Standard \* Specifications subject to change without notice  
△ Optional: please specify required code when inquiring or ordering

PARTNUMBER GUIDE

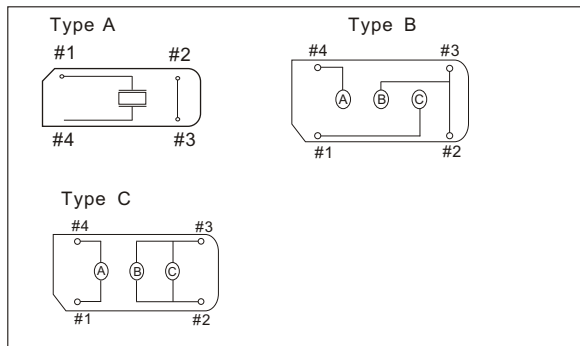
TGS	C	SM	4	A	6M0	A	50	-20	-50	-10	-100	-T
Mark	Quartz Crystals	SM:49SM SSM:49SSM	4 Pads	Type A:A Type B:B Type C:C	Freq. Range	Oscillation Mode	Freq. Tolerance	Load Capacitance	Freq. Stability	Operating Temp.Range	ESR	Package

e.g. Full P/N.: TGS CSM4A 6M0A50-20-50-10-100T  
Short P/N.: CSM4A 6M0A20T (Others is standard Spec.)

DIMENSIONS



ELECTRODE ARRANGEMENT



ESR VALUES

Table 1

Frequency Range (MHz)	ESR Max (ohm)	Frequency Range (MHz)	ESR Max (ohm)
3.2000 ~ 3.4990	300	7.00000 ~ 8.99900	80
3.5000 ~ 3.9990	200	9.00000 ~ 12.9990	60
4.0000 ~ 4.9990	150	13.0000 ~ 19.9990	40
5.0000 ~ 5.9990	150	20.0000 ~ 26.9990	30
6.0000 ~ 6.9990	100	27.00000 ~ 70.0000	100

PACKAGE

- Standard package in tape: 1000pcs/Reel, 2Reel/ box, See Page 117 for detail dimensions

