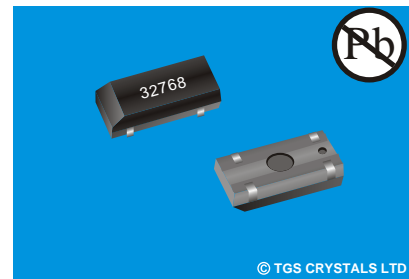


FEATURES

- Plastic Moulded SM Package ● Small Size 8.0X3.8X2.5mm
- Wide Operating Temp. Range At -40°C~+85°C ● Lead Free available
- Cross reference CM200S Citizen and MC-306 Epson

APPLICATIONS

- Microprocessor Systems ● Communications



SPECIFICATION *

Parameters		Product	Option Code
		SMD308C	CCMC
Frequency Range:	32.768-153.6KHz	△	Specify
Oscillation Mode:	AT Fund	△	A
Frequency Tolerance:	±10ppm	△	10
	±20ppm	△	20
	±30ppm	△	30
	±50ppm	▲	50
	Other Values	△	Specify
Load Capacitance:	12.5pF	▲	12.5
	Other Values	△	Specify
Frequency/Temp Coefficient:	-0.038ppm/°C ²	▲	
Operating Temp. Range:	-40°C~+85°C	▲	40
Storage Temp. Range:	-40°C~+85°C	▲	
Turnover Temp. (To):	25°C±5°C	▲	
Equivalent Series Resistance (ESR):	See Table 1	△	Specify
Drive Level:	1.0 uW Max.	▲	
Shunt Capacitance (C0):	1.3pF Typ.	▲	
Dynamic Capacitance(C1):	2.4fF Typ	▲	
Soldering Conditions:	240°C, 10sec Max	▲	
Quality Factor (Q):	100000 Typ	▲	
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: 3000pcs/Reel, 2Reel/box, 5box/carton
 See page 88 for detail dimensions

ESR VALUES

Table 1

Frequency Range (KHz)	ESR Max (K ohm)	Frequency Range (KHz)	ESR Max (K ohm)
30.0000~39.9990	50	70.0000~99.9990	35
40.0000~59.9990	40	100.000~153.600	30
60.0000~69.9990	35		

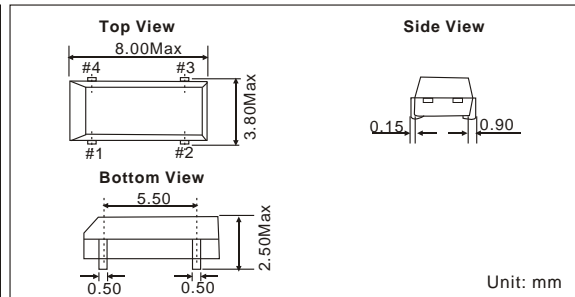
PART NUMBER GUIDE

TGS	CC	M	C	32K768	30	- 12.5	-40	-50	- T
Mark	Cylindrical Crystals	SMD Type	8.0X3.8X2.5mm	Freq. Range	Freq. Tolerance	Load Capacitance	Operating Temp. Range	ESR	Package

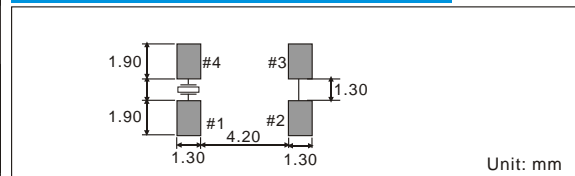
e.g. Full P/N.: TGS CCMC 32K768A50-12.5-40-40 T

Short P/N.: CCMC 32K768A12.5 T (Others is standard Spec.)

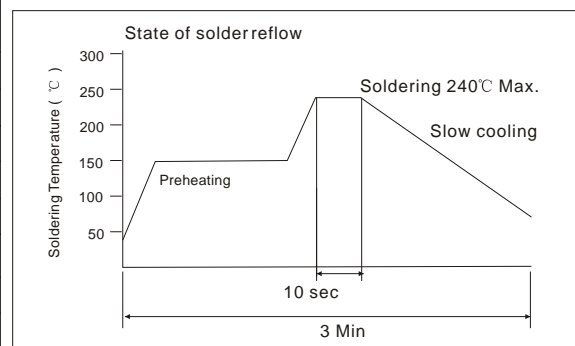
DIMENSIONS



RECOMMENDED SOLDER PAD LAYOUT



SOLDER REFLOW PROFILE



FREQUENCY VS TEMP CURVE

