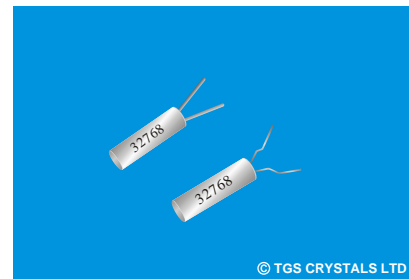


FEATURES

- Wide Frequency Range
- Small Size
- Cross reference CM205TCitizen

APPLICATIONS

- Microprocessor Systems
- Communications



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SPECIFICATION *

Parameters	Product		Option Code	
	Type A	Type B	CCMA	CCMB
Frequency Range:	30.000~153.6KHz		Specify	
Oscillation Mode:	AT Fund.		A	
Frequency Tolerance:	± 10ppm		10	
	± 20ppm		20	
	± 30ppm		30	
	± 50ppm		50	
	Other Values		Specify	
Load Capacitance:	6pF		6	
	12.5pF		12.5	
	Other Values		Specify	
Frequency/Temp Coefficient:	-0.034±0.006ppm/°C² typ		▲	
Operating Temp. Range:	-10°C~+60°C		10	
	-40°C~+85°C		40	
	Other Values		Specify	
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):	1.35pF Typ.		▲	
Dynamic Capacitance(C1):	2.4fF Typ		▲	
Soldering Conditions:	240°C, 10sec Max		▲	
Quality Factor (Q):	100000typ		▲	
Aging:	±5ppm Max.		▲	
Package:	Tape/Reel		T	

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

PACKAGE

- Standard package in T/R:3000pcs per reel.
- 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		

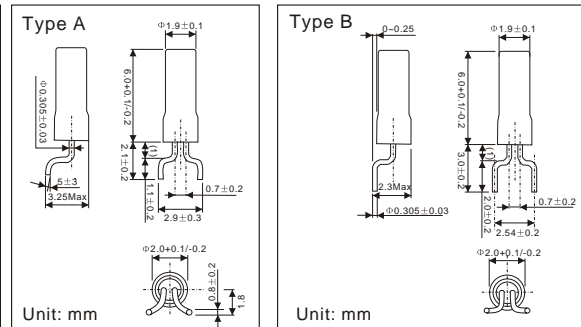
PART NUMBER GUIDE

TGS	CC	M	A	32K768	A	30	- 12.5	-40	-50	- T
Mark	Cylindrical Crystals	SMD Type	A: Type A B: Type B	Freq. Range	Oscillation Mode	Freq. Tolerance	Load Capacitance	Operating Temp. Range	ESR	Package

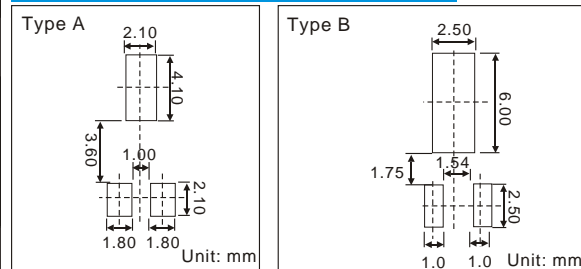
e.g. Full P/N.: TGS CCMA 32K768A50-12.5-40-40 T

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

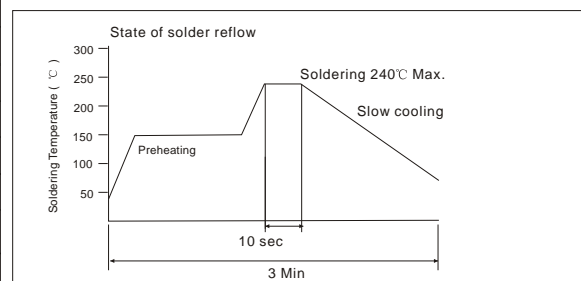
DIMENSIONS



RECOMMENDED SOLDER PAD LAYOUT



SOLDER REFLOW PROFILE



FREQUENCY VS TEMP CURVE

