

# Crystal Units

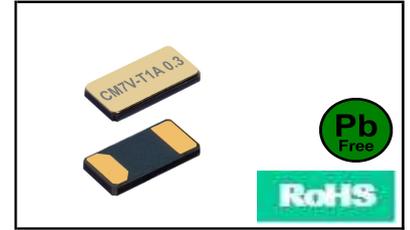
## 水晶振動子

### Tuning Fork Crystal 32.768KHZ 時計用水晶振動子

CM7V-T1A



CM7V-T1A 0.3



### Feature 特徴

- 3.2mmx1.5mm Size: Tuning Fork Crystal 32.768kHz by ceramic package.  
3.2mmx1.5mmサイズ: 時計用水晶振動子 32.768kHzのセラミック・パッケージ版です
- Low package height(0.65mm) and Ultra low package height(0.35mm) is available.  
薄型0.65mmT、超薄型0.35mmTタイプをご提供させていただきます
- High stability, Low aging, Low power consumption, High shock and vibration resistance.  
高安定性、エージング特性、電力消費特性、耐衝撃特性、耐振動特性などで優れています
- Product supply from **MICRO CRYSTAL SWITZERLAND**.  
この製品は、マイクロクリスタル社から提供されております



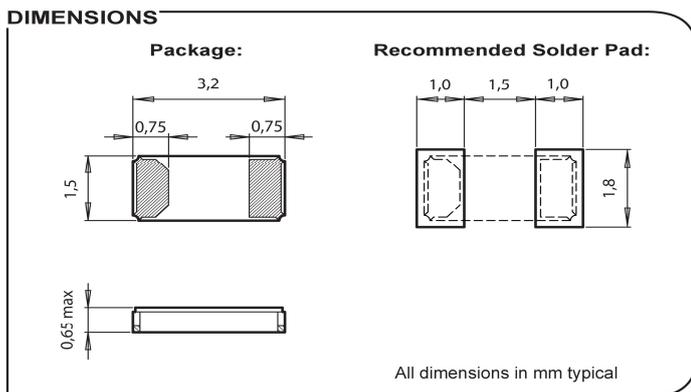
### Specification 仕様

			CM7V-T1A	CM7V-T1A 0.3	
Nominal Frequency	公称周波数	$F_L$	32.768	32.768	kHz
Load capacitance	負荷容量	$C_L$	7.0/9.0/12.5	7.0/9.0/12.5	pF
Frequency tolerance	周波数偏差	$\Delta F/F$	+/-20	+/-20	ppm
		$\Delta F/F$	+/-100	+/-100	ppm
Series resistance	直列抵抗(typ./max.)	$R_s$	50/70	45/60	k $\Omega$
Motional capacitance	直列容量(typ.)	$C_1$	3.7	3.6	fF
Static capacitance	並列容量(typ.)	$C_0$	1.2	1.4	pF
Drive level max.	ドライブレベル	P	1.0	0.5	$\mu$ W
Insulation resistance	絶縁抵抗(min.)	$R_i$	500	500	M $\Omega$
Aging first year max.	初年度エージング	$\Delta F/F$	+/-3	+/-3	ppm
Turnover temperature	変曲点温度	$T_0$	25+/-5	25+/-5	$^{\circ}$ C
Frequency vs. Temperature	周波数安定度	$\Delta F/F_0$	-0.035ppm/ $^{\circ}$ C <sup>2</sup> (T-T <sub>0</sub> ) <sup>2</sup> ±10%		ppm

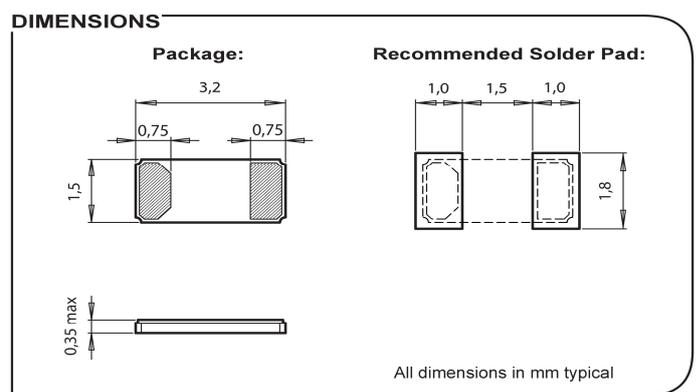
Other frequencies and load capacitance on request. 他の周波数や負荷容量は、お問合せ下さい。

Tighter and wider frequency tolerances on request. 偏差の縮小、拡大についてはお問合せ下さい。

### Case Dimensions ケース寸法



CM7V-T1A



CM7V-T1A 0.3

# Crystal Units

## 水晶振動子

### Product Description and Ordering Information 製品内容、及び、型名情報

<b>C</b>	<b>M</b>	<b>7</b>	<b>V</b>	<b>-</b>	<b>T</b>	<b>1</b>	<b>A</b>	<b>32.768 kHz</b>	<b>12.5 pF</b>	<b>±20 ppm</b>	<b>TA</b>	<b>QC</b>
<b>Ceramic package</b>	<b>Metal lid</b>	<b>Package size</b> 7 = 3.2 x 1.5 x 0.65 mm	<b>Tuning fork</b>	<b>SMT Package</b>	<b>Au flashed pads</b>	<b>Pads on both ends</b>		<b>Frequency <math>F_L</math></b>	<b>Load capacitance <math>C_L</math></b> 6.0 pF 7.0 pF 9.0 pF 12.5 pF Other $C_L$ on request	<b>Frequency tolerance</b> ±20 ppm ±100 ppm Tighter freq. tolerances on request	<b>Temperature range</b> <b>TA</b> = -40 to +85°C (Standard) <b>TB</b> = -40 to +125°C <b>TC</b> = -55 to +125°C	<b>Qualification</b> <b>QC</b> = Commercial Grade (Standard) <b>QA</b> = Automotive Grade AEC-Q200

A unique part number will be generated for each product specification, i.e:	
20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)
20xxxx-PG14	14'000 pcs (in 12 mm tape on 13" reel)

<b>C</b>	<b>M</b>	<b>7</b>	<b>V</b>	<b>-</b>	<b>T</b>	<b>1</b>	<b>A</b>	<b>0.3</b>	<b>32.768 kHz</b>	<b>12.5 pF</b>	<b>±20 ppm</b>	<b>TA</b>	<b>QC</b>
<b>Ceramic package</b>	<b>Metal lid</b>	<b>Package size</b> 7 = 3.2 x 1.5 x 0.35 mm	<b>Tuning fork</b>	<b>SMT Package</b>	<b>Au flashed pads</b>	<b>Pads on both ends</b>	<b>Special feature</b> 0.3 = Lowest profile, 0.35 mm		<b>Frequency <math>F_L</math></b>	<b>Load capacitance <math>C_L</math></b> 6.0 pF 7.0 pF 9.0 pF 12.5 pF Other $C_L$ on request	<b>Frequency tolerance</b> ±20 ppm ±100 ppm Tighter freq. tolerances on request	<b>Temperature range</b> <b>TA</b> = -40 to +85°C (Standard) <b>TB</b> = -40 to +125°C <b>TC</b> = -55 to +125°C	<b>Qualification</b> <b>QC</b> = Commercial Grade (Standard)

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20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)

All specification subjected to change without notices.  
仕様は変更になる場合があります