

## PRODUCT CHANGE NOTIFICATION COVERSHEET

CTS Part Number: TF Crystal Platforms

Product Description: 32.768kHz Crystal Products

Customer: Various

Customer Part Number: NA



**Change Notification Only - No Customer Response Required**



**Customer Authorization Required - Please Confirm Acceptance by E-Mail**

**Reason for PCN:** Notification of change for product marking and packaging quantity options.  
Affected product models; TF16, TF20, TF20L, TF32, TF519, TFPM, TFPMN and  
TFNC Series.

**Description for Change:** 1] Change from CTS custom marking format to standard marking formats used  
industry wide.

2] Remove Packaging code option "T - 1kpcs./reel".  
[Change does not apply to TFNC Series]

**Change Instructions:** See attached pages describing marking format changes.

**Implementation Date:** Immediate

**Notes:** Changes do not affect form-fit-function of devices.

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**Phone:**

**CTS Approvals:** CTS internal PCN electronic signatures.

**Change Details:**  
**TF16**

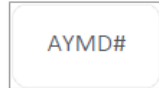
From: **MARKING INFORMATION**  
 1. TF16 - CTS Model Series.  
 2. D – Date code. See Table I for codes.



To: **Model TF16 - Standard Product**

Package Outline

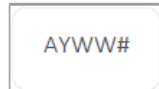
Format A [S37, S16]



Format B [S27]



Format C [S16]



Marking Information

**Format A: AYMD#** Ex.: **A43EL**  
 A = frequency, 32.768kHz 32.768kHz  
 Y = year of manufacture, last digit 2014  
 M = month code; 1 - 9, X, Y, Z March  
 D = day code [1<sup>st</sup> - 31<sup>st</sup>]; 1 - 9, 14<sup>th</sup> day  
 A - H, J - W  
 # = manufacture site code

**Format B: ARYMD** Ex.: **AR6228**  
 A = frequency, 32.768kHz 32.768kHz  
 R = manufacturer site code  
 Y = year of manufacture, last digit 2016  
 M = month code; 1 - 9, X, Y, Z February  
 D = day 28th day

**Format C: AYWW#** Ex.: **A626N**  
 A = frequency, 32.768kHz 32.768kHz  
 Y = year of manufacture, last digit 2016  
 WW = week of manufacture 26<sup>th</sup> week  
 # = manufacture site code

**TF20**

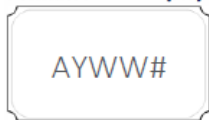
From: **MARKING INFORMATION**  
 1. TF20 - CTS Model Series.  
 2. D – Date code. See Table I for codes.



To: **Model TF20 - Standard Product**

Package Outline

Format A [S37]



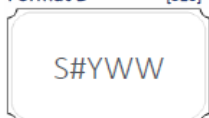
Format B [S16, S29]



Format C [S27]



Format D [S16]



Marking Information

**Format A: AYWW#** Ex.: **A007Y**  
 A = frequency, 32.768kHz 32.768kHz  
 Y = year of manufacture, last digit 2010  
 WW = week of manufacture 7th week  
 # = manufacturer site code

**Format B: CYWW#** Ex.: **C628F**  
 C = manufacturer site code  
 Y = year of manufacture, last digit 2016  
 WW = week of manufacture 28th week  
 # = load capacitance code 12.5pF  
 B = 6pF, C = 9pF, F = 12.5pF

**Format C: ARYMD** Ex.: **AR6228**  
 A = frequency, 32.768kHz 32.768kHz  
 R = manufacturer site code  
 Y = year of manufacture, last digit 2016  
 M = month code; 1 - 9, X, Y, Z February  
 D = day 28th day

**Format D: S#YWW** Ex.: **SF645**  
 S = manufacturer site code 12.5pF  
 # = load capacitance code  
 B = 7pF, J = 9pF, F = 12.5pF  
 Y = year of manufacture, last digit 2016  
 WW = week of manufacture 45th week

**Change Details:**  
**TF20L**

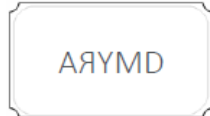
From: **MARKING INFORMATION**  
 1. TF2L – Truncated CTS Model Series.  
 2. D – Date code. See Table I for codes.



To: **Model TF20L - Low Profile**

Package Outline

Format A [S27]



Format B [S30]



Marking Information

<b>Format A:</b>	<b>ARYMD</b>	<b>Ex.: AR6228</b>
	A = frequency, 32.768kHz	32.768kHz
	R = manufacturer site code	
	Y = year of manufacture, last digit	2016
	M = month code; 1 - 9, X, Y, Z	February
	D = day	28th day
<b>Format B:</b>	<b>YWW</b>	<b>Ex.: 634</b>
	Y = year of manufacture, last digit	2016
	WW = week of manufacture	34th week

**TF32**

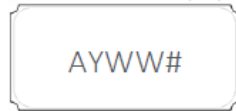
From: **MARKING INFORMATION**  
 1. TF32 - CTS Model Series.  
 2. D – Date code. See Table I for codes.



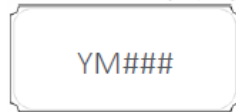
To: **Model TF32 - Standard Product**

Package Outline

Format A [S37]



Format B [S16, S29]



Format C [S27]



Marking Information

<b>Format A:</b>	<b>AYWW#</b>	<b>Ex.: A501J</b>
	A = frequency, 32.768kHz	32.768kHz
	Y = year of manufacture, last digit	2015
	WW = week of manufacture	1st week
	# = manufacturer site code	
<b>Format B:</b>	<b>YM###</b>	<b>Ex.: 67211</b>
	Y = year of manufacture, last digit	2016
	M = month code; 1 - 9, X, Y, Z	July
	### = manufacturing lot number	Lot 211
<b>Format C:</b>	<b>AoRYMD</b>	<b>Ex.: AAR6228</b>
	A = frequency, 32.768kHz	32.768kHz
	X = load capacitance	12.5pF
	C = 7pF, B = 9pF,	
	A = 12.5pF, Z = Other	
	R = manufacturer site code	
	Y = year of manufacture, last digit	2016
	M = month code; 1 - 9, X, Y, Z	February
	D = day	28th day

**Change Details:  
TF519**

- From: **MARKING INFORMATION**
1. YM – Date code; Y – year [last digit], M – month [See Table I for codes].
  2. xxx – Lot code.



To: **Model TF519 - Standard Product**  
Package Outline



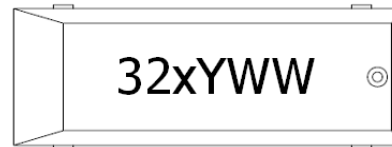
**Marking Information**

**Format A: AYWW#** Ex.: A501J  
 A = frequency, 32.768kHz 32.768kHz  
 Y = year of manufacture, last digit 2015  
 WW = week of manufacture 1st week  
 # = manufacturer site code

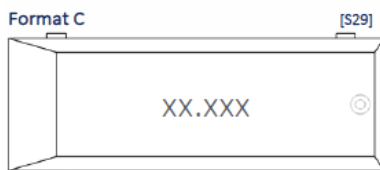
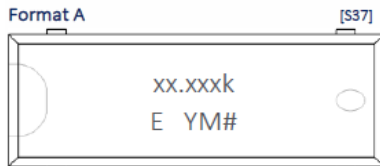
**Format B: CYM###** Ex.: C66078  
 C = manufacturer site code  
 Y = year of manufacture, last digit 2016  
 M = month code; 1 - 9, X, Y, Z June  
 ### = manufacturing lot number Lot 078

**TFPM**

- From: **MARKING INFORMATION**
1. 32 – Frequency, 32.7680kHz.
  2. x – Load Capacitance.  
 P = 12.5pF  
 T = 6pF
  3. YWW – Date Code.  
 Y = year  
 WW = week



To: **Model TFPM - Legacy Plastic**  
Package Outline



**Marking Information**

**Format A: xx.xxxk** Ex.: 32.768k  
**E YM#** E GC2  
 xx.xxxk = frequency  
 E = manufacturer site code  
 blank = package code  
 Y = year of manufacture, Table 1 2017  
 M = month code, Table 2 March  
 # = internal factory code

**Format B: 32CYWW** Ex.: 32C605  
 32 = frequency, 32.768kHz 32.768kHz  
 C = manufacturer site code  
 Y = year of manufacture, last digit 2016  
 WW = week of manufacture 5th week

**Format C: xx.xxx** Ex.: 32.768  
 xx.xxx = frequency 32.768kHz

**Table 1**

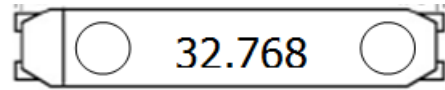
Last Digit of Year	1	2	3	4	5	6	7	8	9	0
Alpha Code	A	B	C	D	E	F	G	H	J	K

**Table 2**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alpha Code	A	B	C	D	E	F	G	H	J	K	L	M

**Change Details:**  
**TFPMN**

From: **MARKING INFORMATION**  
1. 32.768 – Frequency, 32.768kHz.



To: **Model TFPMN - Legacy Plastic, Narrow Width**  
Package Outline

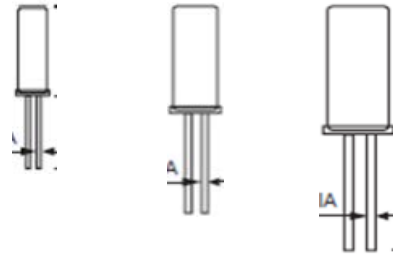


Marking Information

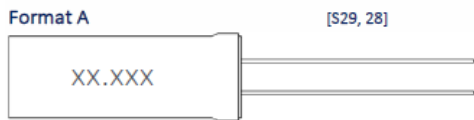
Format A: **EAYM** Ex.: EA69  
 E = manufacturer site code  
 A = frequency, 32.768kHz  
 Y = year of manufacture, last digit 2016  
 M = month code; 1 - 9, X, Y, Z September

**TFNC Series**

From: **MARKING INFORMATION**  
1. Product is not marked. See label on bag or carton.



To: **Model TFNC38 - Cylindrical Thru-Hole**  
Package Outline



Marking Information

Format A: **xx.xxx** Ex.: 32.768  
 xx.xxx = frequency 32.768kHz

**Model TFNC26 - Cylindrical Thru-Hole**  
Package Outline



Marking Information

Format A: **No Marking**  
 Format B: **xx.xxx** Ex.: 32.768  
 xx.xxx = frequency 32.768kHz



**Model TFNC15 - Cylindrical Thru-Hole**  
Package Outline



Marking Information

Format A: **No Marking**