

Notice No. : (SP) 11-061E
27/January/2012

SEIKO EPSON CORPORATION
MICRODEVICE Operation Div. TDBU
EPSON TOYOCOM CORPORATION

SUB: Mid kHz Frequency Crystal unit EOL announcement

Dear Valued Customer:

Thank you for choosing EPSON TOYOCOM CORP. Timing Products as your products of choice. EPSON TOYOCOM CORP. always makes an effort to improve the characteristics and performance of our products. The purpose of this Notification is to inform you that we need to announce the EOL for the following crystals.

The Last time buy and the Last shipment schedule are follows:

1. Products Affected

- C-4 Type Mid kHz frequency*
- C-2 Type Mid kHz frequency*
- MC-146 Mid kHz frequency*
- MC-156 Mid kHz frequency*
- MC-206 Mid kHz frequency*
- MC-306/30A Mid kHz frequency*
- MC-405/406 Type Mid kHz frequency*

*Please refer to the specific parts below **since not all** Mid kHz frequencies are EOL.

2. Reason

EPSON TOYOCOM CORP. will stop the manufacture of the Mid-kHz Crystal products, listed below which are extremely-low volumes. Frequencies not listed below will still be available.

3. Recommended alternative

EPSON TOYOCOM CORP. does not have alternative parts.

4. Schedule

Last time buy : The End of June/2012

Last shipping date : The End of December/2012

5. Others

If you have any concern and/or request, please contact your regional EPSON TOYOCOM CORP. Timing Device sales office.

Sincerely yours,

Epson Toyocom Corporation
Business Planning Department

Products Distributed in North America that are EOL:

Global P/N	Model Name	PCS Call Out
Q12C200010156	C-2	C-2 26.6670K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010266	C-2	C-2 28.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010493	C-2	C-2 30.0000KB-P: PB FREE T/FORK XTAL KHZ +/-50PPM 11.0PF
Q12C200010059	C-2	C-2 30.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010267	C-2	C-2 30.7600K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010393	C-2	C-2 32.7600KF-AG: PB FREE T/FORK XTAL KHZ +/-10PPM 7.0PF
Q12C200010045	C-2	C-2 39.0000K-A: PB FREE T/FORK XTAL KHZ +/-100PPM 12.5 PF
Q12C200010046	C-2	C-2 41.0000K-A: PB FREE T/FORK XTAL KHZ +/-100PPM 12.5 PF
Q12C200010320	C-2	C-2 50.0000K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0 PF
Q12C200010082	C-2	C-2 50.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010510	C-2	C-2 54.0000K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0PF
Q12C200010514	C-2	C-2 63.0000KB-B: PB FREE T/FORK XTAL KHZ +/-50PPM 16.0PF
Q12C200010225	C-2	C-2 65.5360K-A: PB FREE T/FORK XTAL KHZ +/-100PPM 12.5PF
Q12C200010511	C-2	C-2 66.0000K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0PF
Q12C200010436	C-2	C-2 69.0000KB-P: PB FREE T/FORK XTAL KHZ +/-50PPM 11.0 PF
Q12C200010388	C-2	C-2 69.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010512	C-2	C-2 72.0000K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0PF
Q12C200010513	C-2	C-2 78.0000K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0PF
Q12C200010519	C-2	C-2 81.6000KA-F: PB FREE T/FORK XTAL KHZ +/-20PPM SERIES
Q12C200010520	C-2	C-2 81.9200KA-F: PB FREE T/FORK XTAL KHZ +/-20PPM SERIES
Q12C200010032	C-2	C-2 83.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010034	C-2	C-2 120.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010216	C-2	C-2 120.8475K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010145	C-2	C-2 130.0000K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF
Q12C200010449	C-2	C-2 131.0720KA-P: PB FREE T/FORK XTAL KHZ +/-20PPM 11.0 PF
Q12C200010018	C-2	C-2 131.0720K-P: PB FREE T/FORK XTAL KHZ +/-100PPM 11.0 PF

Global P/N	Model Name	PCS Call Out
Q12C400010059	C-4	C-4 33.3330K-AC: PB FREE T/FORK XTAL KHZ +/-100PPM 9.0PF
Q12C400010011	C-4	C-4 33.3333KA-C: PB FREE T/FORK XTAL KHZ +/-20PPM 18.0 PF
Q12C400010016	C-4	C-4 33.3333K-C: PB FREE T/FORK XTAL KHZ +/-100PPM 18.0PF

Global P/N	Model Name	PCS Call Out
Q14MC15610005	MC-156	MC-156 100.0000K-AG: ROHS MINI SMD XTL KHZ +/-100PPM 7.0PF BULK

Products Distributed in North America that are EOL continued:

Global P/N	Model Name	PCS Call Out
Q14MC30610044	MC-306	MC-306 38.0000K-A: ROHS SMD T/FORK XTL KHZ +/-100PPM 12.5 PF BULK
Q14MC30610233	MC-306	MC-306 38.0000KD-A: ROHS SMD T/FORK XTL KHZ +/-30PPM 12.5PF BULK
Q14MC30610196	MC-306	MC-306 40.0000KA-A0: ROHS SMD XTL KHZ +/-20PPM 12.5PF 1K TR
Q14MC30610175	MC-306	MC-306 40.0000KB-A: ROHS SMD XTL KHZ +/-50PPM 12.5PF BULK
Q14MC30610201	MC-306	MC-306 50.0000K-P: ROHS SMD T/FORK XTL KHZ +/-100PPM 11.0PF BULK
Q14MC30610234	MC-306	MC-306 62.5000KA-A: ROHS SMD T/FORK XTL KHZ +/-20PPM 12.5PF BULK
Q14MC30610217	MC-306	MC-306 125.0000K-A: ROHS SMD T/FORK XTL KHZ +/-100PPM 12.5PF BULK
Q14MC30610219	MC-306	MC-306 125.0000KA-A: ROHS SMD T/FORK XTL KHZ +/-20PPM 12.5PF BULK
Q14MC30610218	MC-306	MC-306 125.0000KB-A: ROHS SMD T/FORK XTL KHZ +/-50PPM 12.5PF BULK
Q14MC30610023	MC-306	MC-306 153.6000K-A: ROHS SMD T/FORK XTL KHZ +/-100PPM 12.5PF BULK

Global P/N	Model Name	PCS Call Out
Q14MC40510003	MC-405	MC-405 25.6000KB-A3: ROHS SMD T/FORK XTL KHZ +/-50PPM 12.5PF 250TR
Q14MC40510006	MC-405	MC-405 30.7200K-A0: ROHS SMD T/FORK XTL KHZ +/-100PPM 12.5PF 1K TR
Q14MC40510065	MC-405	MC-405 30.7200KA-P0: ROHS SMD T/FORK KHZ +/-20PPM 11.0PF 1K TR
Q14MC40510016	MC-405	MC-405 36.0000KA-A: ROHS SMD T/FORK XTL MHZ +/-20PPM 12.5PF BULK

Global P/N	Model Name	PCS Call Out
Q14MC40610052	MC-406	MC-406 120.0000KB-P: ROHS SMD T/FORK XTL KHZ +/-50PPM 11.0 PF BULK
Q14MC40610053	MC-406	MC-406 120.0000K-E: ROHS SMD T/FORK XTL KHZ +/-100PPM 6.0PF BULK

Products Distributed Outside of North America that are EOL:

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC14610026	MC-146	32.927000 KHz 7.0 +10.0-10.0
Q14MC14610004	MC-146	75.000000 KHz 12.5 +20.0-20.0
Q14MC14610029	MC-146	76.000000 KHz 11.0 +50.0-50.0

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC20610023	MC-206	32.000000 KHz 12.0 +50.0-50.0
Q14MC20610014	MC-206	100.000000KHz 12.5 +100.-100.

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC30A10004	MC-30A	40.0000000 KHz 12.5 +50.0-50.0
Q14MC30A10002	MC-30A	40.0030000 KHz 10.0 +20.0-20.0
Q14MC30A10005	MC-30A	60.0000000 KHz 12.5 +50.0-50.0
Q14MC30A10003	MC-30A	60.0030000 KHz 10.0 +20.0-20.0

Products Distributed Outside of North America that are EOL continued:

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC30610160	MC-306	101.194000KHz 10.0 +100-100
Q14MC30610223	MC-306	120.847500KHz 99.0 +100-100
Q14MC30610085	MC-306	125.000000KHz 20.0 +100-100
Q14MC30610197	MC-306	130.937500KHz 12.5 +50.0-50.0
Q14MC30610051	MC-306	131.072000 KHz 12.5 +100-100
Q14MC30610095	MC-306	131.072000KHz 12.5 +20.0-20.0
Q14MC30610110	MC-306	153.60000 KHz 12.5 +20.0-20.0
Q14MC30620010	MC-306	153.600000KHz 12.5 +50.0-50.0
Q14MC30620010	MC-306	153.600000KHz 12.5 +50.0-50.0
Q14MC30610025	MC-306	153.600000KHz 5.0 +100-100
Q14MC30610174	MC-306	20.480000 KHz 12.5 +100-100
Q14MC30610151	MC-306	20.480000 KHz 12.5 +50.0-50.0
Q14MC30610183	MC-306	22.000000KHz 5.0 +100-100
Q14MC30610208	MC-306	25.600000 KHz 12.5 +20.0-20.0
Q14MC30610214	MC-306	26.667000 KHz 11.0 +50.0-50.0
Q14MC30610206	MC-306	27.000000 KHz 12.5 +50.0-50.0
Q14MC30610209	MC-306	30.720000 KHz 12.5 +20.0-20.0
Q14MC30610221	MC-306	31.130000 KHz 6.0 +20.0-20.0
Q14MC30610222	MC-306	34.407000 KHz 6.0 +20.0-20.0
Q14MC30610041	MC-306	38.000000 KHz 11.0 +50.0-50.0
Q14MC30610181	MC-306	38.000000 KHz 20.0 +50.0-50.0
Q14MC30610055	MC-306	38.000000KHz 10.0+100-100
Q14MC30610143	MC-306	40.000000 KHz 12.5 +30.0-30.0
Q14MC30610014	MC-306	40.000000KHz 12.5+100-100
Q14MC30610164	MC-306	40.743700 KHz 10.0 +50.0-50.0
Q14MC30610203	MC-306	47.040000 KHz 12.5 +50.0-50.0
Q14MC30610103	MC-306	50.000000 KHz 12.5 +50.0-50.0
Q14MC30610225	MC-306	50.000000 KHz 15.0 +50.0-50.0
Q14MC30610220	MC-306	62.000000 KHz 12.5 +20.0-20.0
Q14MC30610137	MC-306	65.536000 KHz 10.5 +100-100
Q14MC30610084	MC-306	65.536000 KHz 12.5 +100-100
Q14MC30610087	MC-306	75.000000 KHz 12.5 +20.0-20.0
Q14MC30610009	MC-306	75.000000 KHz 6.5 +100-100
Q14MC30610009	MC-306	75.000000 KHz 6.5 +100-100
Q14MC30610189	MC-306	83.000000 KHz 12.5 +100-100
Q14MC30620068	MC-306	96.000000 KHz 11.0 +100.-100.

Products Distributed Outside of North America that are EOL continued:

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC40510022	MC-405	12.500000 KHz 12.5 +50.0-50.0
Q14MC40520006	MC-405	30.720000 KHz 12.5 +100.-100.
Q14MC40510030	MC-405	30.720000 KHz 12.5 +50.0-50.0

Global P/N	Model Name	Frequency/Tolerance (RoHS)
Q14MC40610003	MC-406	34.637000 KHz 12.5 +30.0-30.0
Q14MC40610042	MC-406	50.000000 KHz 12.5 +50.0-50.0
Q14MC40610017	MC-406	65.536000 KHz 12.5 +100.-100.
Q14MC40610055	MC-406	96.003000 KHz 7.0 +100.0-100.0
Q14MC40610054	MC-406	133.000000 KHz 12.5 +100.-100.
Q14MC40610015	MC-406	134.700000 KHz 12.0 +50.-50.
Q14MC40610045	MC-406	144.600000 KHz 12.0 +50.-50.

Global P/N	Model Name	Frequency/Tolerance(PB FREE)
Q12C200010361	C-2	24.000000 KHz 11.5 +20.0-20.0
Q12C200010280	C-2	24.040000 KHz 11.5 +200+140.
Q12C200010133	C-2	27.000000 KHz 12.5 +20.0-20.0
Q12C200010349	C-2	30.000000 KHz 11.0 +20.0-20.0
Q12C200010336	C-2	30.720000KHz 11.0 +20.0-20.0
Q12C200010455	C-2	31.200000 KHz 12.5 +20.0-20.0
Q12C200010222	C-2	31.200000 KHz 7.0 +200.-200.
Q12C200010486	C-2	31.250000 KHz 11.0 +50.0-50.0
Q12C200010450	C-2	31.250000 KHz 12.0 +100.-100.
Q12C200010518	C-2	31.250000 KHz 12.0 +20.0-20.0
Q12C200010490	C-2	31.668403 KHz 11.5 +20.0-20.0
Q12C200010506	C-2	32.113000 KHz 12.5 +50.0-50.0
Q12C200010187	C-2	32.340000 KHz 12.5 +20.0-20.0
Q12C200010381	C-2	32.440000 KHz 12.5 +50.0-50.0
Q12C200010002	C-2	32.560000 KHz 7.0 +190.-190.
Q12C200010347	C-2	32.782000 KHz 12.0 +20.0-20.0
Q12C200010472	C-2	32.864000 KHz 12.5 +20.0-20.0
Q12C200010348	C-2	32.927000 KHz 12.0 +20.0-20.0
Q12C200010382	C-2	33.096000 KHz 12.5 +50.0-50.0
Q12C200010383	C-2	33.423000 KHz 12.5 +50.0-50.0
Q12C200010237	C-2	33.440000 KHz 7.0 +100.-100.
Q12C200010507	C-2	33.751000 KHz 12.5 +50.0-50.0
Q12C200010508	C-2	34.079000 KHz 12.5 +50.0-50.0
Q12C200010509	C-2	34.406000 KHz 12.5 +50.0-50.0
Q12C200010499	C-2	35.700000 KHz 12.5 +20.0-20.0
Q12C200010070	C-2	36.864000 KHz 13.5 +20.0-20.0
Q12C200010030	C-2	36.864000 KHz 13.5 +500.-500.
Q12C200010489	C-2	36.864000 KHz 13.5 +500.-500.
Q12C200010003	C-2	38.000000 KHz 10.0 +100.-100.

Products Distributed Outside of North America that are EOL continued:

Global P/N	Model Name	Frequency/Tolerance(PB FREE)
Q12C200010017	C-2	38.000000 KHz 10.0 +20.0-20.0
Q12C200010027	C-2	38.000000 KHz 10.0 +300.-300.
Q12C200010209	C-2	38.000000 KHz 12.5 +100.-100.
Q12C200010460	C-2	38.000000 KHz 6.0 +50.0-50.0
Q12C200010005	C-2	38.000000 KHz 99.0 +100.-100.
Q12C200010096	C-2	38.000000KHz 12.5 +20.0-20.0
Q12C200010278	C-2	46.608400 KHz 11.0 +100.-100.
Q12C200010456	C-2	49.997000 KHz 10.0 +20.0-20.0
Q12C200010501	C-2	50.000000 KHz 10.0 +100.-100.
Q12C200010457	C-2	50.000000 KHz 10.0 +20.0-20.0
Q12C200010356	C-2	50.000000 KHz 12.5 +100-100
Q12C200010523	C-2	50.000000KHz 12.5 +50.0-50.0
Q12C200010454	C-2	50.003000 KHz 10.0 +20.0-20.0
Q12C200010480	C-2	51.200000 KHz 12.5 +50.0-50.0
Q12C200010362	C-2	57.000000 KHz 16.0 +100.-100.
Q12C200010363	C-2	63.000000 KHz 16.0 +100.-100.
Q12C200010084	C-2	64.000000 KHz 13.0 +100.-100.
Q12C200010405	C-2	65.535000 KHz 20.0 +20.0-20.0
Q12C200010093	C-2	65.535000KHz 12.5 +100-100
Q12C200010137	C-2	65.536000 KHz 16.0 +20.0-20.0
Q12C200010009	C-2	65.536000 KHz 6.0 +20.0+0.0
Q12C200010248	C-2	66.500000 KHz 12.5 +100-100
Q12C200010043	C-2	68.500000 KHz 20.0 +20.0-20.0
Q12C200010448	C-2	68.504000 KHz 10.0 +20.0-20.0
Q12C200010197	C-2	69.000000 KHz 16.0 +100.-100.
Q12C200010289	C-2	70.000000 KHz 11.0 +100.-100.
Q12C200010290	C-2	71.000000 KHz 11.0 +100.-100.
Q12C200010182	C-2	72.000000 KHz 11.0 +100.-100.
Q12C200010183	C-2	73.000000 KHz 11.0 +100.-100.
Q12C200010291	C-2	74.000000 KHz 11.0 +100.-100.
Q12C200010297	C-2	74.400000 KHz 11.0 +100.-100.
Q12C200010389	C-2	76.000000 KHz 11.0 +100.-100.
Q12C200010496	C-2	76.000000 KHz 11.0 +50.0-50.0
Q12C200010292	C-2	77.000000 KHz 11.0 +100.-100.
Q12C200010390	C-2	78.000000 KHz 11.0 +100.-100.
Q12C200010527	C-2	80.000000KHz 11.0 +100.-100.
Q12C200010437	C-2	81.000000 KHz 11.0 +50.0-50.0
Q12C200010458	C-2	83.000000 KHz 12.0 +100.-100.
Q12C200010451	C-2	83.000000 KHz 12.5 +50.0-50.0
Q12C200010037	C-2	84.000000 KHz 11.0 +100.-100.
Q12C200010037	C-2	84.000000 KHz 11.0 +100.-100.
Q12C200010037	C-2	84.000000 KHz 11.0 +100.-100.
Q12C200010199	C-2	98.304000 KHz 15.0 +100.-100.
Q12C200010476	C-2	98.304000 KHz 6.0 +100.-100.
Q12C200010196	C-2	106.000000 KHz 12.0 +100-100

Products Distributed Outside of North America that are EOL continued:

Global P/N	Model Name	Frequency/Tolerance (PB FREE)
Q12C200010504	C-2	110.000000 KHz 12.5 +20.0-20.0
Q12C200010157	C-2	111.000000KHz 11.0 +100.-100.
Q12C200010488	C-2	120.000000 KHz 12.5 +20.0-20.0
Q12C200010101	C-2	120.000000KHz 10.0 +50.0-50.0
Q12C200010086	C-2	120.000000KHz 12.5 +100-100
Q12C200010300	C-2	120.000000KHz 6.0 +100.-100.
Q12C200010193	C-2	120.847500 KHz 10.0 +100-100
Q12C200010218	C-2	120.847500KHz 12.0 +100.-100.
Q12C200010365	C-2	120.847500KHz 12.5 +100.-100.
Q12C200010013	C-2	120.847500KHz 99.0 +100.-100.
Q12C200010013	C-2	120.847500KHz 99.0 +100.-100.
Q12C200010337	C-2	128.000000KHz 11.0 +100.-100.
Q12C200010396	C-2	130.000000 KHz 12.5+20.0-20.0
Q12C200010479	C-2	130.000000 KHz 6.0 +100-100
Q12C200010163	C-2	131.072000KHz 12.5 +30.0-30.0
Q12C200010083	C-2	131.072000KHz 13.0 +100.-100.
Q12C200010296	C-2	150.000000 KHz 11.0 +100-100
Q12C200010409	C-2	150.000000KHz 12.5 +50.0-50.0
Q12C200010317	C-2	153.600000KHz 10.0 +20.0-20.0
Q12C200010407	C-2	153.600000KHz 11.0 +50.0-50.0
Q12C200010090	C-2	153.600000KHz 12.5 +100.-100.
Q12C200010064	C-2	153.600000KHz 12.5 +20.0-20.0
Q12C200010162	C-2	153.600000KHz 13.0 +100.-100.
Q12C200010091	C-2	153.600000KHz 6.5 +50.0-50.0
Q12C200010198	C-2	307.200000KHz 12.0 +20.0-20.0
Q12C200010227	C-2	307.200000KHz 12.5 +100.-100.
Q12C200010277	C-2	307.200000KHz 12.5 +20.0-20.0

Global P/N	Model Name	Frequency/Tolerance (PB FREE)
Q12C400010049	C-4	38.000000 KHz 6.0 +50.0-50.0
Q12C400010015	C-4	38.400000 KHz 11.0 +20.0-20.0
Q12C400010050	C-4	40.000000 KHz 10.0 +100.-100.
Q12C400010030	C-4	40.000000 KHz 12.5 +100.-100.
Q12C400010053	C-4	40.000000 KHz 12.5 +20.0-20.0
Q12C400010010	C-4	40.000000 KHz 12.5 +50.0-50.0
Q12C400010048	C-4	40.000000 KHz 6.0 +100.-100.
Q12C400010046	C-4	40.003000 KHz 10.0 +20.0-20.0
Q12C400010051	C-4	60.000000 KHz 10.0 +10.0-10.0
Q12C400010052	C-4	60.000000 KHz 10.0 +100.-100.
Q12C400010054	C-4	60.000000 KHz 12.5 +20.0-20.0
Q12C400010042	C-4	60.003000 KHz 10.0 +20.0-20.0
Q12C400010045	C-4	60.003000 KHz 10.0 +20.0-20.0
Q12C400010058	C-4	75.000000 KHz 10.0 +20.0-20.0
Q12C400010060	C-4	76.800000 KHz 12.5 +20.0-20.0
Q12C400010044	C-4	77.503000 KHz 10.0 +20.0-20.0
Q12C400010056	C-4	77.503000 KHz 12.5 +20.0-20.0