

## General Description

Tekmos manufactures replacements for the popular 68HC11 series of microcontrollers. We cover the A, D, E, F, and K series. Within each series, we provide ROMless and Flash versions. These replacements are functional replacements for the original parts. However, there are some differences, particularly in the packaging options.

## Packaging – RoHS

All parts from Tekmos are RoHS compatible. This is equivalent to the “E” suffix in the original series.

## Speed Grades

The original series offered parts whose maximum speed ranged from 1 MHz to 3 or 4 MHz. The Tekmos parts are manufactured on a much newer technology, and all Tekmos parts work at the maximum speed.

## Temperature Grades

The basic Tekmos parts are tested to the “C” grade of -40C to +85C.

The Tekmos parts are designed to operate over the “M” grade, and can be tested to insure compliance. This may involve a longer leadtime.

## Tape and Reel

The R suffix is used to indicate Tape & Reel packaging. Otherwise, PLCC and PDIP devices are shipped in plastic tubes, and LQFP devices are shipped in JEDEC trays.

## 68HC711 Series

Tekmos parts use Flash instead of the OTP EPROM that was used in the original series. The Tekmos parts are reprogrammable, but require a different programming algorithm.

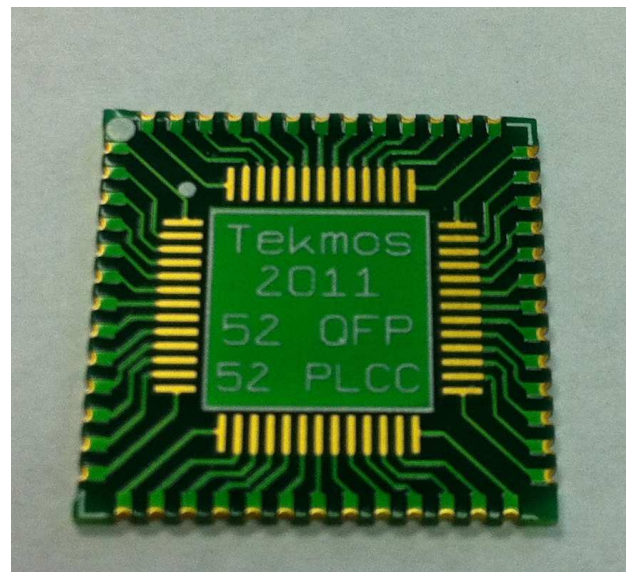
## Significant Package Differences

### Packaging – FN-52 (PLCC-52)

The 52 pin PLCC package is obsolete. Tekmos offers two alternatives.

First, we offer the same parts in a 52 pin LQFP package, which is the “PB” package in the original series. The LQFP footprint fits within the original PLCC footprint for easy board modification.

Tekmos also offers an adapter card that holds the 52 pin LQFP package and will mount on a 52 pin PLCC footprint. This is the “K” package, shown below,



### Packaging – FU-64 and FU-80

These packages are also obsolete. Tekmos offers product in a LQFP package that is physically the same size, but whose leads do not extend as far from the package (footprint). This package is referred to with the code “PU”

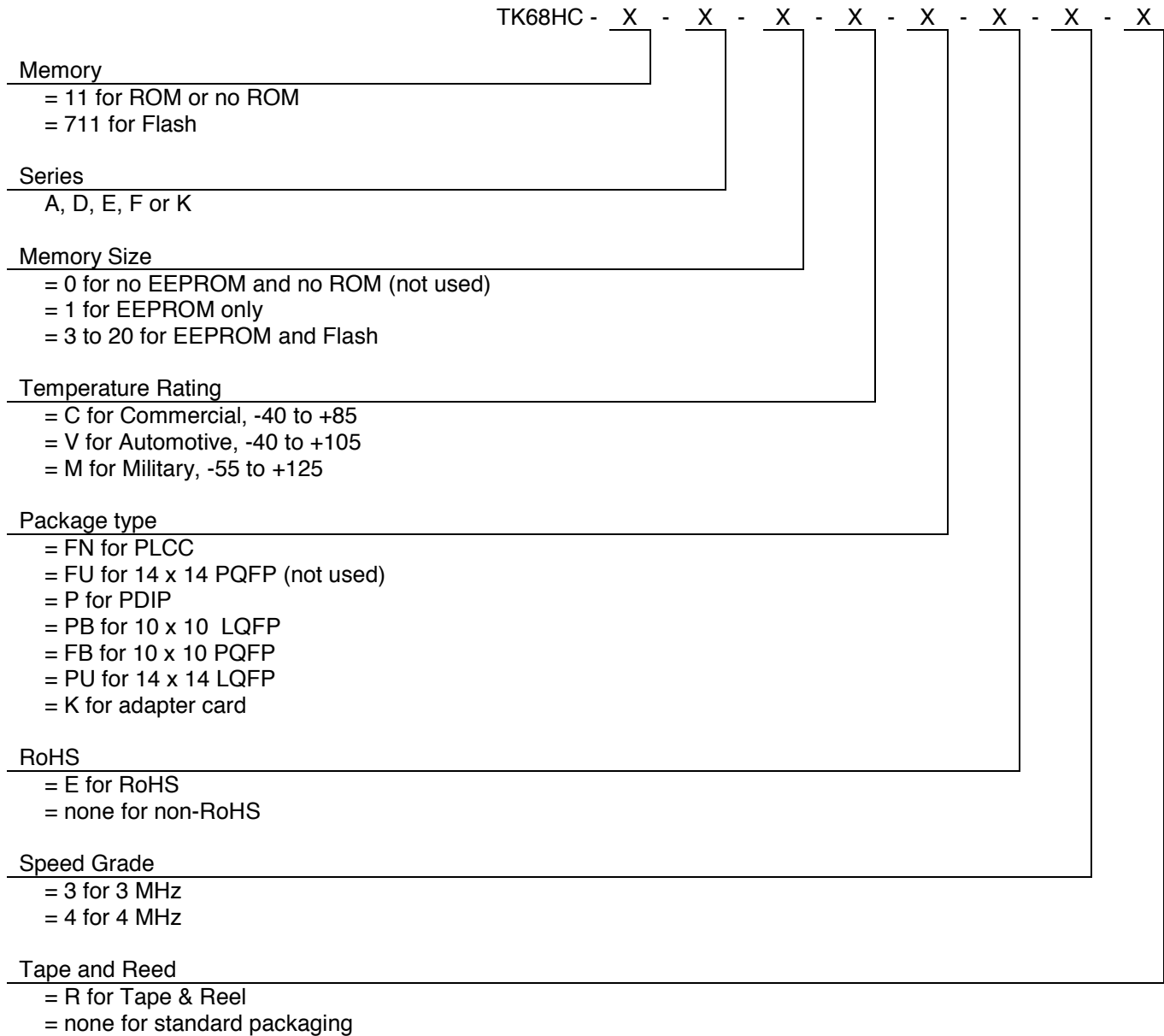
The FU package has leads that extend a nominal 1.3 mm from the side (2.6 mm footprint). The Tekmos part has leads that extend a nominal 1.0 mm from the side (2.0 mm footprint).

The FU package is 14 x 14 x 2.2 mm. The Tekmos package “PU” is 14 x 14 x 1.4 mm.

## Part Number Description

The original 68HC11 series part numbers can be broken down as follows:

TK68HC-[7]11 – A – 1 – C – PB – E – 3 – R2



## TK68HC11 A Series

Original	Tekmos	Note
MC68HC11A0CFN2	TK68HC11 A1 C PB E 3	1, 3, 4
MC68HC11A0CFN3	TK68HC11 A1 C PB E 3	1, 3
MC68HC11A1CFN2	TK68HC11 A1 C PB E 3	1, 3, 4
MC68HC11A1CFN3	TK68HC11 A1 C PB E 3	1, 3
MC68HC11A1VFN2	TK68HC11 A1 V PB E 3	1, 3, 4
MC68HC11A1MFN2	TK68HC11 A1 M PB E 3	1, 3, 4
MC68HCP11A1CFN2	TK68HCP11 A1 C PB E 3	1, 3, 4
MC68HCP11A1CFN3	TK68HCP11 A1 C PB E 3	1, 3
MC68HCP11A1VFN2	TK68HCP11 A1 V PB E 3	1, 3, 4
MC68HCP11A1MFN2	TK68HCP11 A1 M PB E 3	1, 3, 4
MC68HC11A0CP2	TK68HC11 A1 C P E 3	3, 4
MC68HC11A0CP3	TK68HC11 A1 C P E 3	3
MC68HC11A1CP2	TK68HC11 A1 C P E 3	3, 4
MC68HC11A1CP3	TK68HC11 A1 C P E 3	3
MC68HC11A1VP2	TK68HC11 A1 V P E 3	3, 4
MC68HC11A1MP2	TK68HC11 A1 M P E 3	3, 4
MC68HCP11A1CP2	TK68HCP11 A1 C P E 3	3, 4
MC68HCP11A1CP3	TK68HCP11 A1 C P E 3	3
MC68HCP11A1VP2	TK68HCP11 A1 V P E 3	3, 4
MC68HCP11A1MP2	TK68HCP11 A1 M P E 3	3, 4
MC68HC11A0CFU2	TK68HC11 A1 C PU E 3	2, 3, 4
MC68HC11A0CFU3	TK68HC11 A1 C PU E 3	2, 3
MC68HC11A1CFU2	TK68HC11 A1 C PU E 3	2, 3, 4
MC68HC11A1CFU3	TK68HC11 A1 C PU E 3	2, 3
MC68HC11A1VFU2	TK68HC11 A1 V PU E 3	2, 3, 4
MC68HC11A1MFU2	TK68HC11 A1 M PU E 3	2, 3, 4

### Notes:

1. Uses "PB" Package in place of "FN" package. Also available mounted on the "K" adapter card.
2. Tekmos "PU" footprint is 0.6mm shorter than "FU" footprint
3. Packages are RoHS.
4. 3 MHz speed grade replaces 2 MHz speed grade

## TK68HC11 D Series

Original	Tekmos	Note
MC68HC11D0CFB2	TK68HC11 D0 C PB E 3	1, 2, 3
MC68HC11D0CFB3	TK68HC11 D0 C PB E 3	1, 2
MC68HC11D0CFB3R2	TK68HC11 D0 C PB E 3 R	1, 2
MC68HC11D0CFBE2	TK68HC11 D0 C PB E 3	1, 3
MC68HC11D0CFBE3	TK68HC11 D0 C PB E 3	1
MC68HC11D0CFBE3R	TK68HC11 D0 C PB E 3 R	1
MC68HC11D0CFN2	TK68HC11 D0 C FN E 3	2, 3
MC68HC11D0CFN2R2	TK68HC11 D0 C FN E 3 R	2, 3
MC68HC11D0CFN3	TK68HC11 D0 C FN E 3	2
MC68HC11D0CFN3R2	TK68HC11 D0 C FN E 3 R	2
MC68HC11D0CFNE2	TK68HC11 D0 C FN E 3	3
MC68HC11D0CFNE2R	TK68HC11 D0 C FN E 3 R	
MC68HC11D0CFNE3	TK68HC11 D0 C FN E 3	
MC68HC11D0CFNE3R	TK68HC11 D0 C FN E 3 R	
MC68HC11D0CP2	TK68HC11 D0 C P E 3	2, 3
MC68HC11D0CP3	TK68HC11 D0 C P E 3	2

Notes:

1. Uses "PB" Package in place of "FB" package.
2. Packages are RoHS.
3. 3 MHz speed grade replaces 2 MHz speed grade

**TK68HC11 E Series**

Original	Tekmos	Note
MC68HC11E1CFN2	TK68HC11 E1 C PB E 3	1, 3, 4
MC68HC11E1CFN3	TK68HC11 E1 C PB E 3	1, 3
MC68HC11E1VFN2	TK68HC11 E1 V PB E 3	1, 3, 4
MC68HC11E1MFN2	TK68HC11 E1 M PB E 3	1, 3, 4
MC68HC11E0CFN2	TK68HC11 E1 C PB E 3	1, 3, 4, 6
MC68HC11E0CFN3	TK68HC11 E1 C PB E 3	1, 3, 6
MC68HC11E0VFN2	TK68HC11 E1 V PB E 3	1, 3, 4, 6
MC68HC11E0MFN2	TK68HC11 E1 M PB E 3	1, 3, 4, 6
MC68HC711E20CFN2	TK68HC711 E20 C PB E 3	1, 3, 4
MC68HC711E20CFN3	TK68HC711 E20 C PB E 3	1, 3
MC68HC711E20VFN2	TK68HC711 E20 V PB E 3	1, 3, 4
MC68HC711E20MFN2	TK68HC711 E20 M PB E 3	1, 3, 4
MC68HC11E1CFU2	TK68HC11 E1 C PU E 3	2, 3, 4
MC68HC11E1CFU3	TK68HC11 E1 C PU E 3	2, 3
MC68HC11E1CFU3	TK68HC11 E1 C PU E 3	2, 3
MC68HC11E1VFU2	TK68HC11 E1 V PU E 3	2, 3, 4
MC68HC11E0CFU2	TK68HC11 E1 C PU E 3	2, 3, 4, 6
MC68HC11E0VFU2	TK68HC11 E1 V PU E 3	2, 3, 4, 6
MC68HC11E9CFN2	TK68HC711 E9 C PB E 3	1, 3, 4, 7
MC68HC11E9CFN3	TK68HC711 E9 C PB E 3	1, 3, 7
MC68HC11E9VFN2	TK68HC711 E9 V PB E 3	1, 3, 4, 7
MC68HC11E9MFN2	TK68HC711 E9 M PB E 3	1, 3, 4, 7
MC68HC11E20CFN2	TK68HC711 E20 C PB E 3	1, 3, 4, 7
MC68HC11E20CFN3	TK68HC711 E20 C PB E 3	1, 3, 7
MC68HC11E20VFN2	TK68HC711 E20 V PB E 3	1, 3, 4, 7
MC68HC11E20MFN2	TK68HC711 E20 M PB E 3	1, 3, 4, 7
MC68HC11E9CFU2	TK68HC711 E9 C PU E 3	2, 3, 4, 7
MC68HC11E9CFU3	TK68HC711 E9 C PU E 3	2, 3, 7
MC68HC11E9VFU2	TK68HC711 E9 V PU E 3	2, 3, 4, 7
MC68HC11E9MFU2	TK68HC711 E9 M PU E 3	2, 3, 4, 7
MC68HC11E20CFU2	TK68HC711 E20 C PU E 3	2, 3, 4, 7
MC68HC11E20CFU3	TK68HC711 E20 C PU E 3	2, 3, 7
MC68HC11E20VFU2	TK68HC711 E20 V PU E 3	2, 3, 4, 7
MC68HC11E20MFU2	TK68HC711 E20 M PU E 3	2, 3, 4, 7
MC68HC11E9CPB2	TK68HC711 E9 C PB E 3	3, 4, 7
MC68HC11E9CPB3	TK68HC711 E9 C PB E 3	3, 7
MC68HC11E9VPB2	TK68HC711 E9 V PB E 3	3, 4, 7
MC68HC11E9MPB2	TK68HC711 E9 M PB E 3	3, 4, 7
MC68HC711E9CFN2	TK68HC711 E9 C PB E 3	1, 3, 4
MC68HC711E9CFN3	TK68HC711 E9 C PB E 3	1, 3
MC68HC711E9VFN2	TK68HC711 E9 V PB E 3	1, 3, 4
MC68HC711E9MFN2	TK68HC711 E9 M PB E 3	1, 3, 4
MC68HC711E20CFU2	TK68HC711 E20 C PU E 3	2, 3, 4
MC68HC711E20CFU3	TK68HC711 E20 C PU E 3	2, 3
MC68HC711E20VFU2	TK68HC711 E20 V PU E 3	2, 3, 4
MC68HC711E20MFU2	TK68HC711 E20 M PU E 3	2, 3, 4
MC68HC711E9CFS2	TK68HC711 E9 C PB E 3	3, 4, 5
MC68HC711E9CFS3	TK68HC711 E9 C PB E 3	3, 5
MC68HC711E9VFS2	TK68HC711 E9 V PB E 3	3, 4, 5

Original	Tekmos	Note
MC68HC711E9VFS2	TK68HC711 E9 V PB E 3	3, 4, 5
MC68HC711E20CFS2	TK68HC711 E20 C PB E 3	3, 4, 5
MC68HC711E20CFS3	TK68HC711 E20 C PB E 3	3, 5
MC68HC711E20VFS2	TK68HC711 E20 V PB E 3	3, 4, 5
MC68HC711E20MFS2	TK68HC711 E20 M PB E 3	3, 4, 5

## Notes:

1. Uses "PB" Package in place of "FN" package. Also available mounted on the "K" adapter card.
2. Tekmos "PU" footprint is 0.6mm shorter than "FU" footprint
3. Packages are RoHS.
4. 3 MHz speed grade replaces 2 MHz speed grade.
5. FS package is replaced by PB package. Tekmos parts are Flash, and can be erased electrically.
6. E1 device replaces E0 device.
7. Flash device replaces ROM device

## TK68HC11 F Series

Original	Tekmos	Note
MC68HC11F1CPU2	TK68HC11 F1 C PU E 4	1, 2
MC68HC11F1CPU3	TK68HC11 F1 C PU E 4	1, 2
MC68HC11F1CPU4	TK68HC11 F1 C PU E 4	1
MC68HC11F1VPU2	TK68HC11 F1 M PU E 4	1, 2
MC68HC11F1VPU3	TK68HC11 F1 M PU E 4	1, 2
MC68HC11F1VPU4	TK68HC11 F1 M PU E 4	1
MC68HC11F1MPU2	TK68HC11 F1 M PU E 4	1, 2
MC68HC11F1MPU3	TK68HC11 F1 M PU E 4	1, 2
MC68HC11F1CFN2	TK68HC11 F1 C FN E 4	1, 2
MC68HC11F1CFN3	TK68HC11 F1 C FN E 4	1, 2
MC68HC11F1CFN4	TK68HC11 F1 C FN E 4	1
MC68HC11F1VFN2	TK68HC11 F1 M FN E 4	1, 2
MC68HC11F1VFN3	TK68HC11 F1 M FN E 4	1, 2
MC68HC11F1VFN4	TK68HC11 F1 M FN E 4	1
MC68HC11F1MFN2	TK68HC11 F1 M FN E 4	1, 2
MC68HC11F1MFN3	TK68HC11 F1 M FN E 4	1, 2

Notes:

1. Packages are RoHS.
2. 4 MHz speed grade replaces 2 MHz and 3 MHz speed grades

**TK68HC11 K Series**

Original	Tekmos	Note
MC68HC11K1CFN3	TK68HC11 K1 C FN E 4	1, 2
MC68HC11K1CFN4	TK68HC11 K1 C FN E 4	1
MC68HC11K1VFN3	TK68HC11 K1 V FN E 4	1, 2
MC68HC11K1VFN4	TK68HC11 K1 V FN E 4	1
MC68HC11K1MFN2	TK68HC11 K1 M FN E 4	1, 2
MC68HC11K1MFN3	TK68HC11 K1 M FN E 4	1, 2
MC68HC11K1MFN4	TK68HC11 K1 M FN E 4	1
MC68HC11K0CFN3	TK68HC11 K0 C FN E 4	1, 2, 4
MC68HC11K0CFN4	TK68HC11 K0 C FN E 4	1, 4
MC68HC11K0VFN3	TK68HC11 K0 V FN E 4	1, 2, 4
MC68HC11K0VFN4	TK68HC11 K0 V FN E 4	1, 4
MC68HC11K0MFN3	TK68HC11 K0 M FN E 4	1, 2, 4
MC68HC11K0MFN4	TK68HC11 K0 M FN E 4	1, 4
MC68HC711K4CFN3	TK68HC711 K4 C FN E 4	1, 2
MC68HC711K4CFN4	TK68HC711 K4 C FN E 4	1
MC68HC711K4VFN2	TK68HC711 K4 V FN E 4	1, 2
MC68HC711K4VFN3	TK68HC711 K4 V FN E 4	1, 2
MC68HC711K4VFN4	TK68HC711 K4 V FN E 4	1
MC68HC711K4MFN2	TK68HC711 K4 M FN E 4	1, 2
MC68HC711K4MFN3	TK68HC711 K4 M FN E 4	1, 2
MC68HC711K4MFN4	TK68HC711 K4 M FN E 4	1
MC68HC11K1CFU2	TK68HC11 K1 C PU E 4	1, 2, 5
MC68HC11K1CFU3	TK68HC11 K1 C PU E 4	1, 2, 5
MC68HC11K1CFU4	TK68HC11 K1 C PU E 4	1, 5
MC68HC11K1VFU2	TK68HC11 K1 V PU E 4	1, 2, 5
MC68HC11K1VFU3	TK68HC11 K1 V PU E 4	1, 2, 5
MC68HC11K1VFU4	TK68HC11 K1 V PU E 4	1, 5
MC68HC11K0CFU2	TK68HC11 K0 C PU E 4	1, 2, 4, 5
MC68HC11K0CFU3	TK68HC11 K0 C PU E 4	1, 2, 4, 5
MC68HC11K0CFU4	TK68HC11 K0 C PU E 4	1, 4, 5
MC68HC11K0VFU2	TK68HC11 K0 V PU E 4	1, 2, 4, 5
MC68HC11K0VFU3	TK68HC11 K0 V PU E 4	1, 2, 4, 5
MC68HC11K0VFU4	TK68HC11 K0 V PU E 4	1, 4, 5
MC68HC711K4CFS2	TK68HC711 K4 C FS E 4	1, 2
MC68HC711K4CFS3	TK68HC711 K4 C FS E 4	1, 2
MC68HC711K4CFS4	TK68HC711 K4 C FS E 4	1
MC68HC711K4VFS2	TK68HC711 K4 V FS E 4	1, 2
MC68HC711K4VFS3	TK68HC711 K4 V FS E 4	1, 2
MC68HC711K4VFS4	TK68HC711 K4 V FS E 4	1
MC68HC711K4MFS2	TK68HC711 K4 M FS E 4	1, 2
MC68HC711K4MFS3	TK68HC711 K4 M FS E 4	1, 2
MC68HC711K4MFS4	TK68HC711 K4 M FS E 4	1
MC68HC11K4CFN2	TK68HC711 K4 C FN E 4	1, 2, 3
MC68HC11K4CFN3	TK68HC711 K4 C FN E 4	1, 2, 3
MC68HC11K4CFN4	TK68HC711 K4 C FN E 4	1, 3
MC68HC11K4VFN2	TK68HC711 K4 V FN E 4	1, 2, 3
MC68HC11K4VFN3	TK68HC711 K4 V FN E 4	1, 2, 3
MC68HC11K4VFN4	TK68HC711 K4 V FN E 4	1, 3
MC68HC11K4MFN2	TK68HC711 K4 M FN E 4	1, 2, 3
MC68HC11K4MFN3	TK68HC711 K4 M FN E 4	1, 2, 3
MC68HC11K4MFN4	TK68HC711 K4 M FN E 4	1, 3
MC68HC11K3CFN2	TK68HC711 K3 C FN E 4	1, 2, 3

Original	Tekmos	Note
MC68HC11K3CFN3	TK68HC711 K3 C FN E 4	1, 2, 3
MC68HC11K3CFN4	TK68HC711 K3 C FN E 4	1, 3
MC68HC11K3VFN2	TK68HC711 K3 V FN E 4	1, 2, 3
MC68HC11K3VFN3	TK68HC711 K3 V FN E 4	1, 2, 3
MC68HC11K3VFN4	TK68HC711 K3 V FN E 4	1, 3
MC68HC11K3MFN2	TK68HC711 K3 M FN E 4	1, 2, 3
MC68HC11K3MFN3	TK68HC711 K3 M FN E 4	1, 2, 3
MC68HC11K3MFN4	TK68HC711 K3 M FN E 4	1, 3
MC68HC11K4CFU2	TK68HC711 K4 C PU E 4	1, 2, 3, 5
MC68HC11K4CFU3	TK68HC711 K4 C PU E 4	1, 2, 3, 5
MC68HC11K4CFU4	TK68HC711 K4 C PU E 4	1, 3, 5
MC68HC11K4VFU2	TK68HC711 K4 V PU E 4	1, 2, 3, 5
MC68HC11K4VFU3	TK68HC711 K4 V PU E 4	1, 2, 3, 5
MC68HC11K4VFU4	TK68HC711 K4 V PU E 4	1, 3, 5
MC68HC11K3CFU2	TK68HC711 K3 C PU E 4	1, 2, 3, 5
MC68HC11K3CFU3	TK68HC711 K3 C PU E 4	1, 2, 3, 5
MC68HC11K3CFU4	TK68HC711 K3 C PU E 4	1, 3, 5
MC68HC11K3VFU2	TK68HC711 K3 V PU E 4	1, 2, 3, 5
MC68HC11K3VFU3	TK68HC711 K3 V PU E 4	1, 2, 3, 5
MC68HC11K3VFU4	TK68HC711 K3 V PU E 4	1, 3, 5

**Notes:**

1. Packages are RoHS.
2. 4 MHz speed grade replaces 2 MHz and 3 MHz speed grades.
3. Flash device replaces ROM device
4. K1 device replaces K0 device.
5. PU package replaces FU package

## Contact Information

The TK68HC11 microcontrollers may be ordered directly from Tekmos

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## Revision History

Date	Revision	Description
2/17/11	1.0	Initial release

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