



This engineering note compares the SYM53C720 with the SYM53720SE. There are three categories of differences:

1. Host Bus Interface Differences
2. Register Differences
3. SCSI Bus Interface Differences

## Features

The “Features” section summarizes the high-level differences.

Features	SYM53C720	SYM53C720SE
1. Package	208-pin PQFP	160-pin PQFP
2. Support for Differential Transceivers	Supported	Not Supported
3. False Bus Request Elimination	Not Supported (must be done with external circuitry)	Supported
4. ISTAT Data Latched before Host Bus Read	Not Supported	Supported

## Host Bus Interface Differences

The SYM53C720SE host bus interface has been streamlined to allow the SYM53C720 SCSI I/O processor to fit into a 160-pin PLCC package.

- SC1, Snoop Control 1, signal has been removed.
- FC1\_TM1, Function Codes\_Transfer Modifier 1, signal has been removed.
- UPSO\_TT0, User Programmable Status\_Transfer Type Zero, signal has been removed.
- AUTO/, Autostart Mode, signal has been removed.
- TESTOUT, AND Tree Out, and MAC/, Memory Access Control, have been multiplexed.

## Register Differences

All of the SYM53C720SE register differences are associated with the pins that were removed.

- SC1 bit, Snoop Control 1, in CTEST0 register has been reserved.
- FC1\_TM1 bit, Function Codes\_Transfer Modifier 1, in DMODE register has been reserved.
- UPSO\_TT0 bit, User Programmable Status\_Transfer Type Zero, in DMODE has been reserved.
- DIF bit, SCSI Differential Mode, in STEST2 register has been reserved.

## SCSI Bus Interface Differences

The SYM53C720SE SCSI bus interface does not support the signals required for differential SCSI. The removal of the pins required for differential support contributes to the reduced pin count and smaller package size of the SYM53C720SE.

- SDIR(0-15), Driver direction control for the SCSI parity signals have been removed.
- SDIRP(0-1), Driver direction control for the SCSI parity signals have been removed.
- BSYDIR, Driver enable control for the SCSI BSY/ signal has been removed.
- SELDIR, Driver enable control for the SCSI SEL/ signal has been removed.
- RSTDIR, Driver enable control for the SCSI RST/ signal has been removed.
- IGS, Direction control for initiator driver group signal has been removed.
- TGS, Direction control for target driver group signal has been removed.
- DIFFSENS, Differential Sense, signal has been removed.