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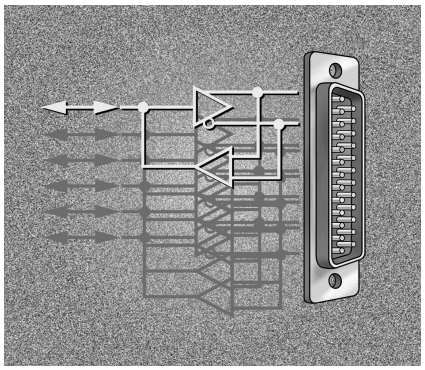
Information Brief



New Hex Transceiver Meets Fast-20 Specifications

MC34059 & MC34058

Motorola has introduced the MC34059 and MC34058 Hex Transceivers for transmission of differential signals at high speeds. The MC34058 is rated for a maximum speed of 14MBPS, while the MC34059 is rated for 20MBPS, meeting the requirements for the increasingly popular SCSI-3 Fast-20 transmission system.

Both devices contain six transceivers (differential driver and receiver pairs) with control lines brought out to enable/disable each driver and receiver as required. Also included is an over-temperature sensing circuit which will shut down any driver which gets too hot due to high ambient temperature or a prolonged short circuit condition. A Thermal Shutdown Indicator output is provided as well.

Both parts are available in a 48 pin thin QFP, $7mm^2$ package. The pinouts are the same for both parts. The MC34059 is rated 20MBPS, and has skew specs compatible with the Fast-20 high speed data rate.

Drawing only 18 mA (total for all six transceivers) + load current, the MC34058/9 provides space savings and power savings while providing high speed data transmission capabilities.

FEATURES

- Meets EIA-485 Standard for party line operation
- Meets EIA-422B and CCITT Recommendations V.11 and X.27
- Operating ambient temperature: 0°C to +70°C
- Common mode driver output / receiver input range: -7.0 to +12.0 volts
- Positive and negative current limiting
- Transmission rates to 14MBPS (MC34058) and 20MBPS (MC34059)
- Driver thermal shutdown at 150°C junction temperature
- Thermal shutdown active low output
- Single +5.0 volt supply, ±10%
- Low supply current (18 mA typical, 28 mA max)
- Compact 7.0mm 48 lead TQFP plastic package

TYPES OF APPLICATIONS

- Hard disk drives
- Backplane communications
- Computer-to-computer communications

BENEFITS TO YOU

- Power supply costs are reduced and reliability is increased with low power consumption of 3 mA per transceiver.
- Increased system reliability because the drivers are protected from short circuits with current limiting and a thermal shutdown feature.
- Design versatility because these devices also meet the EIA-422 and CCITT specifications as well as EIA-485.
- High data rate capability with the MC34059 meeting SCSI-3 Fast-20 specification with bus transmission rates to 20 MBPS.
- Protection from damage is provided for party line transmission with the conformance to EIA-485 standard.
- Board space is saved with six transceivers within one small package.

A SOLUTION TO THESE QUESTIONS

- Are you interested in a single IC which will meet more than one spec?
- Do you need a device which meets the new SCSI-3 Fast-20 specification?
- Do you want to save board space for six high speed transceivers?
- Are you interested in reducing power consumption (3 mA / transceiver), thereby reducing power supply costs and increasing reliability?
- Are you interested in a device which will protect itself from overheating, **and** will provide a high temperature indication?
- Does your application require proper mounting of the device with thermal dissipation limitations?

RELATED MOTOROLA PARTS

DRIVERS			RECEIVERS		
AM26LS31	-	Quad EIA-422	AM26LS32	-	Quad EIA-422
MC3487	-	Quad EIA-422	MC3486	-	Quad EIA-422
MC75712B	-	Quad EIA-485	SN75173	-	Quad EIA-485
MC75174B	-	Quad EIA-485	SN75175	-	Quad EIA-485

TRANSCEIVER

MC34050 / 1- Dual EIA-422 / 3

LITERATURE

The data sheet MC34058 / D covers **both** parts, and provides all specs, package dimensions, thermal information, and application guidelines.

ORDERING INFORMATION

Device	Package	Ambient Temperature
MC34059FTA	48 Lead TQFP	0°C to +70°C
MC34058FTA	48 Lead TQFP	0°C to +70°C

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