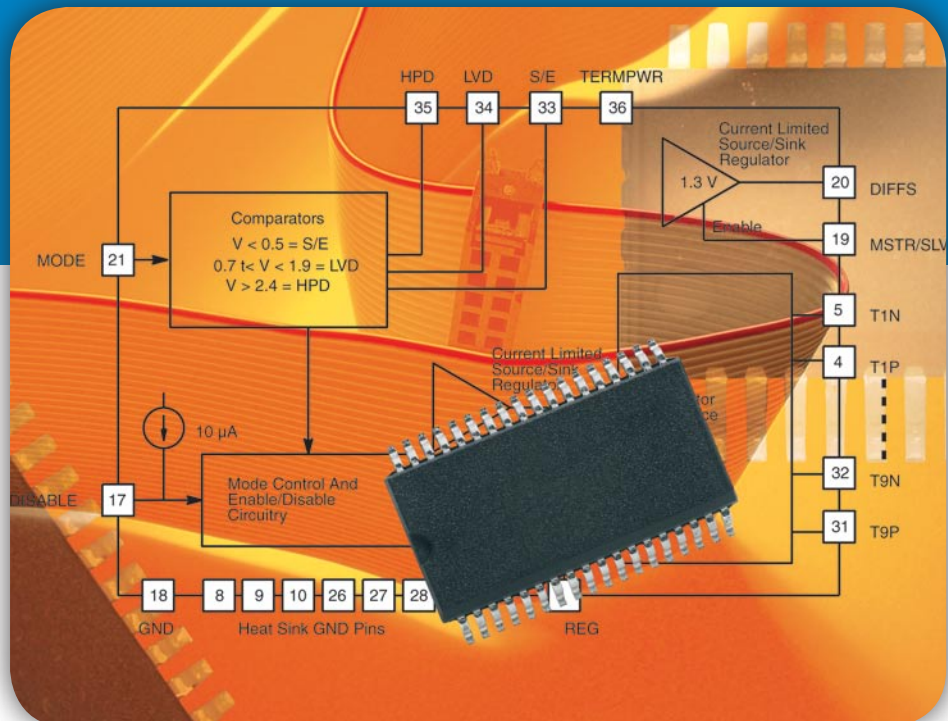




# Power ICs - SiP56xx Family



## SCSI Bus Active Terminator ICs: 9-, 14-, 15-, and 27-Channel

### FEATURES

- Auto selection of S/E or LVD SCSI termination
- Meets SCSI-1, SCSI-2, SPI-2 (ULTRA-2), SPI-3, (ULTRA-160), and SPI-4 (ULTRA-320) standards
- Differential failsafe bias
- Active negation
- Hot swap compatible
- Integrated SPI-3 mode change delay filter option

### APPLICATIONS

- Disk array (RAID)
- Storage area networks (SAN)
- Network attached storage (NAS)
- SCSI cable
- Server and workstation

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## SCSI Bus Active Terminator ICs: 9-, 14-, 15- and 27-Channel

| FEATURE   | BENEFIT   |
|---|---|
| • Auto selection of S/E or LVD SCSI termination | • Simplifies installation                                 |
| • Meets all parallel SCSI standards             | • Fully backwards compatible                              |
| • On-chip thermal shutdown circuit              | • Fully protected   |
| • Hot swap compatible                           | • No need to power down                                   |
| • Integrated delay filter option                | • Eliminates bulky 4.7- $\mu$ F low pass filter capacitor |

### ADDITIONAL FEATURES

- 2.7-V to 5.25-V TERMPWR range
- Meets SCSI-1, SCSI-2, SPI-2 (ULTRA-2), SPI-3, (ULTRA-160), and SPI-4 (ULTRA-320)
- Meets SPI-5 (ULTRA-640) standards (SiP5696)
- Differential failsafe bias
- Thermal package
- Master/slave input (SiP5630 and SiP5670)
- Active negation
- Integrated SPI-3 mode change delay filter (SiP5668, SiP5670, and SiP5678)
- Lead (Pb)-free packages

### DESCRIPTION

The SiP56xx family provides active bus termination suitable for all SCSI bus operational modes from SCSI-1 through SPI-4 (Ultra 320). The SiP5696 operates through SPI-5 (Ultra 640). The termination includes impedance matching of the SCSI bus to minimize signal reflections from the end of the bus, as well as required SCSI bus biasing for either S/E (single-ended) or LVD (low-voltage differential) operation. The SiP56xx senses the operational state of the SCSI bus via the DIFFSENS bus signal, and automatically switches to S/E or LVD operation as required. The SiP56xx family cannot be used on an HPD (high-power differential) SCSI bus, and goes into high impedance mode when the voltage on the DIFFSENS line indicates HPD operation. The SiP56xx also presents high impedance to the SCSI bus if the DISABLE pin is asserted, or if TERMPWR is removed from the IC. An optional integrated mode change delay filter eliminates the need for a bulky 4.7- $\mu$ F low pass filter capacitor to be compliant with SPI-3 mode change timing requirements. Devices in the SiP56xx family are available in a lead (Pb)-free package for operation over the temperature range of 0 to +70 °C.

### PRODUCT SELECTION TABLE

|                               | SiP5630                     | SiP5670    | SiP5628                    | SiP5668      | SiP5638                    | SiP5678   | SiP5696    |
|-------------------------------|-----------------------------|------------|----------------------------|--------------|----------------------------|-----------|------------|
| Number of lines               | 9                           | 9          | 14                         | 14           | 15                         | 15        | 27         |
| Enable active LOW             | X                           | X          | X                          | X            | X                          | X         | X          |
| Operation mode                | Multimode                   | Multimode  | Multimode                  | Multimode    | Multimode                  | Multimode | LVD only   |
| Integrated SPI-3 delay filter |                             | X          |                            | X            |                            | X         | X          |
| Master/Slave                  | X                           | X          |                            |              |                            |           |            |
| Status indicator              | X                           | X          | X                          | X            |                            |           | X          |
| SPI-5 and above               |                             |            |                            |              |                            |           | X          |
| Lead (Pb)-free package        | QSOP-36                     | QSOP-36    | SQFP-48                    | SQFP-48      | SQFP-48                    | SQFP-48   | LQFP-80    |
| Alternate source to           | TI UCC5630A<br>Maxim DS2118 | TI UCC5670 | TI UCC5628<br>Maxim DS2127 | Maxim DS2127 | TI UCC5638<br>Maxim DS2125 |           | TI UCC5696 |