

The DS2109DK is used in Plug and Play SCSI motherboards and host bus adapters to provide automatic active termination for 18 pairs of signal lines and is available in a 28-pin SOIC package. The DS2109DK is a demo board for both narrow and wide SCSI. A DS21S07AE is used with the DS2109DK to terminate 27 lines for a SCSI-2 or SCSI-3 wide bus.

To use as a terminator for a narrow bus, connect the SCSI cable into J2 of the DS2109DK. To use at the end of a wide bus, connect to J1. Test points are available for all of the SCSI bus signals. The TERM PWR LED indicates termination power from the bus.

To demonstrate the automatic termination schemes of the DS2109DK, connect cables to both J1 and J2. The

SCSI specifications require terminators installed in the middle of the SCSI bus to be powered down or isolated from the bus. The PDO LED will turn on when the DS2109DK is isolated from the SCSI bus. The ground detect method is controlled by switch GND DETECT. Move the switch to YES, and if SCSI devices are installed at both connectors, the PDO LED will come on. The current sense method requires switch CURRENT SENSE to be YES and then switching the RESET switch from FLOAT to GND to FLOAT. This imitates a SCSI reset from the host controller. If terminators are connected to J1 and J2, the PDO LED will light. When not demonstrating the automatic termination schemes, leave switches S1 and S2 at NO and switch S3 at FLOAT.

**MATERIALS USED:**

PART	DESCRIPTION	SOURCE	PART NUMBER
U1	Plug and Play SCSI Terminator	Dallas Semiconductor	DS2109S
U2	SCSI Active Terminator	Dallas Semiconductor	DS21S07AE
J1	Wide SCSI connector	Thomas and Betts	HFR068RA29BS1
J2	Narrow SCSI connector	Thomas and Betts	501-5007ES
S1-3	Switch	PM Circuits Inc.	D7789
C1	2.2 $\mu$ F/16V tantalum capacitor	Sprague	293-X225X9010A2T
C2, C4	4.7 $\mu$ F/10V tantalum capacitor	Kemet	T491A475K010AS
C3, C5	0.1 $\mu$ F/10V ceramic capacitor	Kemet	C1206C103K5RAC
L1-2	SMT Red LED Jlead	Digikey	P500
Z1	350 mW SOT23 2.7V Zener	Digikey	BZX84C2V7ZX
R1-2	1/8W 5% 1.2K Resistor	MEPCO	9C12063A1201JKR

**DS2109DK LAYOUT**



