Low Voltage Differential (LVD) SCSI 27 Line Regulator Set

Features

- **SCSI SPI-2 (Ultra 2), SPI-3 (Ultra 3/Ultra 160) and SPI-4 (Ultra 320) LVD SCSI, 27 Line Low Voltage Differential Regulator**
- **4V to 5.25V Operation**
- **Integrated Regulator Set for LVD SCSI**
- **Differential Failsafe Bias**

Applications

- **SCSI cable**
- **SCSI card**
- **Disk Array**
- **Industrial PC**
- **POS**

Description

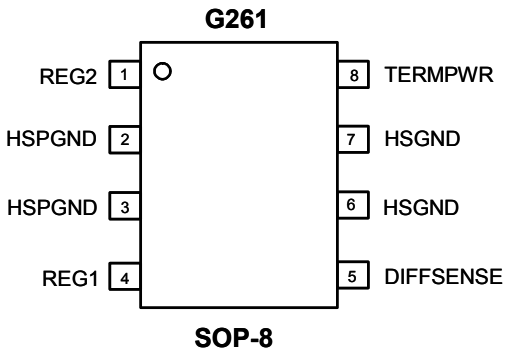
The G261 LVD Regulator set is designed to provide the correct reference voltages and bias currents for LVD termination resistor networks (475Ω, 121Ω, and 475Ω). The device also provides a 1.3V output for DIFFSENSE signaling. With the proper resistor network, the G261 solution will meet the common mode impedance, differential mode impedance, differential bias voltage and common mode voltage requirements of SPI-2 (Ultra2), SPI-3 (Ultra 3/Ultra 160) and SPI-4 (Ultra 320).

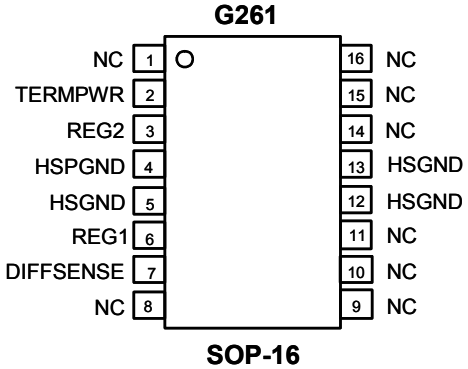
This device contains two sink / source reference voltage regulators, a 1.3V buffered output and protection features. The protection features include thermal shutdown and active current limiting circuitry. The G261 is offered in 8 pin SOP and 16pin SOP.

Ordering Information

ORDER NUMBER	ORDER NUMBER (Pb free)	TEMP. RANGE	PACKAGE
G261P1U	G261P1Uf	0°C~70°C	SOP-8
G261P3U	G261P3Uf	0°C~70°C	SOP-16

Pin Configuration





Absolute Maximum Ratings

TERMPWR……6V
Package Dissipation……1W
Junction Temperature……-55°C to 150°C
Storage Temperature……-65°C to 150°C

Recommended Operating Conditions

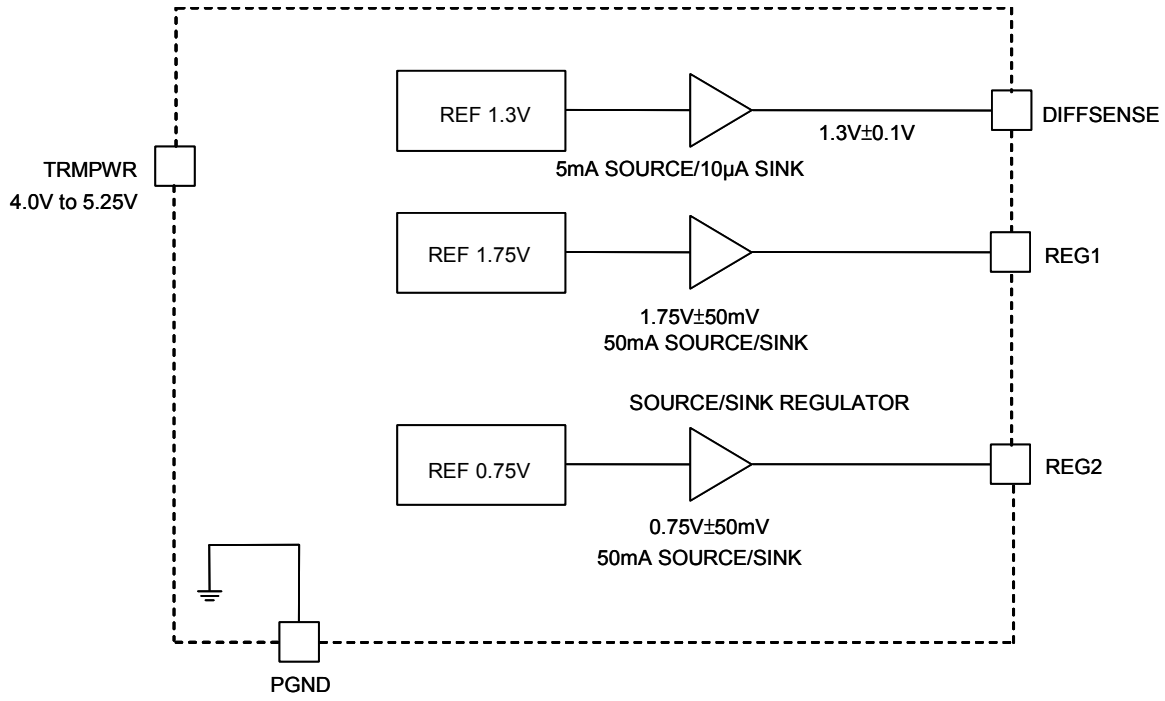
TERMPWR Voltage……4.0V to 5.25V

Electrical Characteristics

Unless otherwise specified these specifications apply for TA= 0°C to 70°C, TERMPWR=5V.

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UMITS
TERMPWR Supply Current Section					
TERMPWR Supply Current	No Load	---	6	10.0	mA
TERMPWR Voltage		4.0	---	5.25	V
Regulator Section					
1.75 Volt Regulator	REG1(±50mA)	1.7	1.75	1.8	V
1.3 Volt Regulator	DIFFSENSE, No Load	1.2	1.3	1.4	V
0.75 Volt Regulator	REG2(±50mA)	0.7	0.75	0.8	V
1.75 Volt Regulator Source Current		-50	---	---	mA
1.75 Volt Regulator Sink Current		50	---	---	mA
1.75 Sink Current Limit		---	---	600	mA
1.75 Source Current Limit		-600	---	---	mA
1.3 Volt Regulator Source Current	DIFFSENSE, GND	-5	---	-15	mA
1.3 Volt Regulator Sink Current	DIFFSENSE, 2.4V	10	---	200	µA
0.75 Volt Regulator Source Current		-50	---	---	mA
0.75 Volt Regulator Sink Current		50	---	---	mA
0.75 Current Limit			---	600	mA
0.75 Current Limit		-600	---	---	mA

Block Diagram



Application Information

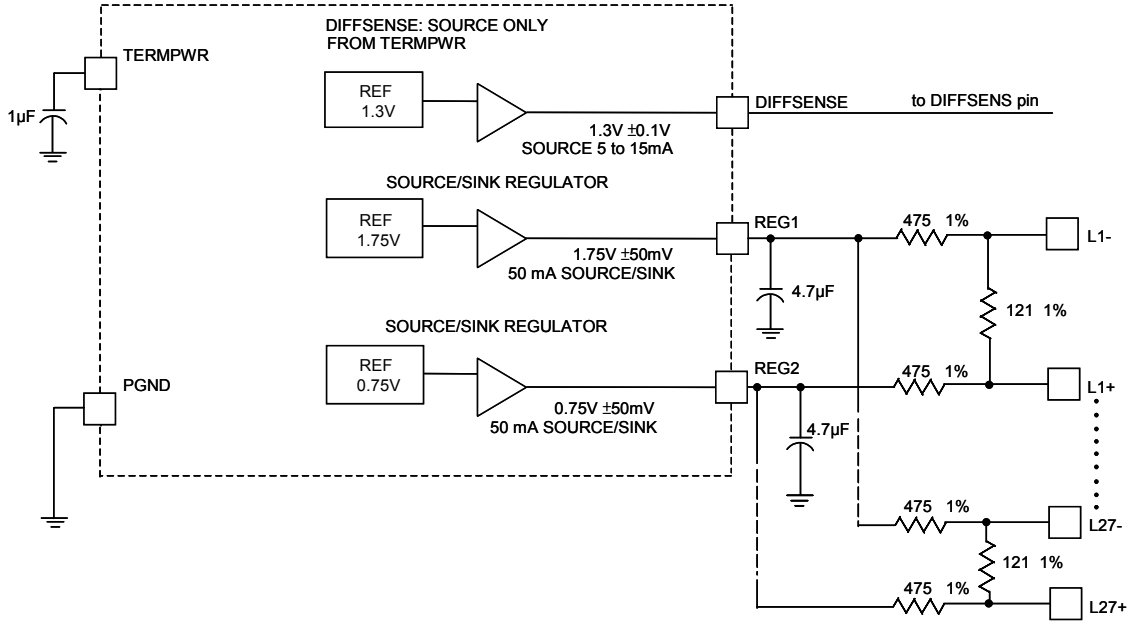


Figure 1. LVD SCSI Discrete Resistor Stack

Table1. Resistor Network v.s Standard

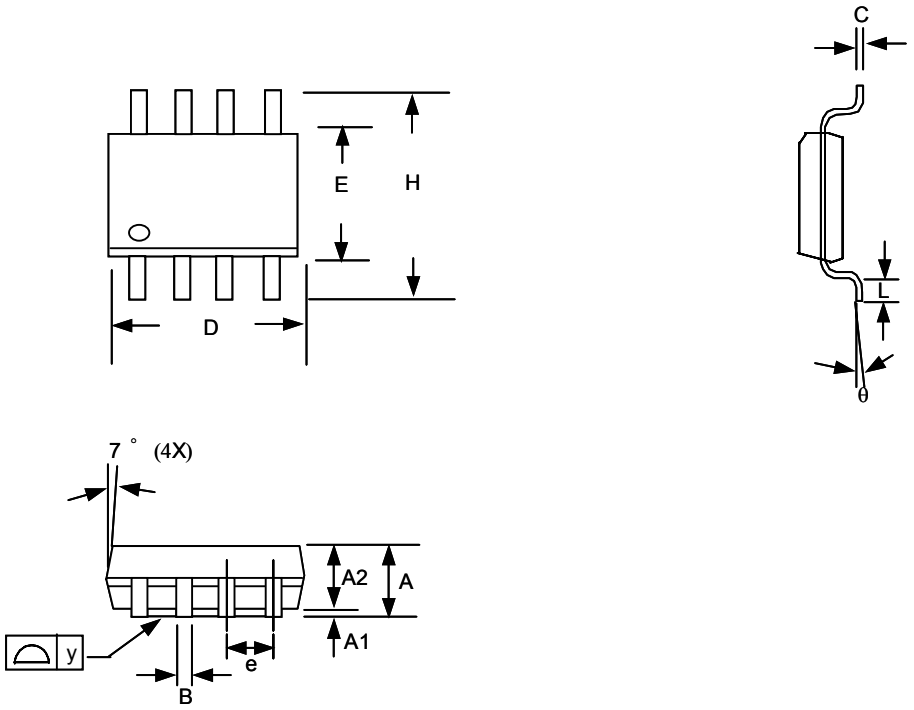
OUTPUTS	SPECIFICATION
107.3Ω Diff	100Ω to 110Ω
112.9mV Diff Bias	100mV to 125mV
237Ω Common Mode	100Ω to 300Ω
1.25V Common Mode	1.2V to 1.30V

Application Note: The resistor network, along with the 1.75V and 0.75V references will give the correct differential impedance, bias voltage, common mode impedance and common mode voltage as show in Table 1.

Layout guideline:

1. For stable operation, the 1µF capacitor on TERMPWR pin and 4.7µF capacitors on REG1 and REG2 pins must be placed within 0.25 inch of their respective pins.
2. The PCB trace length form Lx- and Lx+ to the connector pins (all 27pairs) must be of equal length, in order to minimize the signal skew among these pairs. In addition, these traces must be as short as possible, in order to minimize capacitance.

Package Information

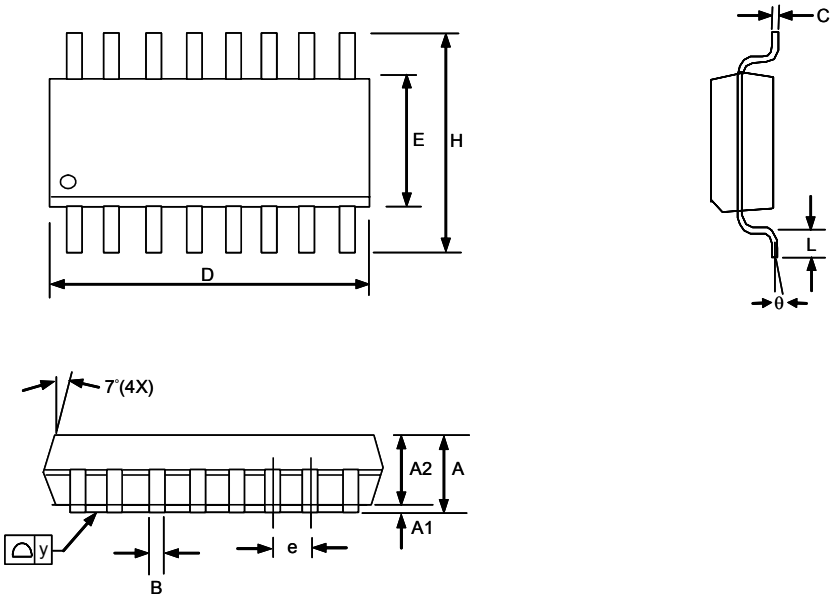


SOP-8 Package

Note:

1.Package body sizes exclude mold flash and gate burrs
2.Dimension L is measured in gage plane
3.Tolerance 0.10mm unless otherwise specified
4.Controlling dimension is millimeter converted inch dimensions are not necessarily exact.

SYMBOL	DIMENSION IN MM			DIMENSION IN INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	1.35	1.60	1.75	0.053	0.063	0.069
A1	0.10	-----	0.25	0.004	-----	0.010
A2	-----	1.45	-----	-----	0.057	-----
B	0.33	-----	0.51	0.013	-----	0.020
C	0.19	-----	0.25	0.007	-----	0.010
D	4.80	-----	5.00	0.189	-----	0.197
E	3.80	-----	4.00	0.150	-----	0.157
e	-----	1.27	-----	-----	0.050	-----
H	5.80	-----	6.20	0.228	-----	0.244
L	0.40	-----	1.27	0.016	-----	0.050
y	-----	-----	0.10	-----	-----	0.004
θ	0°	-----	8°	0°	-----	8°



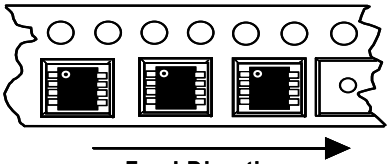
SOP-16 Package

Note:

1.Package body sizes exclude mold flash and gate burrs
2.Dimension L is measured in gage plane
3.Tolerance 0.10mm unless otherwise specified
4.Controlling dimension is millimeter converted inch dimensions are not necessarily exact.
5.Followed from JEDEC MS-012

SYMBOL	DIMENSION IN MM			DIMENSION IN INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	1.35	1.60	1.75	0.053	0.063	0.069
A1	0.10	-----	0.25	0.004	-----	0.010
A2	-----	1.45	-----	-----	0.057	-----
B	0.33	-----	0.51	0.013	-----	0.020
C	0.19	-----	0.25	0.007	-----	0.010
D	9.80	-----	10.00	0.386	-----	0.394
E	3.80	-----	4.00	0.150	-----	0.157
e	-----	1.27	-----	-----	0.050	-----
H	5.80	-----	6.20	0.228	-----	0.244
L	0.40	-----	1.27	0.016	-----	0.050
y	-----	-----	0.10	-----	-----	0.004
θ	0°	-----	8°	0°	-----	8°

Taping Specification



Feed Direction
Typical SOP Package Orientation

PACKAGE	Q'TY/ REEL
SOP-8	2,500 ea
SOP-16	2,500 ea

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