



SGM41286

LNB Supply with Tone Repeater/Synthesizer and Programmable Cable Drop Compensation

GENERAL DESCRIPTION

This SGM41286 is a high-efficient boost power supply providing a wide input voltage range of 7V to 14V and two selectable 14V and 19V nominal output versions. The device integrates the high-efficient low head room architecture. It also can operate with acoustic noise free and work with low power.

The -1V/+0.4V drop compensation can be programmed, allowing the use of external surge absorbing devices at the output. This device employs the features like internal short-safe over-current protection and over-temperature protection.

The SGM41286 is available in Green TDFN-3×3-8L and SOIC-8 (Exposed Pad) packages. It operates over an ambient temperature range of -40°C to +85°C.

FEATURES

- 7V to 14V Input Voltage Range
- 500mA 14V/19V Output
- DiSEqC 1.X Compatible
- Programmable -1V/+0.4V Drop Compensation
- High-Efficient Low Head Room Architecture
- Acoustic Noise Free Low Power Operation
- Automatic Tone Repeater or Tone Synthesizer
- LDO Output and Low Out-of-Band Noise
- 200ms Current Limit Loading Surge Window
- Internal Short-Safe Over-Current Protection
- Internal Over-Temperature Protection
- Available in Green TDFN-3×3-8L and SOIC-8 (Exposed Pad) Packages
- -40°C to +85°C Operating Temperature Range

APPLICATIONS

STB Satellite Receiver
TV Satellite Receiver
PC Card Satellite Receiver

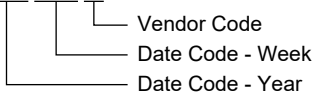
PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM41286	TDFN-3x3-8L	-40°C to +85°C	SGM41286YTDB8G/TR	SGM 41286DB XXXXX	Tape and Reel, 4000
	SOIC-8 (Exposed Pad)	-40°C to +85°C	SGM41286YPS8G/TR	SGM 41286YPS8 XXXXX	Tape and Reel, 4000

MARKING INFORMATION

NOTE: XXXXX = Date Code and Vendor Code.

XXXXX



Green (RoHS& HSF): SG Micro Corp defines "Green" to mean Pb-Free (RoHS compatible) and free of halogen substances. If you have additional comments or questions, please contact your SGMICRO representative directly.

ABSOLUTE MAXIMUM RATINGS

- V_{IN}..... -0.3V to 22.5V
- LX, VCP -0.3V to 30V
- VSW -0.3V to 25.5V
- EN, H/V, EXTM..... -0.3V to 6V
- Junction Temperature +150°C
- Storage Temperature Range..... -65°C to +150°C
- Lead Temperature (Soldering, 10s) +260°C
- ESD Susceptibility
- VLNB to GND, HBM 8000V
- All Rest Pins to GND, HBM..... 4000V
- CDM 2000V
- MM..... 400V
- Surge Immunity, 10µs/700µs, ±Impulse 40V

RECOMMENDED OPERATING CONDITIONS

- Supply Voltage Range 7V to 14V
- Operating Temperature Range -40°C to +85°C
- Operating Junction Temperature Range -40°C to +125°C

OVERSTRESS CAUTION

Stresses beyond those listed in Absolute Maximum Ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect reliability. Functional operation of the device at any conditions beyond those indicated in the Recommended Operating Conditions section is not implied.

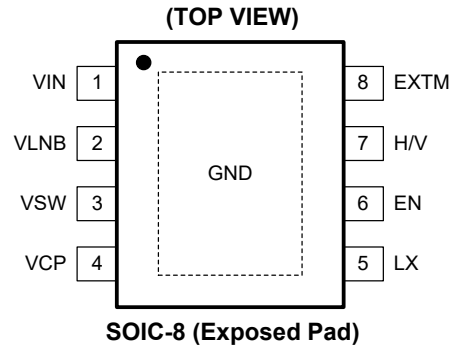
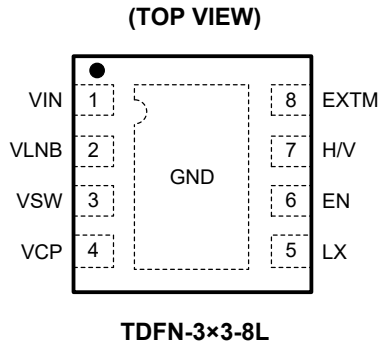
ESD SENSITIVITY CAUTION

This integrated circuit can be damaged by ESD if you don't pay attention to ESD protection. SGMICRO recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage. ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

DISCLAIMER

SG Micro Corp reserves the right to make any change in circuit design, or specifications without prior notice.

PIN CONFIGURATIONS



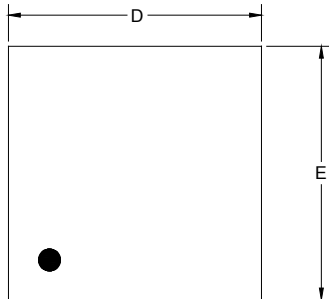
PIN DESCRIPTION

PIN	NAME	TYPE ⁽¹⁾	FUNCTION
1	VIN	P	Power Input for Internal Circuit.
2	VLNB	O	Output for LNB Powering. Put a 100nF decoupling capacitor to this pin.
3	VSW	O	Input for Powering Output Stage.
4	VCP	O	Charge Pump Storage Output for Internal Use. Put a 10nF storage capacitor to this pin.
5	LX	O	Switch Node. Connect with one end of a power inductor.
6	EN	I	Enable Input. Pull up to 1.1V ~ 6V logic high to enable the device.
7	H/V	I	VLNB Output Voltage Selection Input. 19V nominal output is got when pulls this pin up to 1.1V to 6V logic high. 14V nominal output is got when pulls it down or leaves it open.
8	EXTM	I	External Tone Input and Internal Tone Synthesizer Enable Input.
Exposed Pad	GND	G	Ground.

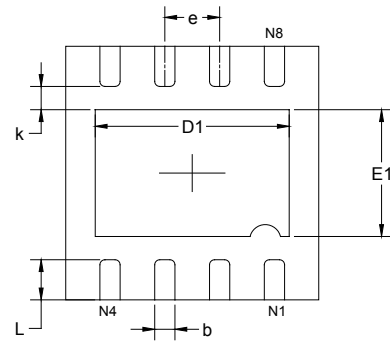
NOTE : 1. P: power, I: input, O: output, G: ground.

PACKAGE OUTLINE DIMENSIONS

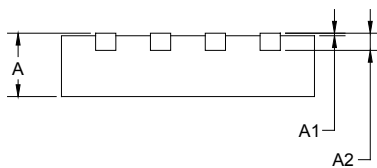
TDFN-3x3-8L



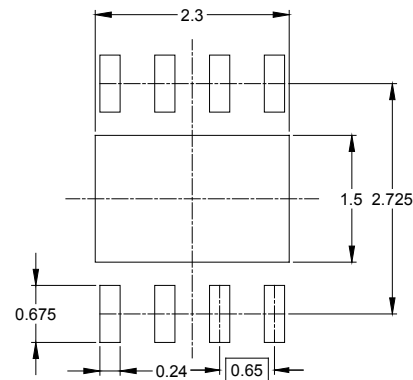
TOP VIEW



BOTTOM VIEW



SIDE VIEW

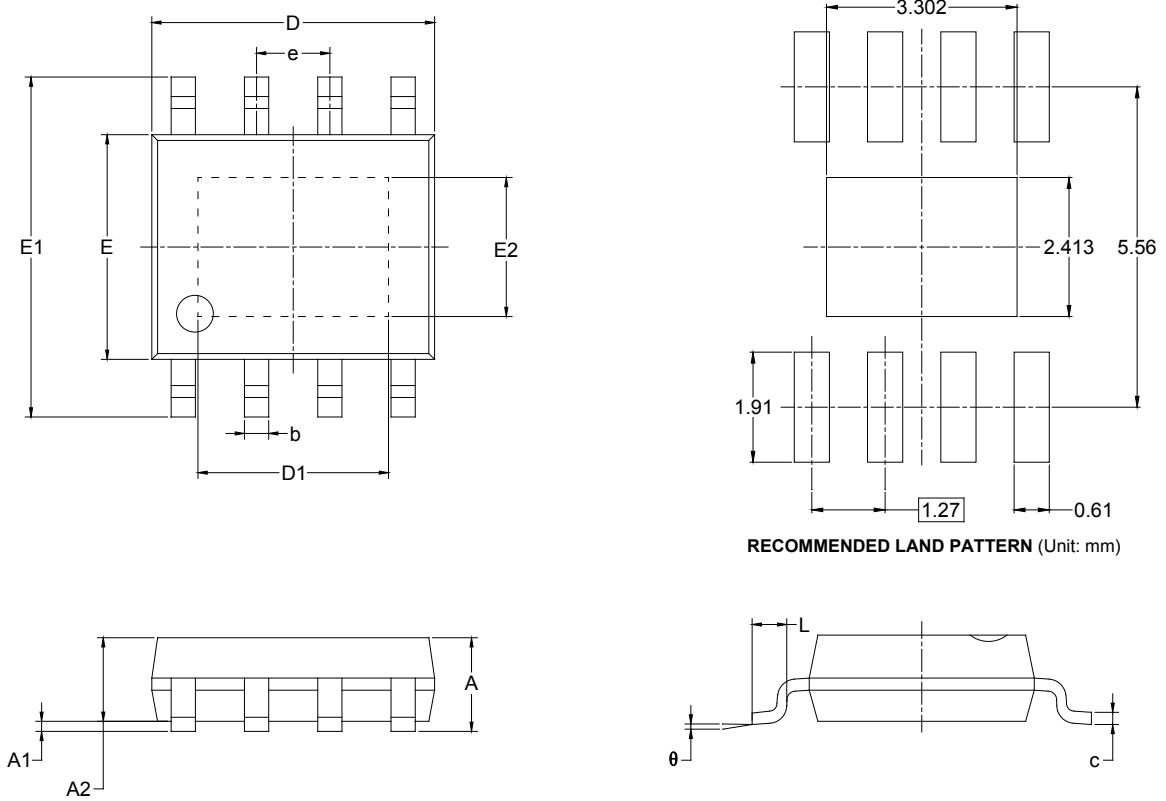


RECOMMENDED LAND PATTERN (Unit: mm)

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A2	0.203 REF		0.008 REF	
D	2.900	3.100	0.114	0.122
D1	2.200	2.400	0.087	0.094
E	2.900	3.100	0.114	0.122
E1	1.400	1.600	0.055	0.063
k	0.200 MIN		0.008 MIN	
b	0.180	0.300	0.007	0.012
e	0.650 TYP		0.026 TYP	
L	0.375	0.575	0.015	0.023

PACKAGE OUTLINE DIMENSIONS

SOIC-8 (Exposed Pad)



RECOMMENDED LAND PATTERN (Unit: mm)

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.700		0.067
A1	0.000	0.100	0.000	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
E2	2.313	2.513	0.091	0.099
e	1.27 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

PACKAGE INFORMATION

TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
TDFN-3×3-8L	13"	12.4	3.35	3.35	1.13	4.0	8.0	2.0	12.0	Q1
SOIC-8 (Exposed Pad)	13"	12.4	6.40	5.40	2.10	4.0	8.0	2.0	12.0	Q1

DD0001

PACKAGE INFORMATION

CARTON BOX DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF CARTON BOX

Reel Type	Length (mm)	Width (mm)	Height (mm)	Pizza/Carton
13"	386	280	370	5

DD0002