

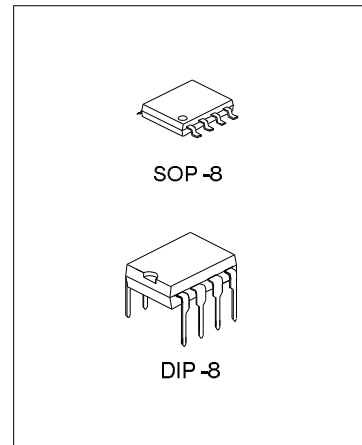
3D EFFECT AUDIO PROCESSOR

DESCRIPTION

The SC5387 is a 3D Effect Audio Processor IC utilizing CMOS Technology. It features a specially designed HRTFs filter and space-enhanced circuit, thereby, guaranteeing excellent audio quality and performance. Least external components, excellent 3D effect audio output, built-in LED display driver add to the enhanced quality of SC5387. Pin assignment and application circuit are optimized for cost saving advantages and easy PCB layout.

FEATURES

- * CMOS Technology
- * Low Total Harmonic Distortion and High S/N Ratio:
THD+N<0.01%, S/N>95dB
- * Built-in LED Display Driver
- * Least External Components
- * Wide Operating Voltage Range: 5 – 9 V
- * 2-Channel Output



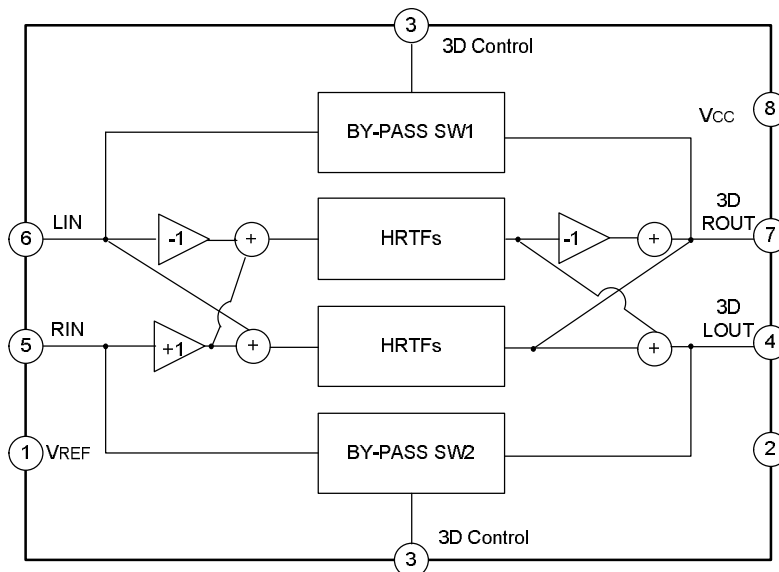
ORDERING INFORMATION

Device	Package
SC5387	DIP-8--300-2.54
SC5387S	SOP-8-225-1.27

APPLICATIONS

- * Car Audio
- * Mini compo
- * Multimedia Audio Components
- * Home Stereo

BLOCK DIAGRAM



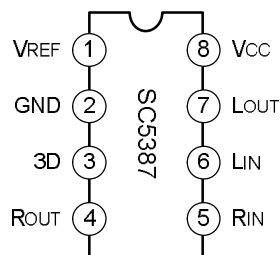
ABSOLUTE MAXIMUM RATINGS

Characteristics	Symbol	Ratings	Unit
Supply Voltage	VCC	12	V
Operating Temperature	T _{opr}	-20 ~ 75	°C
Storage Temperature	T _{stg}	-40 ~ 125	°C
Input Voltage	V _i	-0.3 ~ V _{cc} +0.3	V

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{CC}=9V, V_i=1V_{rms}, f=1kHz)

Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Supply Voltage	VCC	--	5	9	10.0	V
Supply Current	I _{CC}	VCC = 9V, V _i = 0V, By-Pass mode	--	20	--	mA
Maximum Output Voltage	VOM	VCC = 9V	2.5	--	--	V _{rm}
Output Noise	e _{NO}	VCC = 9V, V _i = 0V, BW = 20~20kHz A - Weighting	--	-90	--	dB
Total Harmonic Distortion	THD	VCC = 9V, V _i = 0.2V _{rms} , BW = 20~20kHz, By-Pass mode	--	--	0.05	%
Input Impedance	R _{IN}	VCC = 9V	--	100	--	kΩ
Output Impedance	R _{OUT}	VCC = 9V	--	40	80	Ω
High Level Input Voltage	V _{IH}	VCC = 9V	--	--	0.7V _{CC}	V
Low Level Input Voltage	V _{IL}	VCC = 9V	0.3V _{CC}	--	--	V
Maximum Input Voltage	V _{IMAX}	VCC = 9V, By-Pass mode	--	--	2.0	V _{rms}

PIN CONFIGURATION

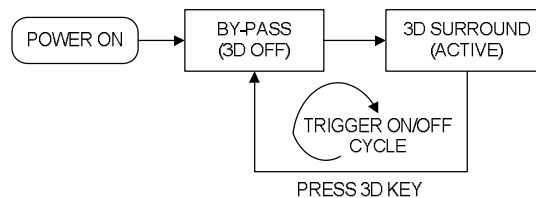


PIN DESCRIPTION

Pin No	Symbol	Function
1	VREF	1/2 VCC, Connect a Capacitor to GND
2	GND	Ground Pin.
3	3D	3D Effect Control Pin.
4	ROUT	Right Channel Output Pin.
5	RIN	Right Channel Input Pin.
6	LIN	Left Channel Input Pin.
7	LOUT	Left Channel Output Pin.
8	VCC	Positive Power Supply

FUNCTIONAL DESCRIPTION

The 3D effect of SC5387 is controlled by Pin No.3 (3D Pin) via a TACT Switch which is triggered when connected to VCC ("High"). Please refer to the diagram below.

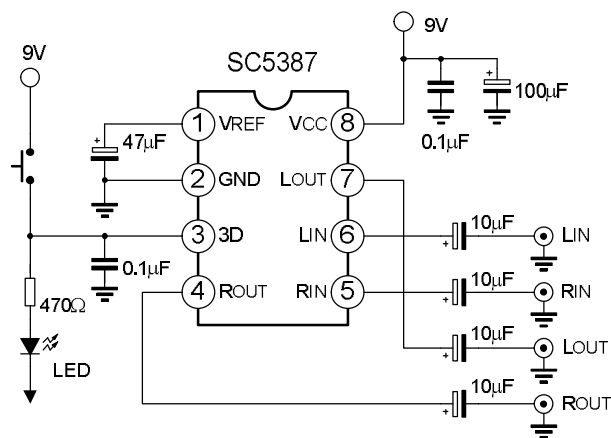


LED Display Driver

SC5387 has a built-in LED driver which is used to display the 3D activity status. Please refer to the table below.

3D / Surround Effect OFF	3D / Surround Effect ON
LED Display OFF	LED Display ON

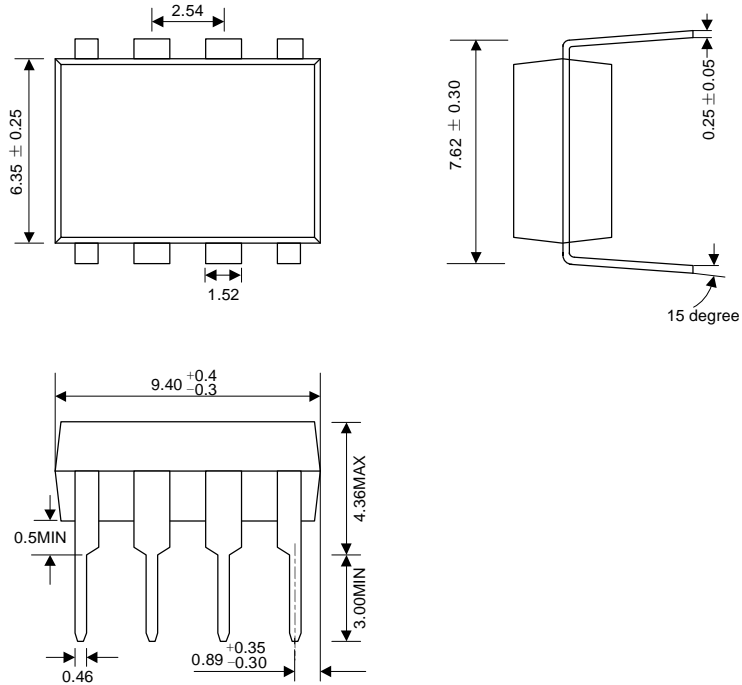
APPLICATION CIRCUIT



PACKAGE OUTLINE

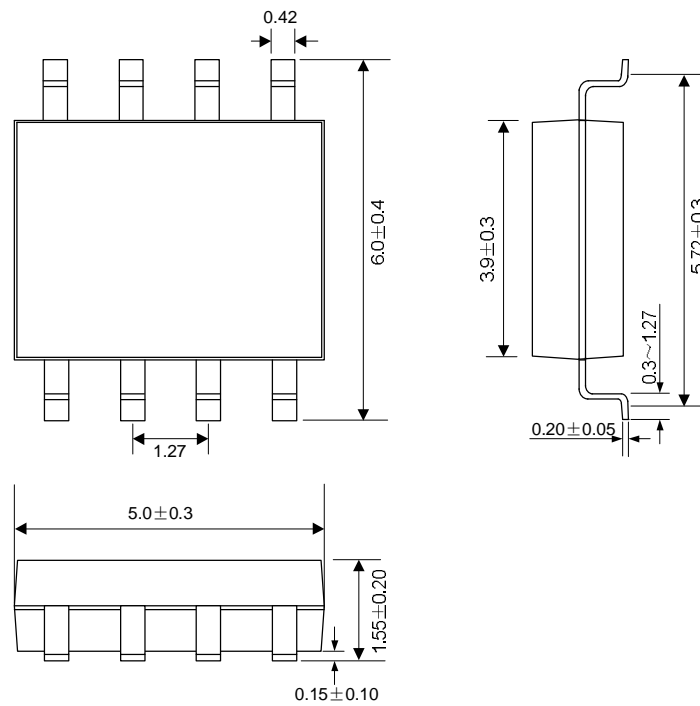
DIP-8-300-2.54

UNIT: mm



SOP-8-225-1.27

UNIT: mm





HANDLING MOS DEVICES:

Electrostatic charges can exist in many things. All of our MOS devices are internally protected against electrostatic discharge but they can be damaged if the following precautions are not taken:

- Persons at a work bench should be earthed via a wrist strap.
- Equipment cases should be earthed.
- All tools used during assembly, including soldering tools and solder baths, must be earthed.
- MOS devices should be packed for dispatch in antistatic/conductive containers.