

查询"LA2616V"供应商

**SANYO****SANYO Semiconductors****DATA SHEET****LA2616V**

**Monolithic Linear IC**  
**Featuring the AViSS 3D Surround Algorithm**  
**Analog Surround IC**

**Overview**

The LA2616V is sound field playback processing ICs for use in audio equipment, TVs, and PCs.

These ICs allow equipment to easily reproduce a spatial realistic sound field from a stereo signal from a music, video, or other audio source.

**Features**

- Supports a wide operating supply voltage range, and can be used in a wide range of applications.
- The added surround signal level can be adjusted.
- Low-noise low-distortion bypass mode
- Provides a natural feeling of spaciousness without degrading the tonal coloration of the source.
- Clear vocal positioning without any apparent loss of center to the sound
- Miniature packages : SSOP16

**Functions**

- Surround signal processing
- Variable surround effect
- Surround/bypass switching
- LED drive circuit

**Specifications**

**Maximum Ratings** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		13	V
Allowable power dissipation	Pd max	Ta ≤ 70°C *	250	mW
Operating temperature	Topr		-25 to +70	°C
Storage temperature	Tstg		-40 to +125	°C

\*Mounted on a specified board : 114.3mm × 76.1mm × 1.6mm, glass epoxy board.

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LA2616V

Operating Conditions at Ta = 25°C

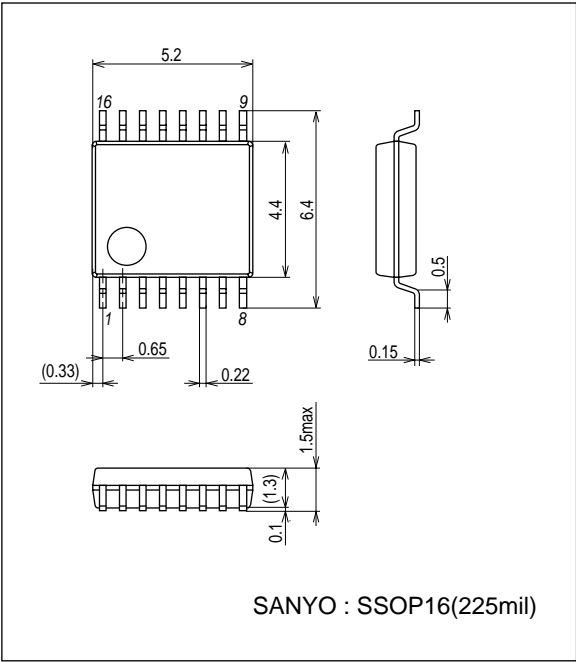
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		9.0	V
Operating supply voltage range	V <sub>CC</sub> opg		4.5 to 12.0	V

Electrical Characteristics at Ta = 25°C, V<sub>CC</sub> = 9V, V<sub>I</sub> = 300mVrms (left and right input), f = 1kHz

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I <sub>CC</sub> T	No signal, surround off		4	8	mA
Voltage gain	V <sub>G</sub> T	Surround off	-2	0	+2	dB
	V <sub>G</sub> S	Surround on	-2	0	+2	dB
Maximum output voltage	V <sub>O</sub> max T	THD = 3%, surround off	1	2.5		Vrms
	V <sub>O</sub> max S	THD = 3%, surround on	1	2.5		Vrms
Total harmonic distortion	THD T	Surround off		0.01	0.03	%
	THD S	Surround on		0.2	0.5	%
Crosstalk	CT T	Surround off	80	85		dB
Output noise voltage	V <sub>NO</sub> T	Surround off		-100	-90	dBm
	V <sub>NO</sub> S	Surround on		-90	-80	dBm
LED current	I <sub>LED</sub>			6	10	mA

Package Dimensions

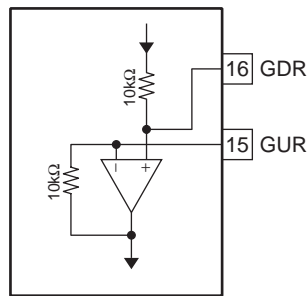
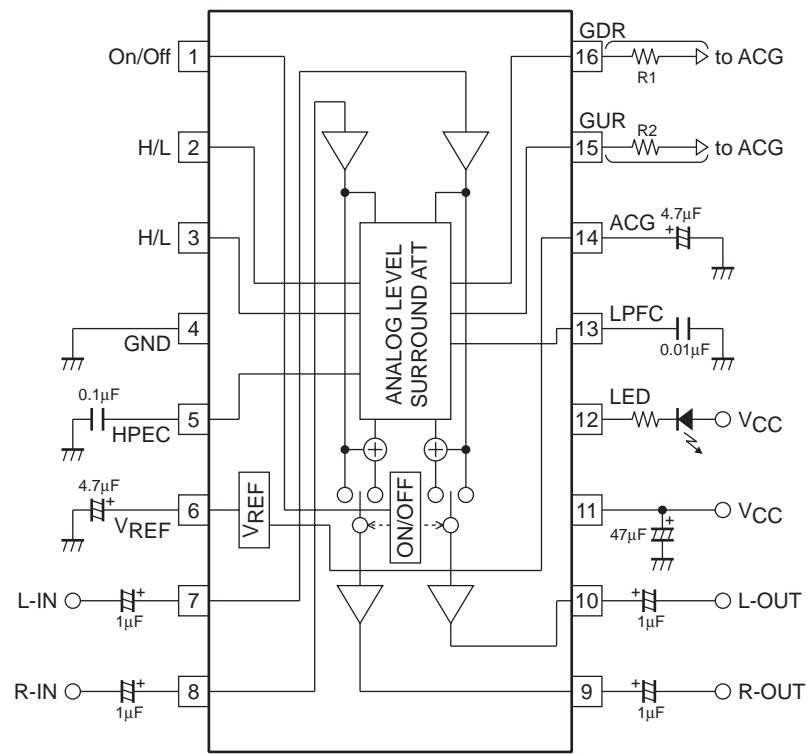
unit : mm (typ)  
3178B



LA2616V

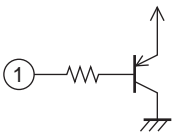
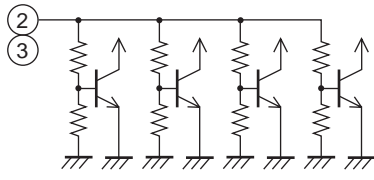
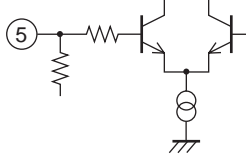
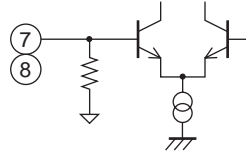
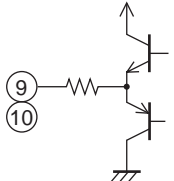
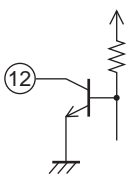
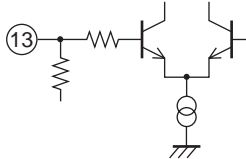
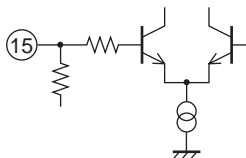
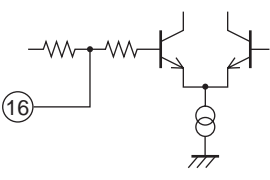
Block Diagram

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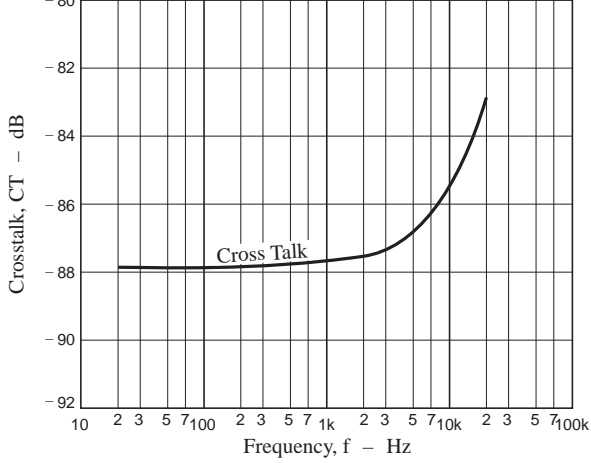
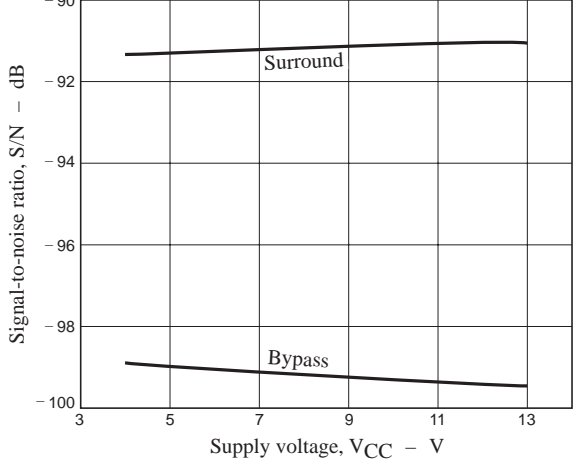
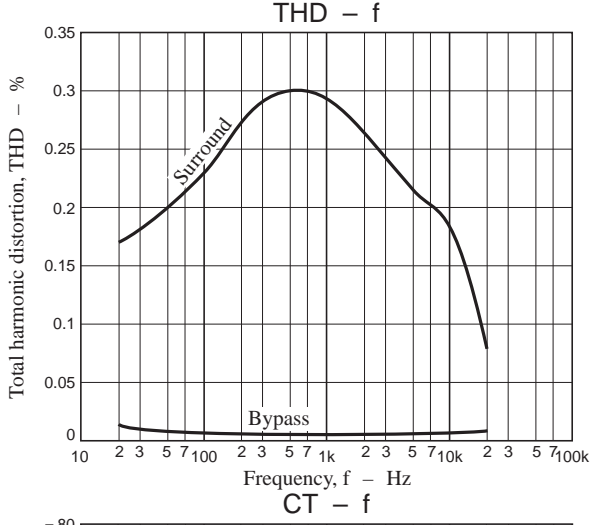
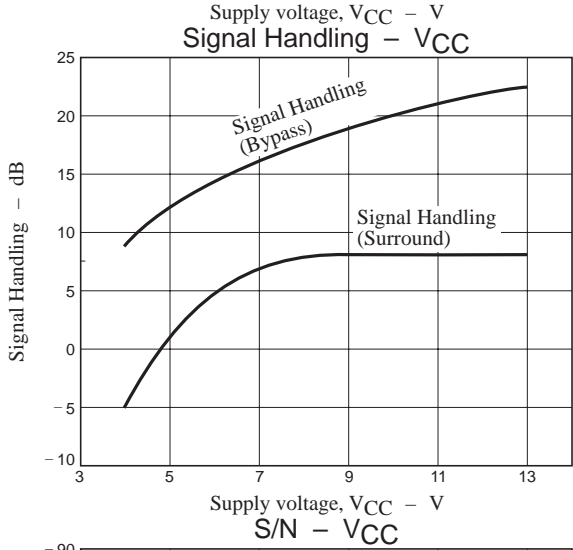
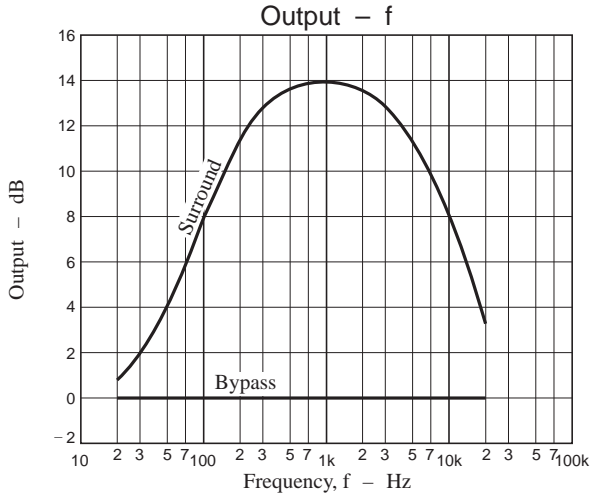
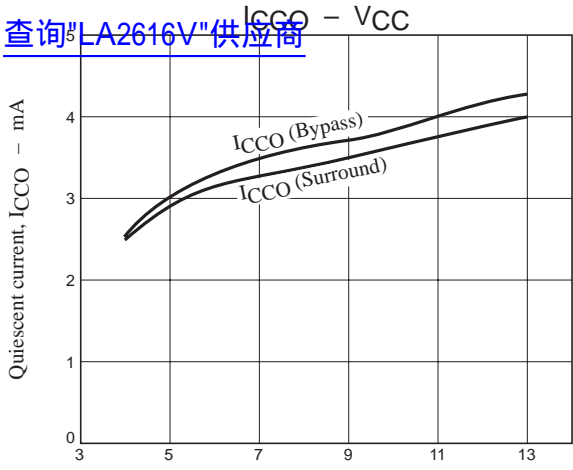


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## Pin Functions

Pin No.	Pin name	Pin voltage	Pin function	Equivalent circuit
1	CONT1	0V, 5V	Surround on/off control	
2 3	CONT2 CONT3	0V, 5V	Surround effect selection	
5	HPEC	1/2 V <sub>CC</sub>	High-pass filter capacitor connection	
7 8	L-IN R-IN	1/2 V <sub>CC</sub>	Input	
9 10	R-OUT L-OUT	1/2 V <sub>CC</sub>	Output	
12	LED	V <sub>CC</sub>	LED connection	
13	LPFC	1/2 V <sub>CC</sub>	Low-pass filter capacitor connection	
15	GUR	1/2 V <sub>CC</sub>	Surround effect maximum value setting	
16	GDR	1/2 V <sub>CC</sub>	Surround effect maximum value setting	

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## Surround Effect

The maximum value of the surround effect is set with pins 15 and 16.

- The surround effect is increased by connecting an external resistor to pin 15.
- The surround effect is decreased by connecting an external resistor to pin 16.
- The device may be used with no external resistors on pins 15 and 16.

The level of the surround effect is controlled by pins 1 to 3.

Pin 1	Pin 2	Pin 3	Effect
Low	Low	Low	Maximum
	High	Low	Midiam
	Low	High	Minimum
High	Bypass		

Note\* : For the high level, a potential over 3V and under  $V_{CC}$  must be used.

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