



LA7016 — Monolithic Linear IC

VCR Electronic Switch

Features

- Wide input dynamic range.
- Low distortion.
- Good frequency characteristic.

Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		15	V
Allowable power dissipation	P_d max	$T_a \leq 65^\circ\text{C}$	300	mW
Operating temperature	T_{opr}		-20 to +65	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 12\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Circuit current	I_D			9.3	12.5	mA
Total harmonic distortion	THD	* $R_g = 600\Omega$, 4.5Vp-p, $f = 1\text{kHz}$, $R_L = \infty$		0.007	0.1	%
Noise	en	* $R_g = 600\Omega$, $f = 20\text{Hz}$ to 20kHz , $R_L = \infty$		-93	-80	dBs
Crosstalk	I_{s1}	*input A : $R_g = 50\Omega$, $f = 3.58\text{MHz}$ 2Vp-p, input B : $R_g = 1\text{k}\Omega$	50	68		dB
Pedestal	ΔV_{ped}	$V_3 = 2.2\text{V}$ to 3.0V	-100	0	+100	mV
Second harmonic		$R_g = 50\Omega$, $f = 1\text{MHz}$, 4.0Vp-p, $R_L = \infty$	46	55		dB
Third harmonic		$R_g = 50\Omega$, $f = 1\text{MHz}$, 4.0Vp-p, $R_L = \infty$	46	52		dB
Control, threshold voltage	V_{3s}		2.2	2.6	3.0	V

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LA7016

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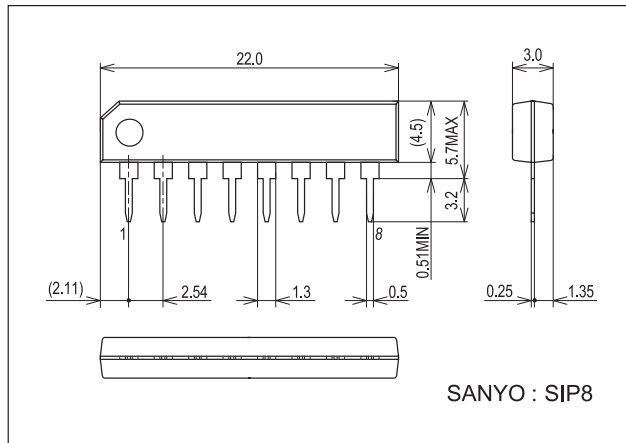
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Pin voltage (pin 4)	V_4			6.9	6.9	V
Pin voltage (pin 7)	V_7	$V_3 = 2.2V$		7.6		V
Pin voltage (pin 7)	V_7	$V_3 = 3.0V$		7.6		V
Pin voltage (pin 2)	V_2	$V_3 = 3.0V$		7.6		V
Pin voltage (pin 2)	V_2	$V_3 = 2.2V$		7.6		V

Note) *: Test for input 1 and input2.
 For input 1 test, V_{cont} (pin 3 voltage) is 2.0V.
 For input 2 test, V_{cont} is 3.0V.

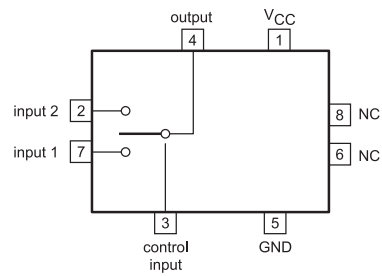
Package Dimensions

unit : mm (typ)

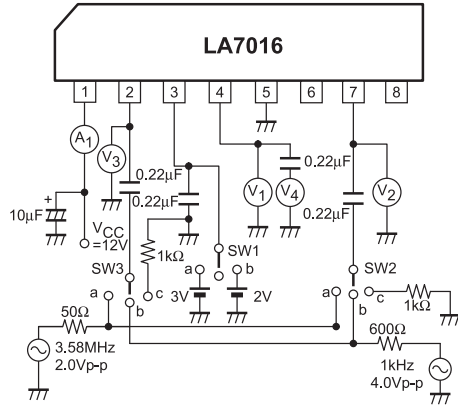
3016C



Equivalent Circuit



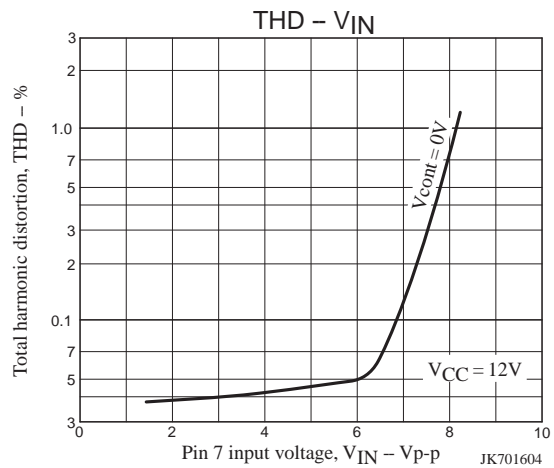
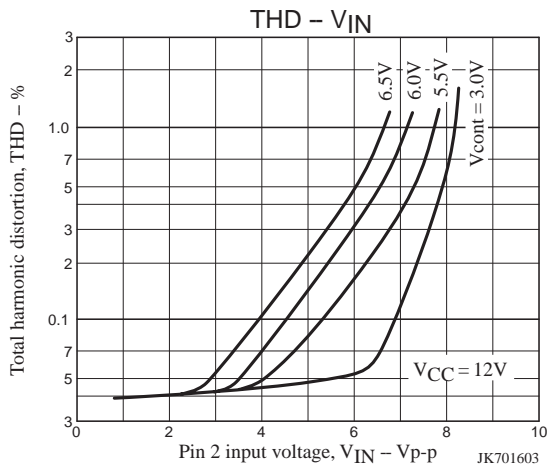
Test Circuit

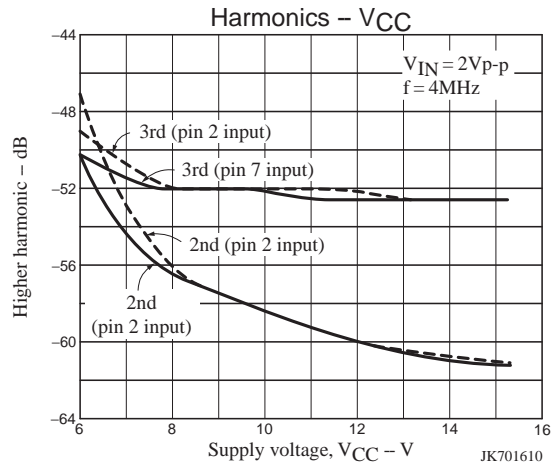
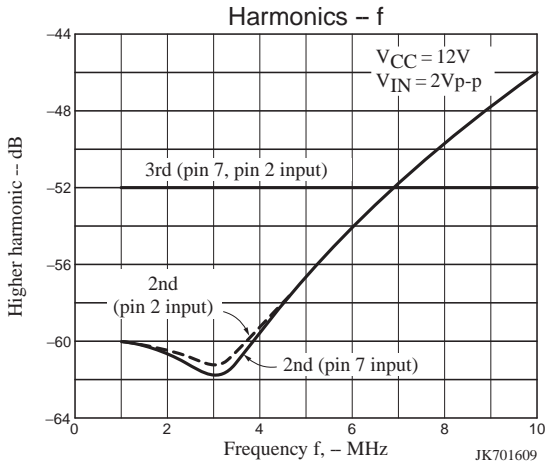
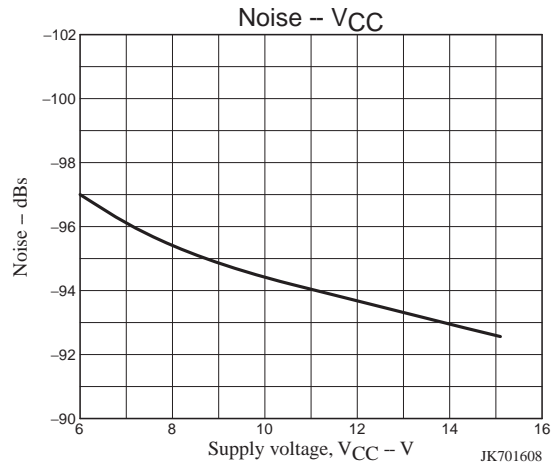
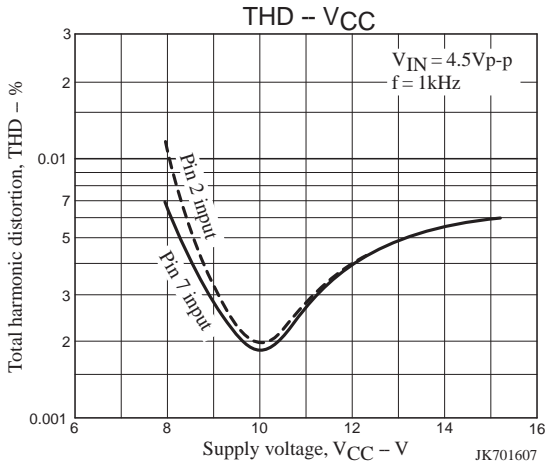
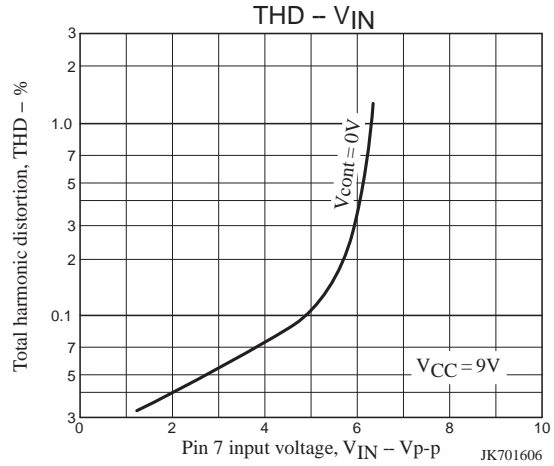
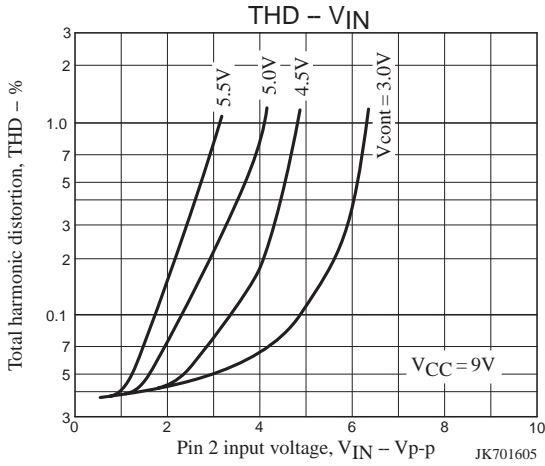


Test Conditions

Item	Symbol	SW mode			Test point
		SW ₁	SW ₂	SW ₃	
Circuit current	I_D	c	c	c	A ₁
Distortion (1)	THD	b	b	c	V ₄
Distortion (2)	THD	a	c	b	V ₄
Noise (1)	e_n	b	c	c	V ₄
Noise (2)	e_n	a	c	c	V ₄
Crosstalk (1)	I_{S1}	b	c	a	V ₄
Crosstalk (2)	I_{S2}	a	a	c	V ₄
Pedestal	ΔV_{PED}	a-b	c	c	V ₁
Pin voltage (pin 4)		b	c	c	V ₁
Pin voltage (pin 7)		b	c	c	V ₂
Pin voltage (pin 7)		a	c	c	V ₂
Pin voltage (pin 2)		a	c	c	V ₃
Pin voltage (pin 2)		b	c	c	V ₃

Main Characteristics





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