



LA7016

Monolithic Linear IC VCR Electronic Switch

Features

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

Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		15	V
Allowable power dissipation	Pd max	Ta ≤ 65°C	300	mW
Operating temperature	Topr		-20 to +65	°C
Storage temperature	Tstg		-40 to +125	°C

Electrical Characteristics at Ta = 25°C, V_{CC} = 12V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Circuit current	I _D			9.3	12.5	mA
Total harmonic distortion	THD	*R _g = 600Ω, 4.5Vp-p, f = 1kHz, R _L = ∞		0.007	0.1	%
Noise	e _n	*R _g = 600Ω, f = 20Hz to 20kHz, R _L = ∞		-93	-80	dBs
Crosstalk	I _{S1}	*input A : R _g = 50Ω, f = 3.58MHz 2Vp-p, input B : R _g = 1kΩ	50	68		dB
Pedestal	ΔV _{ped}	V ₃ = 2.2V to 3.0V	-100	0	+100	mV
Second harmonic		R _g = 50Ω, f = 1MHz, 4.0Vp-p, R _L = ∞	46	55		dB
Third harmonic		R _g = 50Ω, f = 1MHz, 4.0Vp-p, R _L = ∞	46	52		dB
Control, threshold voltage	V _{3s}		2.2	2.6	3.0	V

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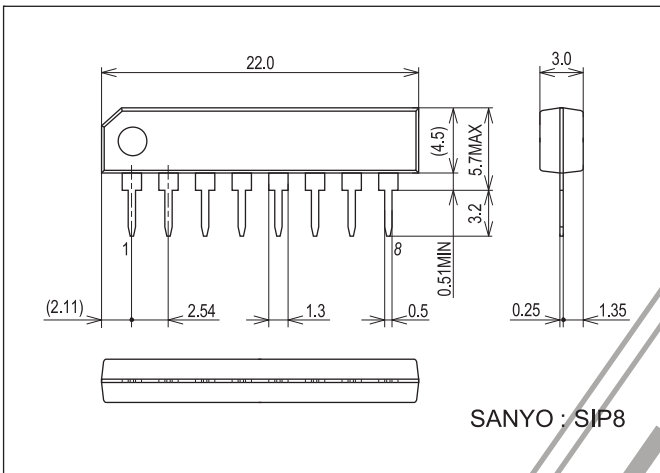
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Pin voltage (pin 4)	V_4			6.9	6.9	V
Pin voltage (pin 7)	V_7	$V_3 = 2.2V$		7.6		V
Pin voltage (pin 7)	V_7	$V_3 = 3.0V$		7.6		V
Pin voltage (pin 2)	V_2	$V_3 = 3.0V$		7.6		V
Pin voltage (pin 2)	V_2	$V_3 = 2.2V$		7.6		V

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.

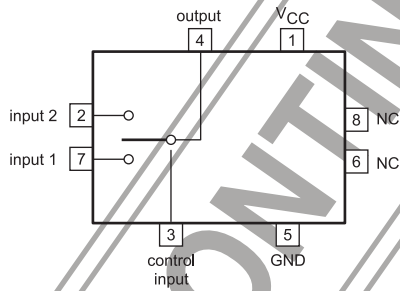
Package Dimensions

unit : mm (typ)

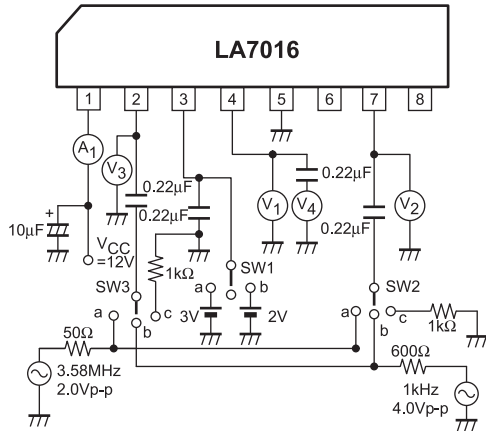
3016C



Equivalent Circuit



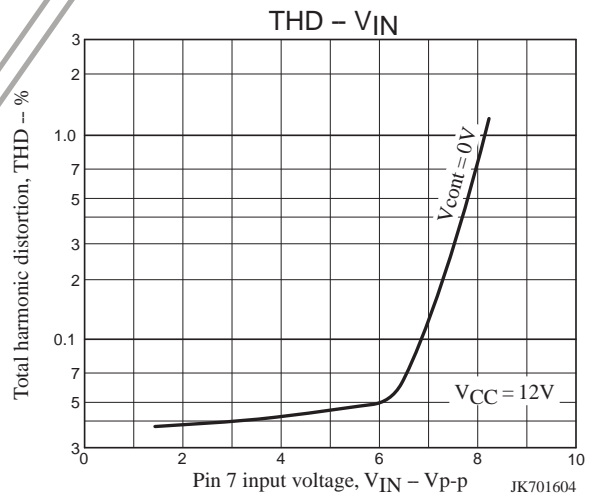
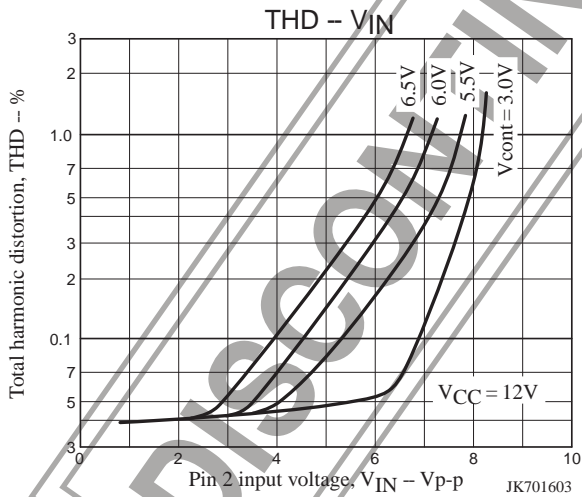
Test Circuit

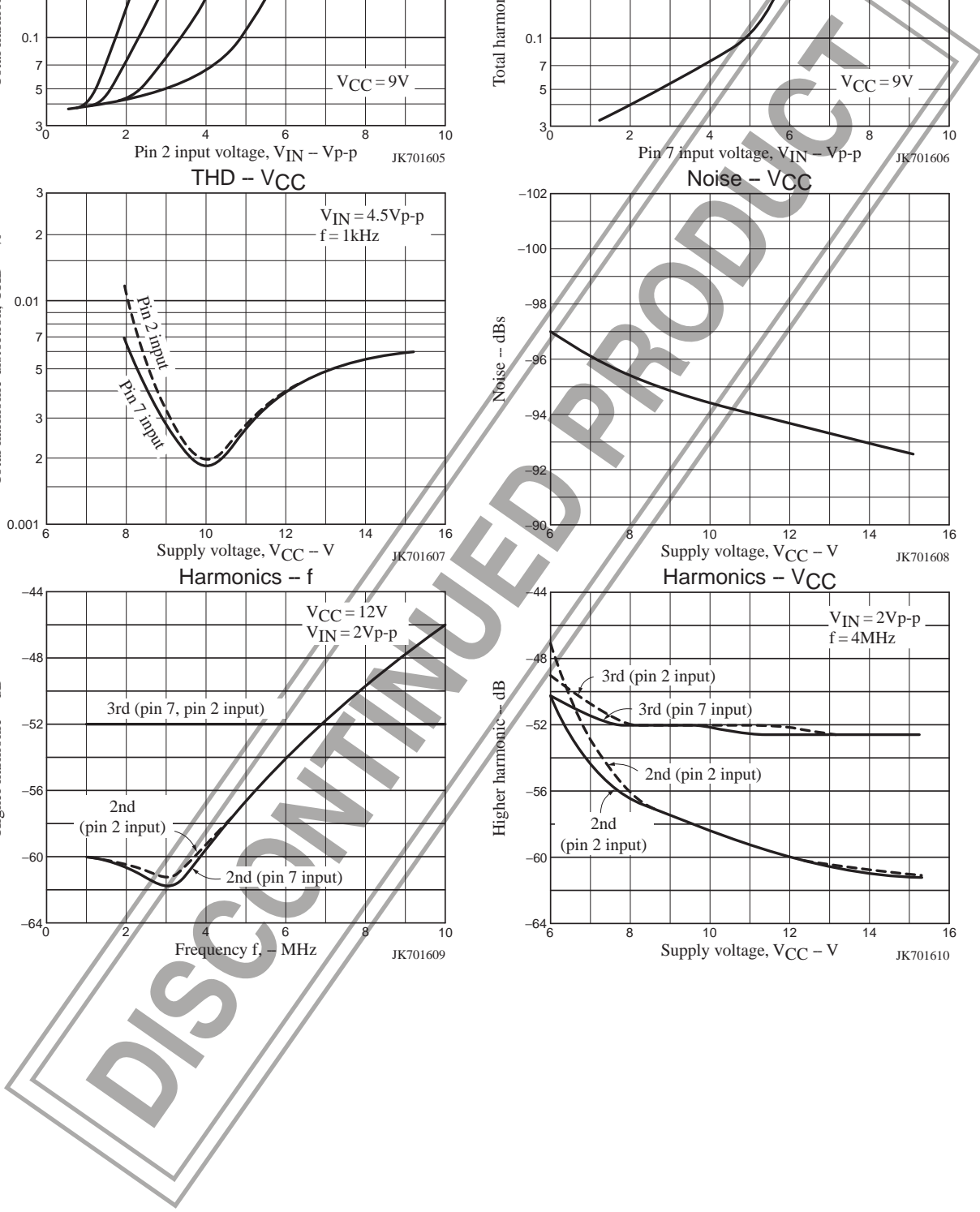
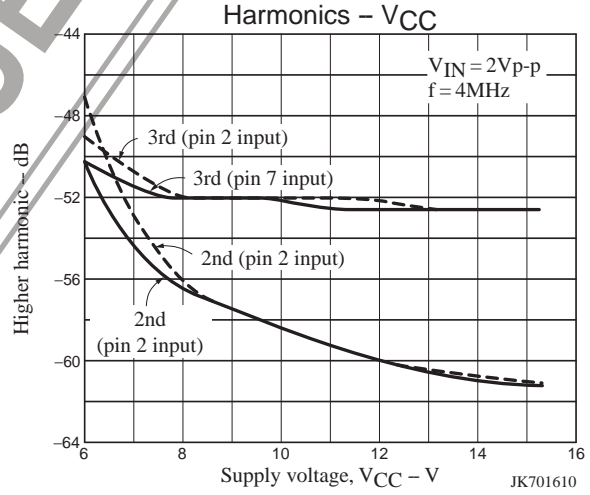
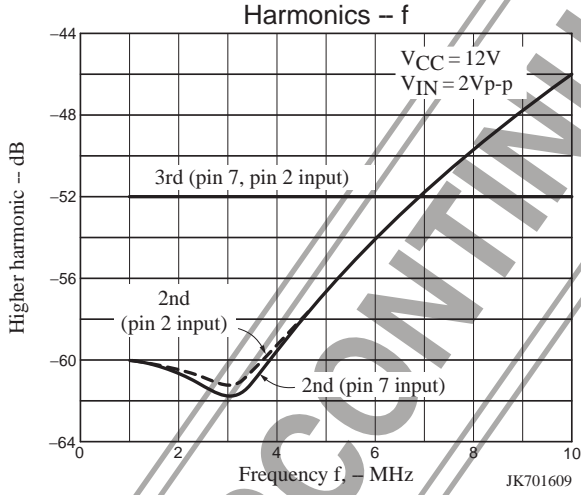
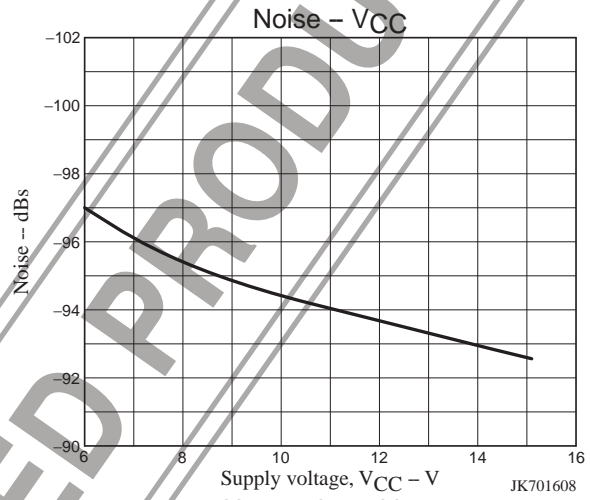
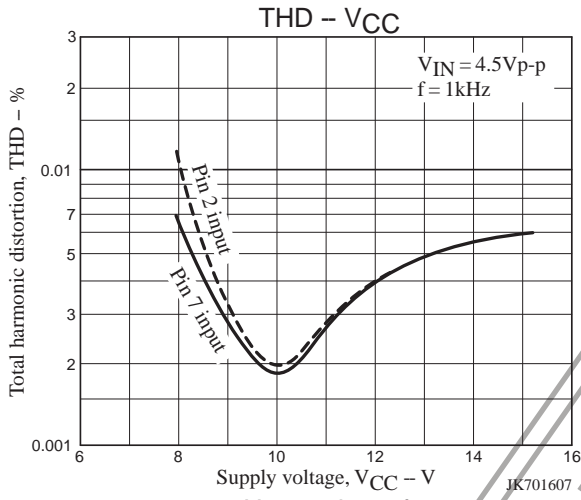
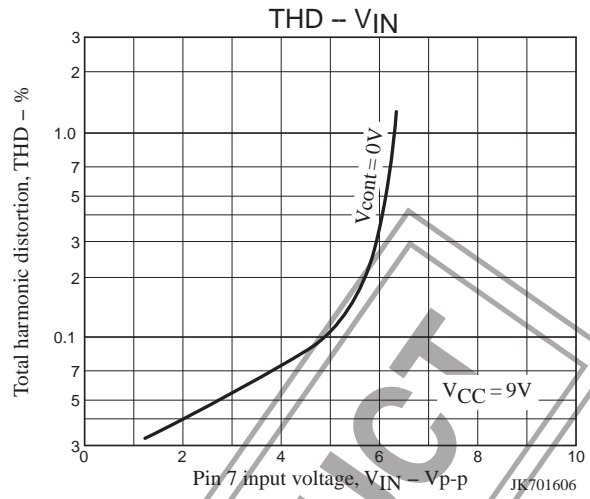
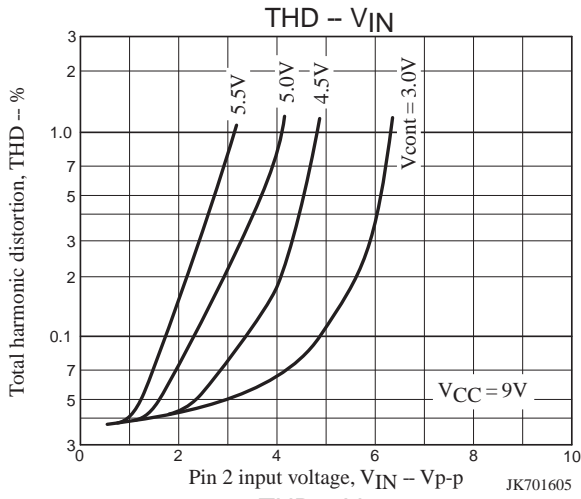


Test Conditions

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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