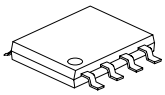
A7623 *LINEAR INTEGRATED CIRCUIT*

2×75Ω DRIVER IC WITH 3 INTERNAL CIRCUITS



SOP-8

*Pb-free plating product number: A7623L

■ DESCRIPTION

The UTC **A7623** is a 75Ω driver-IC. It is a follower for video signals. It can be directly coupled to the previous stage because there is no internal bias at the input pin. When output is short to earth the IC enters power-save mode.

■ FEATURES

* Triple channels.
* Can be directly coupled to the previous circuit.
* Each output can drive two loads (75Ω×2).
* Output short circuit protection.

■ ORDERING INFORMATION

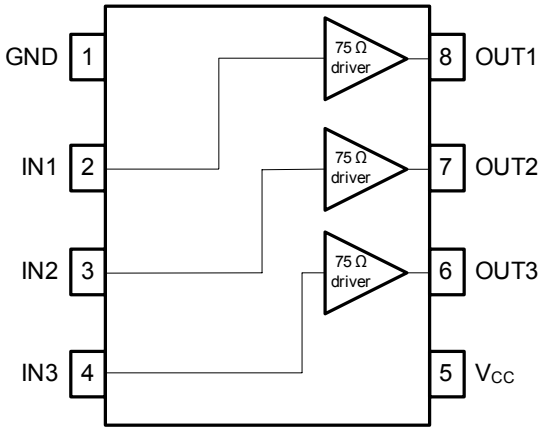
Order Number		Package	Packing
Normal	Lead Free Plating		
A7623-S08-R	A7623L-S08-R	SOP-8	Tape Reel
A7623-S08-T	A7623L-S08-T	SOP-8	Tube

A7623L-S08-R (1) Packing Type (2) Package Type (3) Lead Plating	(1) R: Tape Reel, T: Tube (2) S08: SOP-8 (3) L: Lead Free Plating, Blank: Pb/Sn

■ PIN DESCRIPTIONS

PIN NO.	PIN NAME	DESCRIPTION
1	GND	Ground connection
2	IN1	Direct-coupling input Input composite/component video (RGB) signals. The operating input signal level is 0.5V to 3.8V.
3	IN2	
4	IN3	
5	V_{CC}	Power supply
6	OUT3	Direct-coupling output When short to ground a protection circuit operates, and the IC enters power-save mode.
7	OUT2	
8	OUT1	

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V_{CC}	8.0	V
Power Dissipation	P_D	550	mW
Derating Rate at Ta=25°C		5.5	°C/mW
Operating Temperature	T_{OPR}	-25 ~ +75	°C
Storage Temperature	T_{STG}	-55 ~ +125	°C

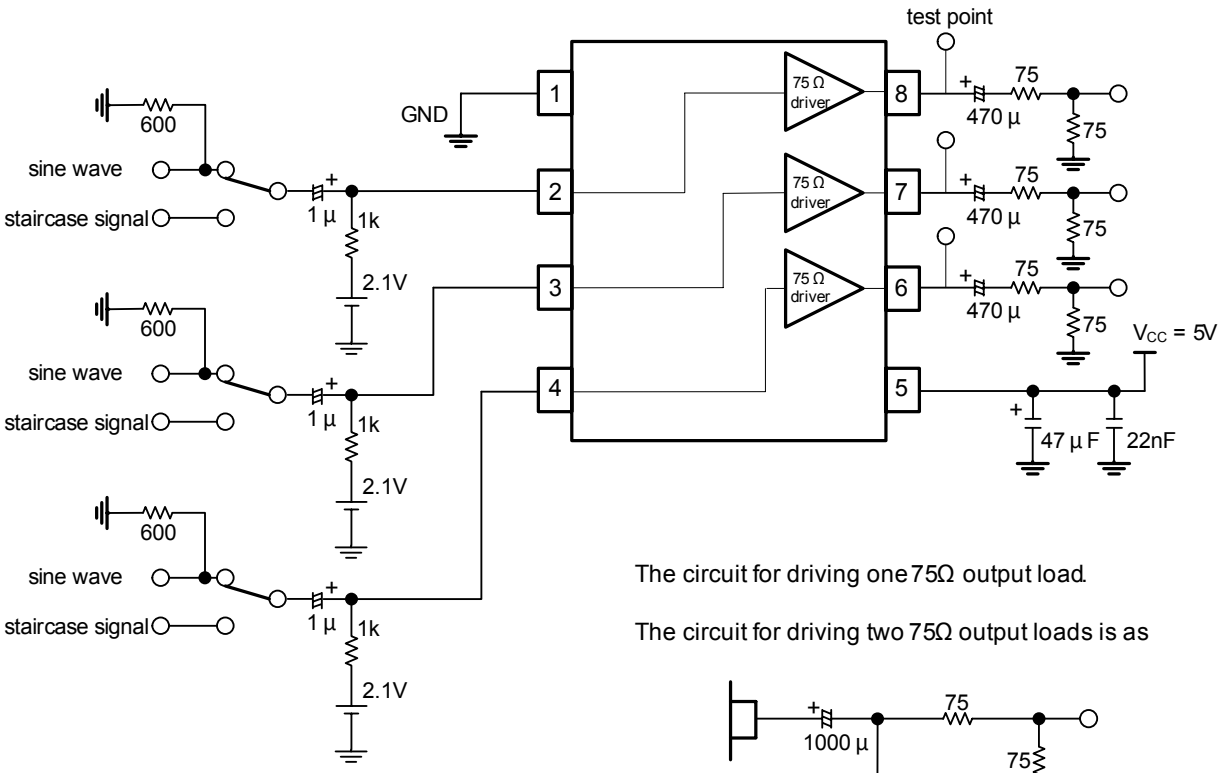
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS

(Ta = 25°C , V_{CC} = 5V, $V_{IN\ DC}$=2.1V and load is two system drive)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{CC}		4.5	5.0	5.5	V
Supply Current	I_{CC}	No signal		25.2	37.8	mA
Voltage Gain	G_V	f = 1MHz, sine wave ,V_{IN} = 2.0V_{P-P}	-1.0	-0.5	0	dB
Maximum Output Level	$V_{O(MAX)}$	f = 1kHz, sine wave, THD = 1.0%	2.9	3.4		V_{P-P}
Frequency Characteristic	C_F	10MHz / 1MHz, sine wave ,V_{IN} = 1.0V_{P-P}	-3	0	1	dB
Inter Channel Crosstalk	C_T	f = 4.43MHz, sine wave ,V_{IN} = 2.0V_{P-P}		-60		dB
Total Harmonic Distortion	THD	f = 1kHz, sine wave, V_{IN} = 1.0V_{P-P}		0.1	0.5	%
Differential Gain 75Ω Drive 1	DG1	V_{IN} = 2.0VP-P, standard staircase signal		0.4	1.0	%
Differential Phase 75Ω Drive 1	DP1			0.4	1.0	deg
Differential Gain 75Ω Drive 2	DG2			0.7	2.0	%
Differential Phase 75Ω Drive 2	DP2			0.7	2.0	Deg

■ TEST CIRCUIT



The circuit for driving one 75Ω output load.

The circuit for driving two 75Ω output loads is as

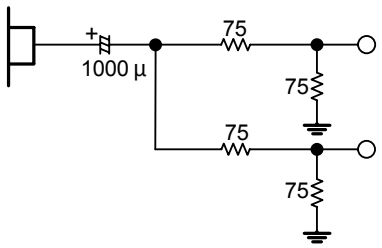


Fig.1

■ APPLICATION CIRCUIT

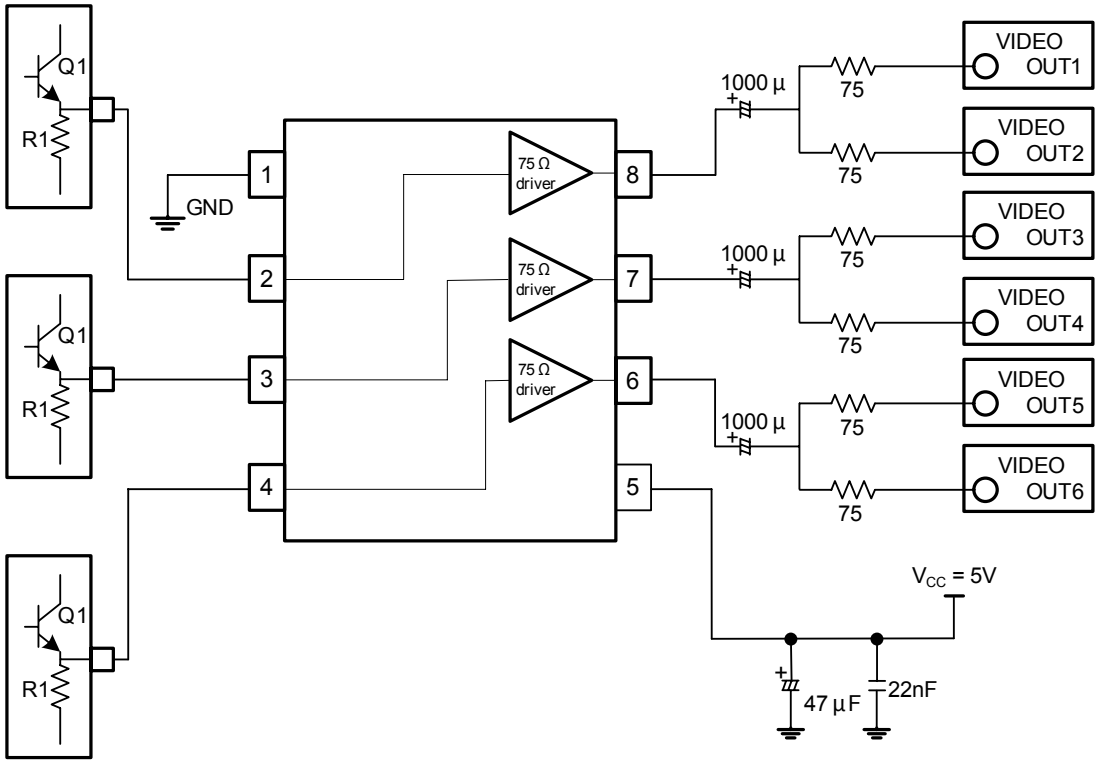


Fig.2

■ TYPICAL CHARACTERISTIC

Fig. 3 Frequency Characteristic

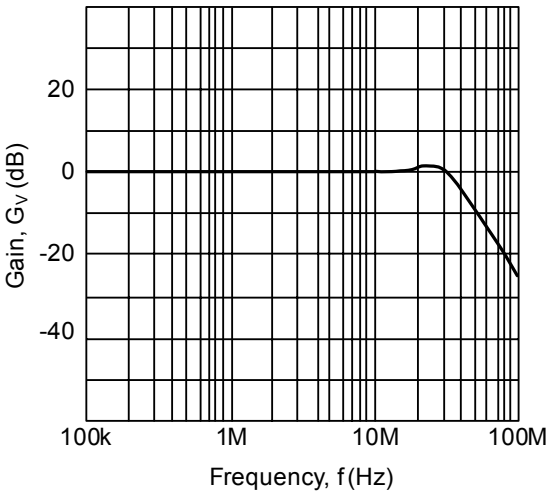
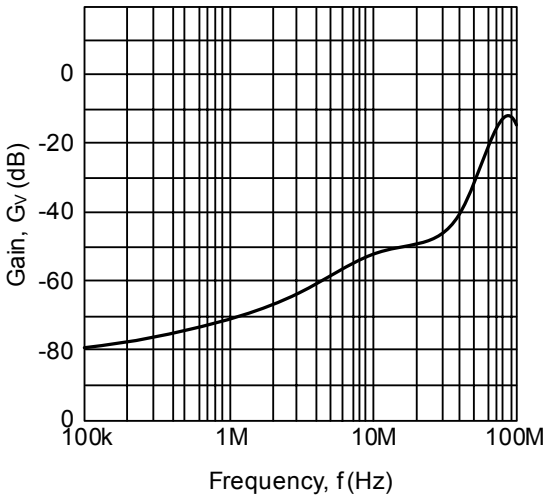


Fig. 4 Crosstalk



■ OPERATION NOTES

(1) The input signals are signals such as composite video signals, or component video (RGB) signals.
(2) When using direct coupling, keep the input signals in the range: 0.5V to 3.8V.