



M3366

LINEAR INTEGRATED CIRCUIT

3-INPUT VIDEO SWITCH WITH 75Ω DRIVER

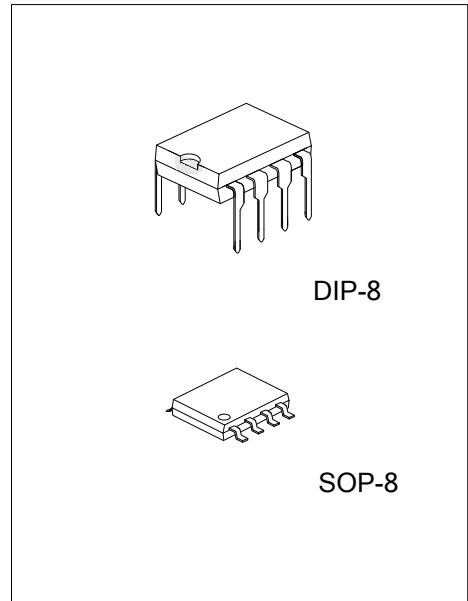
DESCRIPTION

The UTC **M3366** is a three input integrated video switch selects one video or audio signal from three input signals.

It contains driver circuit for 75Ω load and is able to connect to TV monitor.

Its operating supply voltage range is 5 ~ 12V and bandwidth is 10MHz. Crosstalk is 70dB (at 4.43MHz).

The UTC **M3366** contains clamp function and it can be operated while setting DC level fixed in position of the video signal.



FEATURES

- * Operating Voltage 4.75 ~ 13V
- * 3 Input- 1 Output
- * Internal Driver Circuit for 75Ω Impedance
- * Muting Function available
- * Internal Clamp Function
- * Low power Dissipation 16.5mA
- * Cross-talk 70dB (at 4.43MHz)
- * Wide Frequency Range 10MHz (2Vp-p Input)

ORDERING INFORMATION

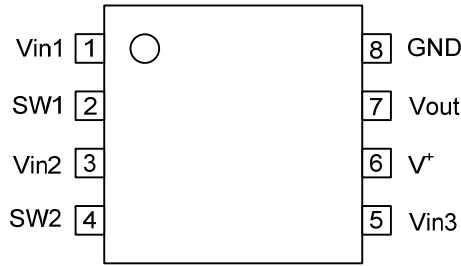
Ordering Number		Package	Packing
Lead Free	Halogen Free		
M3366L-D08-T	M3366G-D08-T	DIP-8	Tube
-	M3366G-S08-R	SOP-8	Tape Reel

<p>M3366L-D08-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) D08: DIP-8, S08: SOP-8 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
--	---

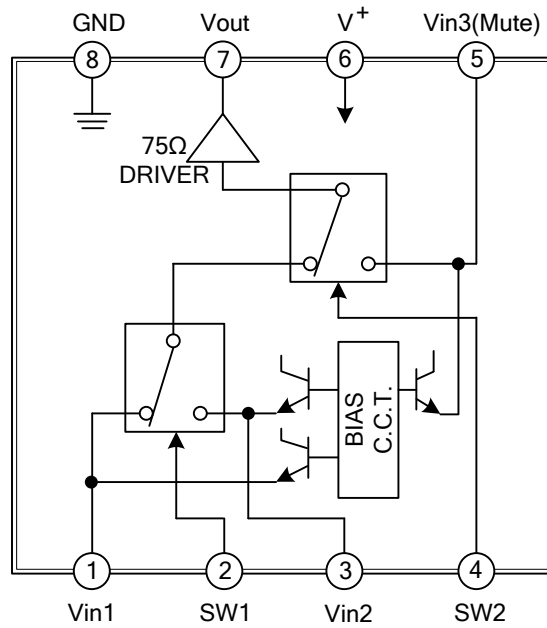
MARKING

DIP-8	SOP-8
<p>UTC □□□□ → Date Code M3366□ → L: Lead Free □ → G: Halogen Free □□□ → Lot Code</p>	<p>UTC □□□□ → Date Code M3366G□ → Lot Code</p>

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ PIN DESCRIPTION

PIN NO.	PIN NAME	INSIDE EQUIVALENT CIRCUIT	PIN NO.	PIN NAME	INSIDE EQUIVALENT CIRCUIT
1	V _{IN1}		5	V _{IN3} (Mute)	
2	SW1		6	V ⁺	-
3	V _{IN2}		7	V _{OUT}	
4	SW2		8	GND	-

■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW1	SW2	OUTPUT SIGNAL
L	L	V _{IN 1}
H	L	V _{IN 2}
L/H	H	V _{IN 3}

Note: Input clamp voltage is about 2/5 of supply voltage

■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	15	V
Power Dissipation	DIP-8	500	mW
	SOP-8	300	mW
Operating Temperature	T_{OPR}	-20 ~ +75	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +125	$^\circ\text{C}$

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** ($V^+=5\text{V}$, $T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Recommended Supply Voltage	V^+		4.75		13.0	V
Operating Current	I_{CC}	S1=S2=S3=S4=S5=2	11.5	16.5	22.0	mA
Voltage Gain	G_V	$V_{IN}=2.0\text{Vp-p}$, 100kHz, V_O/V_I , $R_L=150\Omega$	-0.8	-0.3	+0.2	dB
Frequency Characteristic	G_f	$V_{IN}=2.0\text{Vp-p}$, $V_O(10\text{MHz})/V_O(100\text{kHz})$, $R_L=150\Omega$	-1.0		+1.0	dB
Differential Gain	D_G	$V_{IN}=2.0\text{Vp-p}$, staircase, $R_L=150\Omega$		0.3		%
Differential Phase	D_P	$V_{IN}=2.0\text{Vp-p}$, staircase, $R_L=150\Omega$		0.3		deg.
Output Offset Voltage	V_{OFF}	S1=S2=S3=2, S5=1→2 V_O : Voltage Change		0	±30	mV
Crosstalk	C_T	$V_{IN}=2.0\text{Vp-p}$, 4.43MHz, V_O/V_I		-70		dB
Switch Change Voltage	V_{CH}	All inside SW: ON	2.4			V
	V_{CL}	All inside SW: OFF			0.8	V

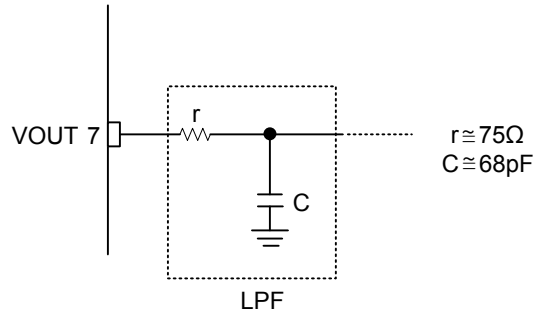
Note: Unless specified, tested with three mode below.

(a) S1=1, S2=S3=S4=S5=2 (b) S2=S4=1, S1=S3=S5=2 (c) S1=S2=2, S3=S5=1, S4=1 or 2

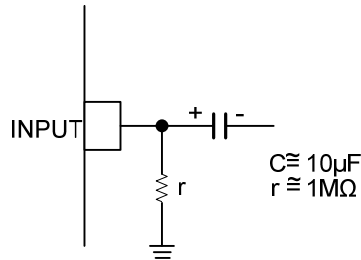
■ APPLICATION

Oscillation Prevention on light loading conditions recommended under circuit

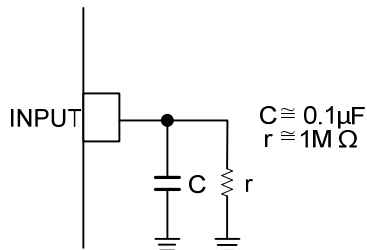
This IC requires 1MΩ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



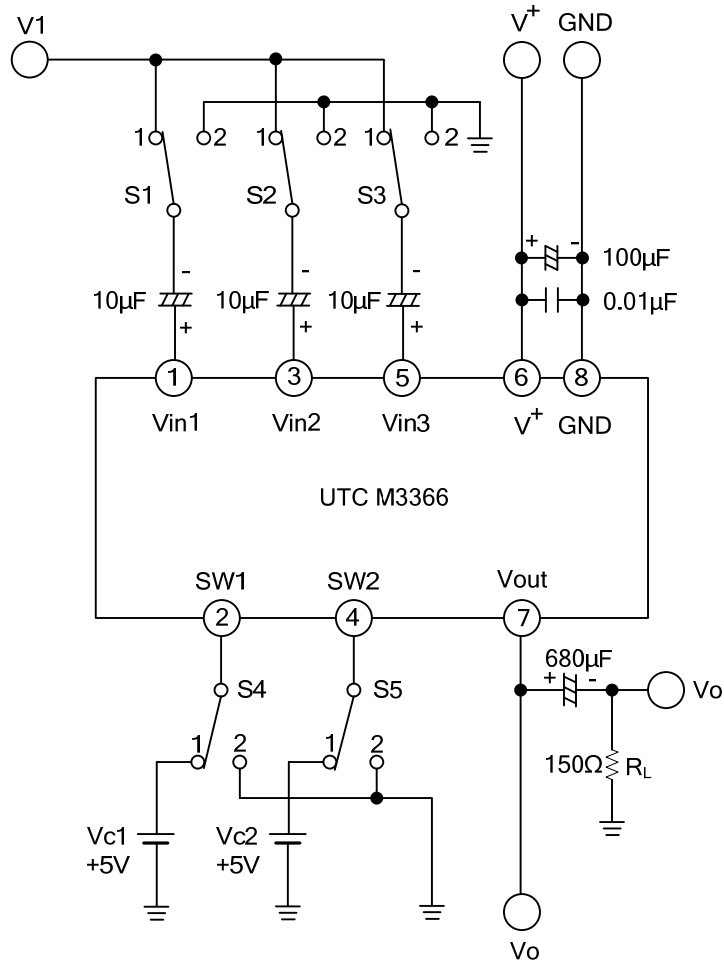
This IC requires 1MΩ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



This IC requires 0.1μF capacitor between INPUT and GND ,1MΩ resistance between INPUT and GND for clamp type input at mute mode.



TEST CIRCUIT



DC VOLTAGE EACH TERMINAL (Typ. on Test Circuit $T_A=25^\circ\text{C}$)

Terminal Name	VIN1	SW1	VIN2	SW2	VIN3	V ⁺	VOUT	GND
DC Voltage	$\frac{2}{5}V^+$		$\frac{2}{5}V^+$		$\frac{2}{5}V^+$		$\frac{2}{5}V^+ - 0.7$	

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.