ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE7160
Integrated Circuit
Video Switch

Features:
- Standard Connection for VCR and Peri TV Sets
- Input Clamping
- Positive and Negative Video Outputs

Absolute Maximum Ratings:
Supply Voltage, V_S 16.5V
Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –40° to +125°C
Thermal Resistance, System–to–Ambient, R_{thSA} 70K/W

Recommended Operating Conditions:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_S		10.0	–	15.8	V
Video Bandwidth	B_{video}		–	6	–	MHz
Ambient Temperature Range	T_A		0	–	70	°C

Electrical Characteristics: (V_S = 13V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Current Consumption	I_7	Pin2 Open	–	23	–	mA
Switch Input VCR, Recording	$V_{3/1}$		0	–	1.2	Vdc
Switch Input VCR, Playback	$V_{3/1}$		3	–	V_7	Vdc
Switch Input	I_3	$V_{3/1}$ = 15V	–	–	1	mA
Video Output Voltage, Positive	V_{O5}pp	V_3 = 1.2V, V_8pp = 3V	–	3	–	V
		$V_3 \geq$ 3V, V_4pp = 1V	–	3	–	V
Sync Pulse Level	$V_{5/1}$		–	2	–	V
Output Current (To GND)	I_{O5}		–	–5	–	mA
Output Current (To +)	I_{O5}		–	2	–	mA
Output Resistance	R_{O5}		–	150	–	Ω
Video Output Voltage, Negative	V_{O6}pp	V_3 = 1.2V, V_8pp = 3V	–	3	–	V
		$V_3 \geq$ 3V, V_4pp = 1V	–	3	–	V
Sync Pulse Level	$V_{6/1}$		–	V_7–2	–	V

Electrical Characteristics (Cont'd): (V_S = 13V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Current (To GND)	I_{O6}		–	–5	–	mA
Output Current (To +)	I_{O6}		–	1	–	mA
Output Resistance	R_{O6}		–	150	–	Ω
Video Output Voltage, Positive	V_{O2}pp	V_8pp = 3V, $R_{2/1}$ = 75Ω	–	1	–	V
Sync Pulse Level	$V_{2/1}$	$R_{2/1}$ = 75Ω	–	1	–	V
Output Current (To GND)	I_{O2}		–	–30	–	mA
Output Current (To +)	I_{O2}		–	2	–	mA
Output Resistance	R_{O2}		–	75	–	Ω
Video Input Current	I_{I8}	V_8pp = 3V	–	–	40	µA
	I_{I4}	V_4pp = 1V	–	–	20	µA
Video Gain	$G_{2/8}$	V_8pp = 3V, $R_{2/1}$ = 75Ω	–	1/3	–	
	$G_{5/8}$	V_8pp = 3V, V_3 = 1.2V	–	1	–	
	$G_{6/8}$	V_8pp = 3V, V_3 = 1.2V	–	–1	–	
	$G_{5/4}$	V_4pp = 1V, $V_3 \geq$ 3V	–	3	–	
	$G_{6/4}$	V_4pp = 1V, $V_3 \geq$ 3V	–	–3	–	
Video Bandwidth	B_{video}	–3dB	6	–	–	MHz
Crosstalk Rejection	α	Referred to V_5pp = 3V, f = 50Hz to 6MHz, V_3 = 1.2V, V_4pp = 1V	–	50	–	dB

Pin Connection Diagram