

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: ($V_S = 13V$, $T_A = +25^\circ C$ 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_{O5pp}	$V_3 = 1.2V$, $V_{8pp} = 3V$	–	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_{O6pp}	$V_3 = 1.2V$, $V_{8pp} = 3V$	–	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): ($V_S = 13V$, $T_A = +25^\circ C$ 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_{O2pp}	$V_{8pp} = 3V$, $R_{2/1} = 75\Omega$	—	1	—	V
Sync Pulse Level	$V_{2/1}$	$R_{2/1} = 75\Omega$	—	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	$G_{2/8}$	$V_{8pp} = 3V$, $R_{2/1} = 75\Omega$	—	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

