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## NTE15015 Integrated Circuit TV Video Processor

**Description:**

The NTE15015 is a small-sized multifunctional IC containing the “video, chroma, deflection” circuit of NTSC color TV in a shrink type 30-Lead DIP package. Besides being small-sized, it has such features as greatly reduced number of parts and fewer adjustments required. The device contains no peak clip circuit and is well suited for use in large-sized sets.

**Features:**

- Small-Sized Package
- Minimum Number of Parts Required
- Fewer Adjustments Required
- Chroma  $V_{CO}$  (APC)
- Horizontal OSC (H-Hold)
- Vertical OSC (V-Hold)
- Multifunction

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Maximum Supply Voltage, $V_{16(\text{max})}$ .....	14V
Maximum Supply Current, $I_{22(\text{max})}$ .....	15.0mA
Allowable Power Dissipation ( $T_A \leq +65^\circ\text{C}$ ), $P_{D(\text{max})}$ .....	1100mW
Operating Temperature Range, $T_{\text{opg}}$ .....	$-20^\circ$ to $+85^\circ\text{C}$
Storage Temperature Range, $T_{\text{stg}}$ .....	$-55^\circ$ to $+125^\circ\text{C}$

**Recommended Operating Conditions:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Recommended Supply Voltage, $V_{16}$ .....	12V
Recommended Supply Current, $I_{22}$ .....	10mA
Operating Voltage Range .....	9 to 14V
Operating Current Range .....	0.5 to 15.0mA

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{16} = 12\text{V}$ ,  $I_{22} = 10\text{mA}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Chroma</b>						
ACC Amplitude Characteristics	ACC1		-3	0	+3	dB
	ACC2		-7	0	+2	dB
ACC Phase Characteristics	ACC $\emptyset$ 1		-	0	$\pm 3$	deg
	ACC $\emptyset$ 2		-	0	$\pm 7$	deg
Maximum B-Y Demodulation Output	B-Y max		5.0	-	-	$V_{P-P}$
Unicolor Amplitude Characteristics	$\Delta\text{GU}$		-	17	-	dB
Tint Change Range	$\Delta\text{T}$		-	110	-	deg
APC Pull-In Range	$f_{\text{APC}}$		$\pm 300$	-	-	
Color Difference Output DC Voltage	$E_{\text{RGB}}$		6.7	7.2	7.7	V
Color Difference DC Difference Voltage	$E_{\Delta\text{RGB}}$		-	-	$\pm 300$	mV
R-Y Relative Demodulation Angle	$\angle\text{R-Y/B-Y}$		-	104	-	deg
G-Y Relative Demodulation Angle	$\angle\text{G-Y/B-Y}$		-	-122	-	deg
R-Y Demodulation Ratio	R-Y/B-Y		-	0.9	-	
G-Y Demodulation Ratio	G-Y/B-Y		-	0.3	-	
<b>Video</b>						
Video Tone Control Characteristics	$G_{p\text{min}}$		-5	-3	-1	dB
	$G_{p\text{max}}$		12	15	18	dB
Video Voltage Gain	VG		12	15	18	dB
Contrast Variable Range	$\Delta\text{GC}$		-	18	-	B
Frequency Response	$\Delta\text{GV}$	$f = 5\text{MHz}$	-5	-	-	dB
<b>Synchronization, Deflection</b>						
Sync Separation Input DC Level	$V_{\text{S.S}}$		-	9.3	-	V
Vertical Free-Running Frequency	$f_V$		-	$f_H/296.5$	-	Hz
Vertical Blanking Pulse Width	$T_{\text{BL}}$		-	19H	-	
Vertical Drive Stage Voltage Gain	VG		-	16	-	dB
Horizontal Free-Running Frequency	$f_H$		-	15.734	-	kHz
Horizontal Drive Output Pulse Width	$T_H$		-	24.5	-	$\mu\text{s}$
Horizontal Sync Pull-In Range	$f_{\text{PULL}}$		$\pm 400$	-	-	Hz

### Pin Connection Diagram

2 <sup>nd</sup> BPA	<b>1</b>	<b>30</b>	1 <sup>st</sup> BPA
Sharp Video	<b>2</b>	<b>29</b>	ACC
Soft Video	<b>3</b>	<b>28</b>	GND
Contrast	<b>4</b>	<b>27</b>	Sync Separator
Contrast Control	<b>5</b>	<b>26</b>	Burst Gate Pulse
Pedestal Clamp	<b>6</b>	<b>25</b>	Vert Sync Separator
Brightness Control	<b>7</b>	<b>24</b>	Ramp Generator
Y Output	<b>8</b>	<b>23</b>	Vert Driver
R - Y	<b>9</b>	<b>22</b>	(+) B <sub>H</sub> (110V)
G - Y	<b>10</b>	<b>21</b>	AFC
B - Y	<b>11</b>	<b>20</b>	(+) B <sub>H</sub>
Color Killer	<b>12</b>	<b>19</b>	Horiz OSC
Tint Control	<b>13</b>	<b>18</b>	X-Ray Protect
VCO	<b>14</b>	<b>17</b>	Horiz Pre-Driver Output
APC	<b>15</b>	<b>16</b>	(+) B <sub>H</sub> (12V)

