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NTE1296

Integrated Circuit

TV Chroma Processor/Demodulator

Features:

- No AGC or Killer Adjustment Necessary
- Transformerless VCO

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

Supply Voltage, V_{CC} 15V
Power Dissipation ($T_A = +65^\circ\text{C}$), P_D 600mW
Operating Temperature Range, T_{opg} -15° to $+65^\circ\text{C}$
Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 12\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC}		23.7	29.0	37.2	mA
Max. Chroma Output	E_C	Burst:Chroma = 1:1, Burst = 90mV_{p-p}	0.57	0.67	0.77	V_{p-p}
ACC Range	E_A	Burst:Chroma = 1:1, Burst = 10mV_{p-p}	0.38	0.55	0.74	V_{p-p}
Killer Threshold	E_K	Burst $90\text{mV}_{p-p} = 0\text{dB}$	–	–35	–	dB
Phase Detector Sensitivity	μ	Gate Pulse Width = $5\mu\text{s}$	–	8	–	mV/deg
VCO Control Sensitivity	β		–	4	–	Hz/mV
APC Pull-In Range	f_P		± 300	–	–	Hz
Free-Running Frequency	f_o	Gate Off	–100	0	100	Hz
VCO Output	V_4		0.6	0.9	1.2	V_{p-p}
Max. Burst Output Voltage	$E_{b(max)}$	B–Y Output, $f_{(beat)} = 10\text{kHz}$	4.5	6.2	–	V_{p-p}
Demod Conversion Gain	G_{r-y}	R–Y Output	6.2	7.8	9.4	
Demod Conversion Ratio	E_{b-y}/E_{r-y}	B–Y Output, R–Y Output	1.19	1.33	1.47	
	E_{g-y}/E_{r-y}	(R–Y) – (B–Y) = 100deg . G–Y/R–Y Output	0.32	0.37	0.42	
Demod Carrier Leakage	e_{car1}	No Signal Input measured with 3.58MHz BPF	–	–	0.2	V_{p-p}
	e_{car2}	$1.2V_{p-p}$ CW input measured with BPF	–	–	3.5	V_{p-p}
Color Killer Leakage	e_{K1}	Burst:Chroma = 1:1	–	–	1	mV _{rms}
Color Control Leakage	e_{c1}	Rainbow Color Bar	–	–	1	mV _{rms}
Demod. DC Output Voltage	$E_{o(dc)}$	No signal input, VCO free-running	6.4	7.0	7.6	V
Differential Demod Output Voltage	$\Delta E_{o(dc)}$	No signal input, VCO free-running (B–Y) – (R–Y), (R–Y) – (G–Y), (G–Y) – (B–Y)	–0.2	0	0.2	V

Pin Connection Diagram

