

## NTE15038 Integrated Circuit Chroma Signal Processor for VHS VCR

### **Features:**

- Adjustment-Free 3.58MHz VXO Free-Running OSC Frequency, 160f<sub>H</sub> VCO Free-Running OSC Frequency, Carrier Leak, PB Chroma Level, except REC Chroma Level.
- Multifunctional:
  - 2f<sub>SC</sub> Generator for CCD Drive
  - PB Chroma (629K) Level Compensation Amp
  - Function to Select APC Loop Input Signal Passed/Not Passed Through Comb Filter
  - BGP Output
  - 3<sup>rd</sup> Lock Protector of 3.58MHz OSC
- LPF Usable for REC/PB
- Capable of Being Operated from 5V Supply
- Current Dissipation: 48mA at REC mode  
50mA at PB mode
- Few External Components Required

### **Absolute Maximum Ratings:** (T<sub>A</sub> = +25°C unless otherwise specified)

Maximum Supply Voltage, V<sub>CCmax</sub> ..... 7V  
 Allowable Power Dissipation (T<sub>A</sub> ≤ +65°C), P<sub>Dmax</sub> ..... 400mW  
 Operating Temperature Range, T<sub>opg</sub> ..... -10° to +65°C  
 Storage Temperature Range, T<sub>stg</sub> ..... -40° to +125°C

### **Recommended Operating Conditions:** (T<sub>A</sub> = +25°C unless otherwise specified)

Recommended Supply Voltage, V<sub>CC</sub> ..... 5.2V  
 Operating Voltage Range, V<sub>CCop</sub> ..... 4.8 to 5.5V

### **Electrical Characteristics:** (T<sub>A</sub> = +25°C, V<sub>CC</sub> = 5V unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
REC Current Dissipation	I <sub>CC(R)</sub>		38	48	58	mA
REC Output Level	V <sub>O(R)</sub>		210	300	390	mV <sub>P-P</sub>
REC ACC Characteristics	ΔV <sub>O(R)</sub>	Input ± 6dB	-0.5	0	+0.5	dB
ACC Killer Input Level	V <sub>ACK</sub>		-28	-25	-22	dB
VXO Control Sensitivity	S <sub>VXO</sub>		2.5	3.7	5.5	H <sub>Z</sub> /mV
VXO OSC Level	V <sub>VXO(R)</sub>		0.65	0.85	1.00	V <sub>P-P</sub>

**Electrical Characteristics (Cont'd):** ( $T_A = +25^{\circ}\text{C}$ ,  $V_{CC} = 5\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Subconverter Output Level	$V_{SUB}$		200	250	300	mV <sub>P-P</sub>
BGP Delay Time	$t_D$		–	3.2	–	$\mu\text{s}$
BGP Width	$t_W$		–	4.8	–	$\mu\text{s}$
REC APC Pull-in Range	$\Delta f_{APC}$		$\pm 350$	–	–	Hz
REC AFC Pull-in Range	$\Delta f_{AFC}$		$\pm 1.5$	–	–	kHz
160f <sub>H</sub> VCO Control Sensitivity	$S_{VCO}$		0.42	0.60	0.78	kHz/mV
PB Current Dissipation	$I_{CC(P)}$		40	50	60	mA
PB Output Level	$V_{O(P)}$		575	660	760	mV <sub>P-P</sub>
PB ACC Characteristic	$\Delta V_{O(P)}$	Input $\pm 6\text{dB}$	–0.5	–	+0.5	dB
PB Main Converter Carrier Leak	$CL_{(P)}$	4.21MHz component	–	–40	–33	dB
PB XO Output Level	$V_{XO(P)}$		520	650	800	mV <sub>P-P</sub>
PB XO Free-Running Frequency	$f_{XO(f)}$	Difference from 3579545Hz	–7	0	+7	Hz
2f <sub>SC</sub> Output Amplitude	$V_{2fsc}$		420	600	780	mV <sub>P-P</sub>
Burst Emphasis Amount	$G_{BE}$		5.5	6.0	6.5	dB
Burst De-emphasis	$G_{BD}$		–5.5	–5.25	–5.0	dB
Comb Amp Gain	$G_{COMB}$		11	13	15	dB

**Pin Connection Diagram**

