

MC1377

MAXIMUM OPERATING CONDITIONS

Rating	Symbol	Value	Unit
Supply Voltage	V _{CC}	15	V _{dc}
Storage Temperature	T _{stg}	-65 to +150	°C
Power Dissipation Package Derate above 25°C	P _D	1.25 10	W mW/°C
Operating Temperature	T _A	0 to +70	°C

RECOMMENDED OPERATING CONDITIONS

Characteristics	Min	Typ	Max	Unit
Supply Voltage	10	12	14	V _{dc}
I _B Current (Pin 16)	0	—	-10	mA
Sync. Blanking Level (DC level between pulses, see Figure 9e)	1.7	—	8.2	V _{dc}
Sync Tip Level (see Figure 9e)	-0.5	0	0.9	μs
Sync Pulse Width (see Figure 9e)	2.5	—	5.2	μs
R, G, B Input (Amplitude)	—	1.0	—	V _{pp}
R, G, B Peak Levels for DC Coupled Inputs, with Respect to Ground	2.2	—	4.4	V
Chrominance Bandwidth (Non-comb Filtered Applications), (6 dB)	0.5	1.5	2.0	MHz
Ext. Subcarrier Input (to Pin 17) if On-Chip Oscillator is not used.	0.5	0.7	1.0	V _{pp}

ELECTRICAL CHARACTERISTICS (V_{CC} = 12 V_{dc}, T_A = 25°C, circuit of Figure 7, unless otherwise noted.)

Characteristics	Pins	Symbol	Min	Typ	Max	Unit
SUPPLY CURRENT						
Supply Current into V _{CC} , No Load, on Pin 9. Circuit Figure 7	14	I _{CC}	—	33	—	mA
			—	34	—	
			20	35	40	
			—	36	—	
			—	37	—	

VOLTAGE REGULATOR

V _B Voltage (I _B = -10 mA, V _{CC} = 12 V, Figure 7)	16	V _B	7.7	8.2	8.7	V _{dc}
Load Regulation (0 < I _B ≤ 10 mA, V _{CC} = 12 V)		R _{load}	-20	120	+30	mV
Line Regulation (I _B = 0 mA, 10 V < V _{CC} < 14 V)		R _{line}	—	4.5	—	mV/V

OSCILLATOR AND MODULATION

Oscillator Amplitude with 3.58 MHz/4.43 MHz crystal	17	Osc	—	0.6	—	V _{pp}
Subcarrier Input: Resistance at 3.58 MHz	17	R _{osc}	—	5.0	—	kΩ
4.43 MHz			—	4.0	—	
Capacitance		C _{osc}	—	2.0	—	pF
Modulation Angle (R-Y) to (B-Y)	—	∅ _m	—	±5	—	Deg
Angle Adjustment (R-Y)	19	Δ∅ _m	—	0.25	—	Deg/μA
DC Bias Voltage	19	V ₁₉	—	6.4	—	V _{dc}

CHROMINANCE AND LUMINANCE

Chroma Input DC Level	10	V _{in}	—	4.0	—	V _{dc}
Chroma Input Level for 100% Saturation			—	0.7	—	V _{pp}
Chroma Input: Resistance		R _{in}	—	10	—	kΩ
Capacitance		C _{in}	—	2.0	—	pF
Chroma DC Output Level	13	V _{out}	8.9	10	10.9	V _{dc}
Chroma Output Level at 100% Saturation			—	1.0	—	V _{pp}
Chroma Output Resistance		R _{out}	—	50	—	Ω
Luminance Bandwidth (-3.0 dB), Less Delay Line	9	BW _{Luma}	—	8.0	—	MHz