

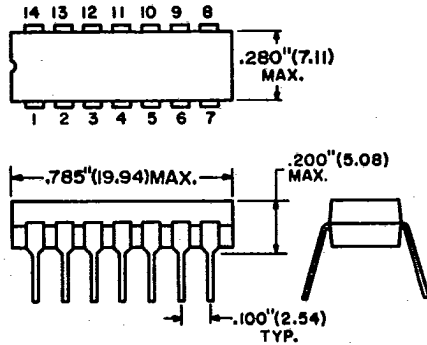
T-77-07-09

# ECG<sup>®</sup> Semiconductors

## ECG1178 Chroma Demodulator

**Features**

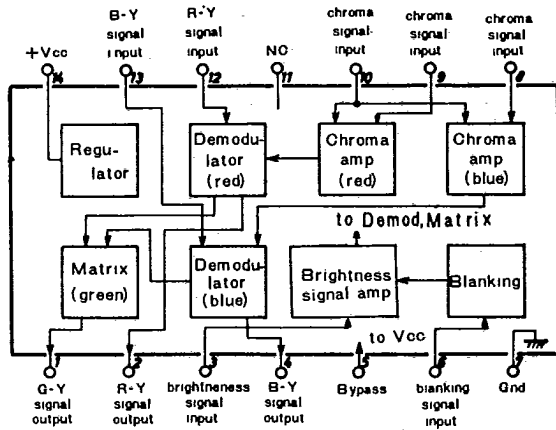
- Double balance synchro demodulator
- Small thermal coefficient and dc unbalance voltage of mutual 3 color signals
- Capable of primary color driving with brightness signal adder
- Good balancing of mutual outputs
- Capable of dc driving



**Absolute Maximum Ratings (T<sub>A</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Supply Voltage	V <sub>cc</sub>	28	V
Reference Input Signal	e <sub>R</sub>	5	V <sub>p-p</sub>
Chroma Input Signal	e <sub>c</sub>	5	V <sub>p-p</sub>
Allowable Power Dissipation	PD	700	mW
Operating Temperature	T <sub>opg</sub>	-20 to +75	°C
Storage Temperature	T <sub>stg</sub>	-40 to +125	°C

**Block Diagram**

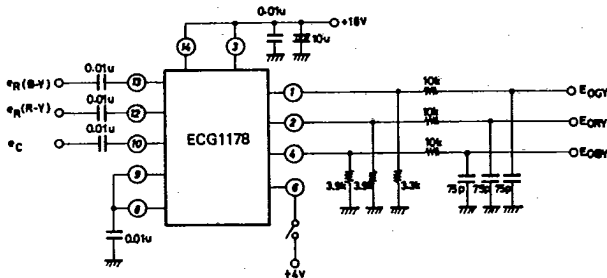


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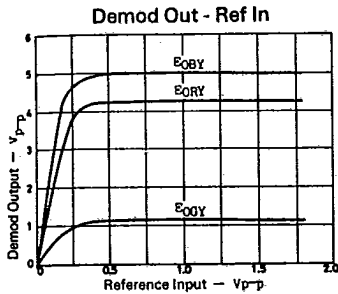
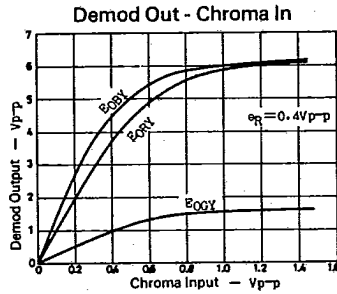
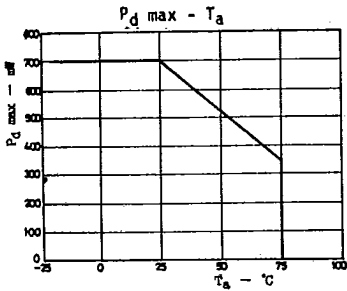
Electrical Characteristics ( $T_A = 25^\circ\text{C}$ ,  $V_{CC} = 18\text{ V}$ ,  $e_R = 0.4\text{ V}_{p-p}$ ,  $e_C = 0$  unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Pin Voltage	$V_o$		10.5	11.5	12.5	V
Thermal Coefficient of $V_o$	$V_o/TA$		--	1.5	5.0	mV/°C
Offset Voltage	$\Delta V_o$		0	--	0.35	V
Thermal Coefficient of $\Delta V_o$	$\Delta V_o/TA$		0	--	1.0	mV/°C
B-Y Maximum Output Voltage	$E_{OBY\ max}$	$e_C = 2\text{ V}_{p-p}$	5.8	--	--	$V_{p-p}$
B-Y Demod Sensitivity	$E_{ci}$	$E_{OBY} = 5\text{ V}_{p-p}$	--	0.4	0.7	$V_{p-p}$
R-Y Output Voltage	$E_{ORY}$	$E_{OBY} = 5\text{ V}_{p-p}$	3.95	4.30	4.75	$V_{p-p}$
G-Y Output Voltage	$E_{OGY}$	$E_{OBY} = 5\text{ V}_{p-p}$	0.81	1.08	1.35	$V_{p-p}$
Unbalanced Output Voltage	$E_u$		--	0.1	0.3	$V_{p-p}$
Blanking Voltage	$V_{BLK}$		0.8	1.5	3.0	V
	$\phi_{R-B}$		--	106	--	deg
Relative Demod Phase	$\phi_{G-B}$		--	256	--	deg

Test Circuit



Typical Characteristics



ECG1178

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