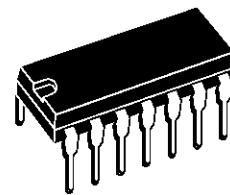


BASE BAND CHROMA DELAY LINE

PRELIMINARY DATA

- DUAL SWITCHED CAPACITOR DELAY LINE
- 3MHz CLOCK DERIVED FROM 6MHz VCO LOCKED BY THE BURST GATE PULSE
- SAMPLE AND HOLD CIRCUITS AND LOW-PASS FILTERS TO SUPPRESS THE 3MHz CLOCK RESIDUAL
- CLAMPED B-Y AND R-Y INPUTS
- OUTPUT BUFFERS
- **ADJUSTMENT-FREE APPLICATION**
- DIP14 PACKAGE



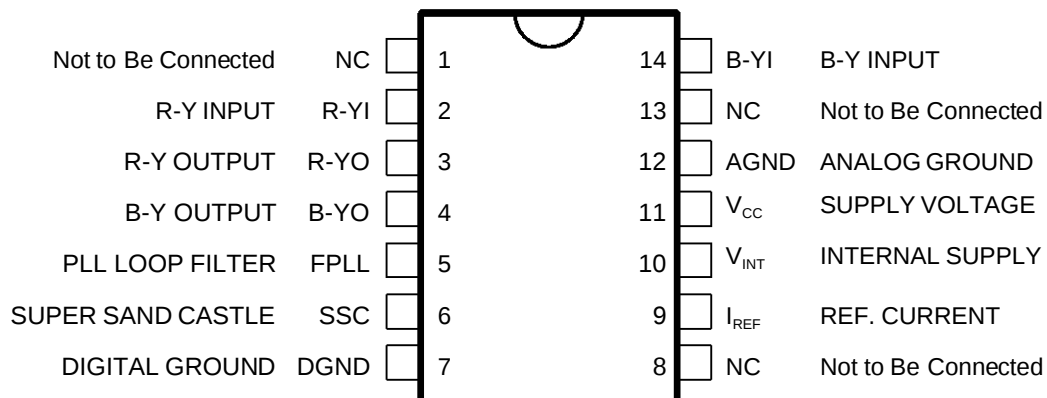
DIP14
(Plastic Package)

ORDER CODE : STV2180A

DESCRIPTION

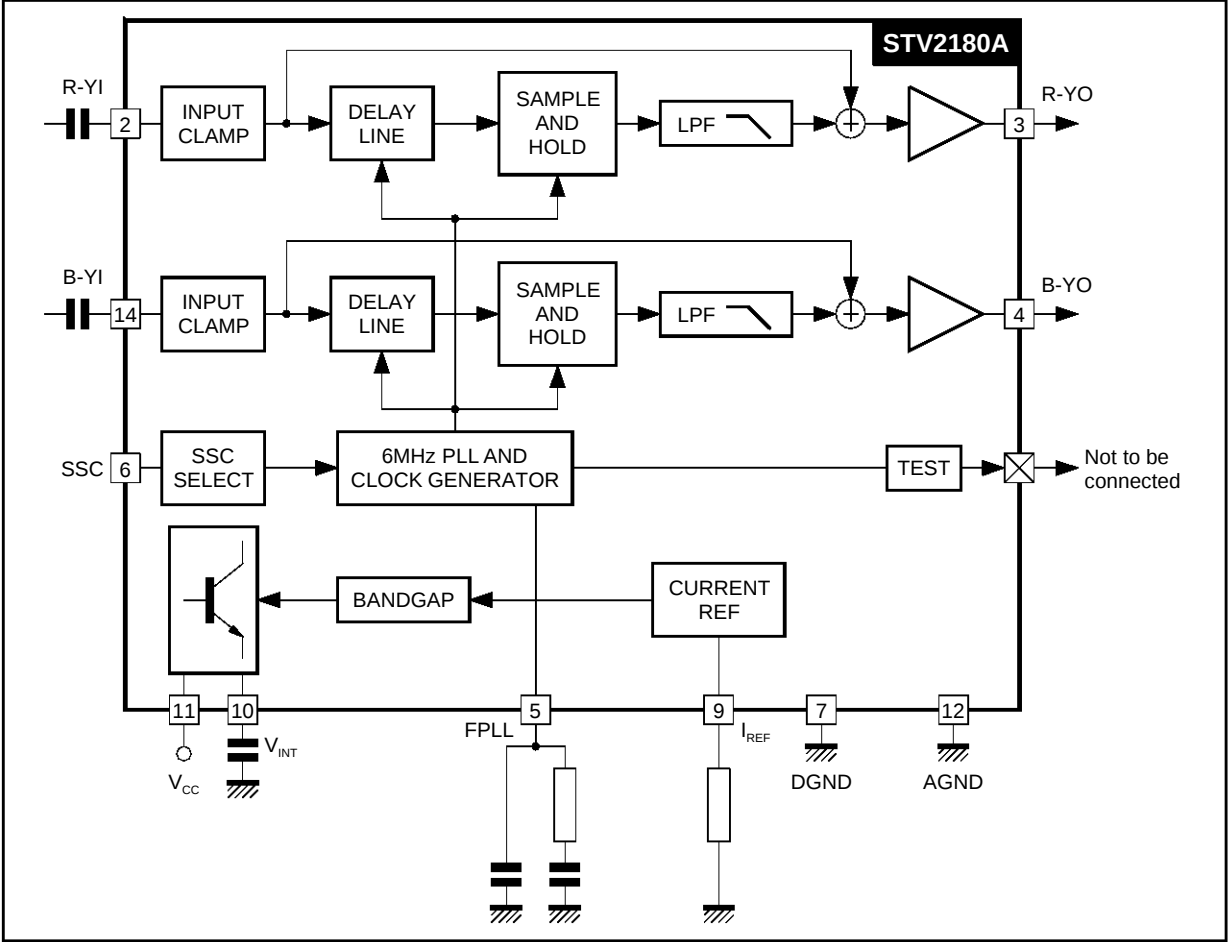
The STV2180A is an integrated base band chroma delay line with one line delay, which has been designed to match chroma decoders with colour difference signal outputs (R-Y) and (B-Y).

PIN CONNECTIONS



2180A-01EPS

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CC}	Supply Voltage (Pin 11)	11	V
T _A	Operating Ambient Temperature	0 to 70	°C
T _{stg}	Storage Temperature	-25 to +150	°C
R _{th(j-a)}	Junction-Ambient Thermal Resistance P _d = 1W	90	°C/W

ELECTRICAL CHARACTERISTICS

$T_{amb} = 25^{\circ}\text{C}$, $V_{CC} = 9\text{V}$, $R_9 = 4.02\text{k}\Omega$, unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
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SUPPLY/ V_{REF} (Pins 11 and 10)

V_{CC}	Supply Voltage		8.5	9	9.5	V
I_{CC}	Supply Current			15	25	mA
P_d	Power Consumption	$V_{CC} = 9\text{V}$		135	240	mW
V_{int}	Internal Voltage			7		V

SAND CASTLE INPUT (Pin 6)

FSSC	Burst Gate Frequency	No input signal	14.5	15.625	16.5	kHz
V_{TH}	Threshold Voltage (Burst Gate)		3.2	3.5	3.8	V
C_{in}	Input Capacitance				12	pF

COLOR DIFFERENCE INPUT SIGNALS (Pins 2 and 14)

R-Y IPN	R-Y Typical Input Signal PAL & NTSC	Peak-to-peak value		525		mV _{PP}
R-Y IS	R-Y Typical Input Signal SECAM	Peak-to-peak value		1.05		V _{PP}
B-Y IPN	B-Y Typical Input Signal PAL & NTSC	Peak-to-peak value		665		mV _{PP}
B-Y IS	B-Y Typical Input Signal SECAM	Peak-to-peak value		1.33		V _{PP}
R_{in}	Input Resistance		10			k Ω
C_{in}	Input Capacitance				12	pF
V_{Clamp}	Clamping Voltage			2.7		V
I_{Clamp}	Clamping Current	$V_{in} = V_{Clamp} \pm 0.2\text{V}$		± 50		μA

COLOR DIFFERENCE OUTPUT SIGNALS (Pins 3 and 4)

B-Y O	B-Y Output Signal	Peak-to-peak value			1.8	V _{PP}
R-Y O	R-Y Output Signal	Peak-to-peak value			1.8	V _{PP}
DG	Differential Gain	SECAM $V_n/V_{n-1} : V_{in} = 1V_{PP}$	-0.4	0	+0.4	dB
GPN	PAL-NTSC Gain	$V_{in} = 0.5V_{PP}$	5.8	6.3	6.8	dB
GS	SECAM Gain	$V_{in} = 1V_{PP}$	-0.5	0	+0.5	dB
V_{Noise}	RMS Noise Voltage	$R_i = 300\Omega$ $BW = 10\text{kHz to } 1\text{MHz}$		2		mV _{RMS}
R_{out}	Output Resistance			200		Ω
Delay	Delayed Signal Delay	Referred to non delayed output	63.93	64	64.07	μs
Non Delay	Non Delayed Signal Delay	Referred to input		100		ns
TR	Output Signal Transient Time	500ns transient input signal		650	1000	ns

PLL FILTER LOOP (Pin 5)

I_{Charg}	Charging Current			100		μA
V_{PLL}	DC Voltage			3.5		V

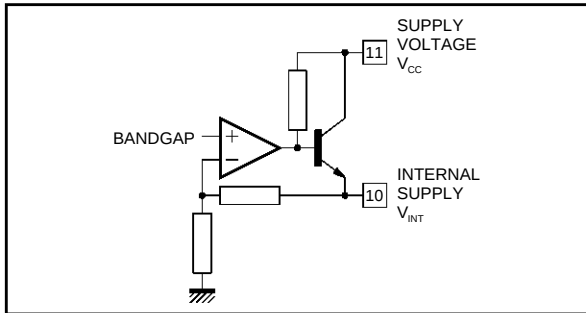
CURRENT REFERENCE (Pin 9)

V_{DC}	DC Voltage	$R_9 = 4.02\text{k}\Omega$ to ground		1.15		V
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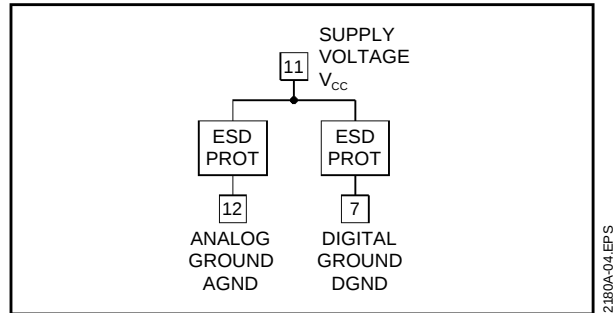
2180A-02.TBL

INPUT/OUTPUT PIN CONFIGURATION

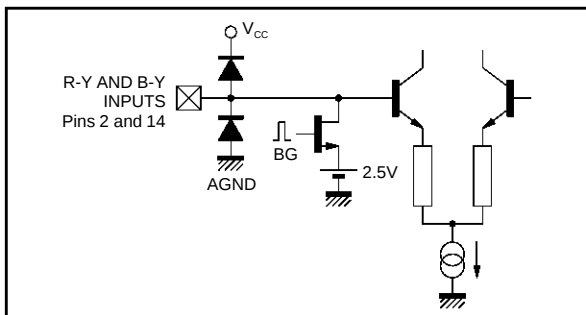
Pins 10, 11 : V_{INT} and V_{CC}



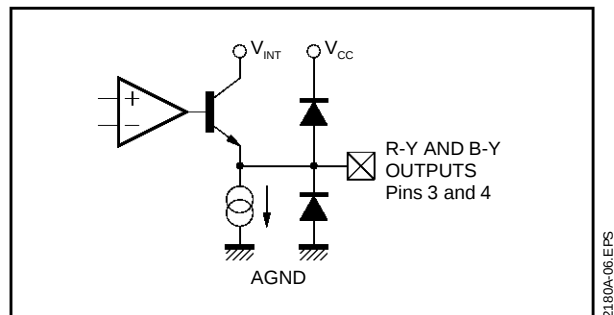
Pins 7, 11, 12 : DGND, V_{CC} , AGND



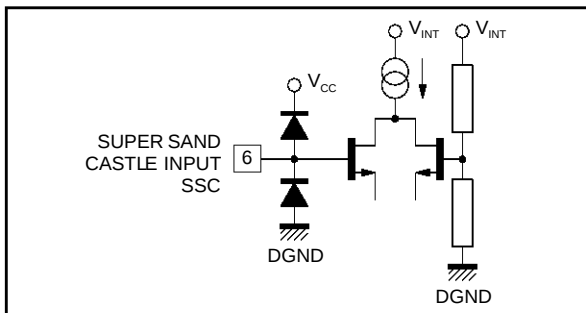
Pins 2, 14 : R-YI, B-YI



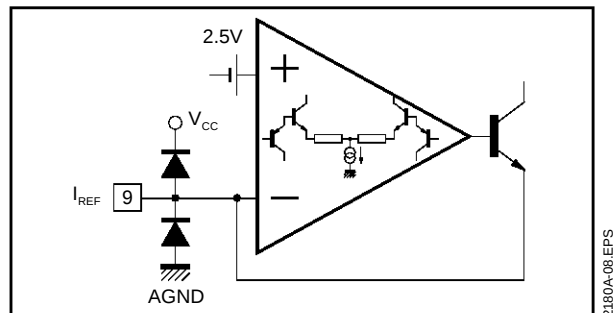
Pins 3, 4 : R-YO, B-YO



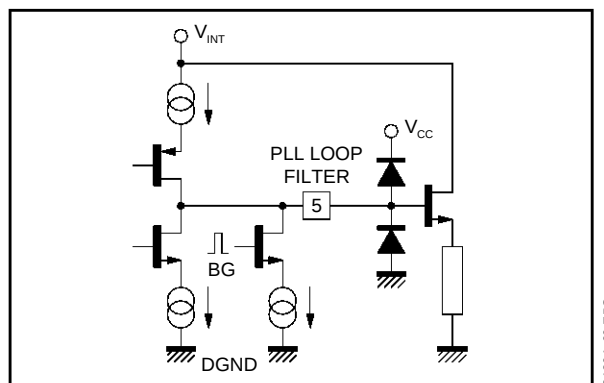
Pin 6 : SSC



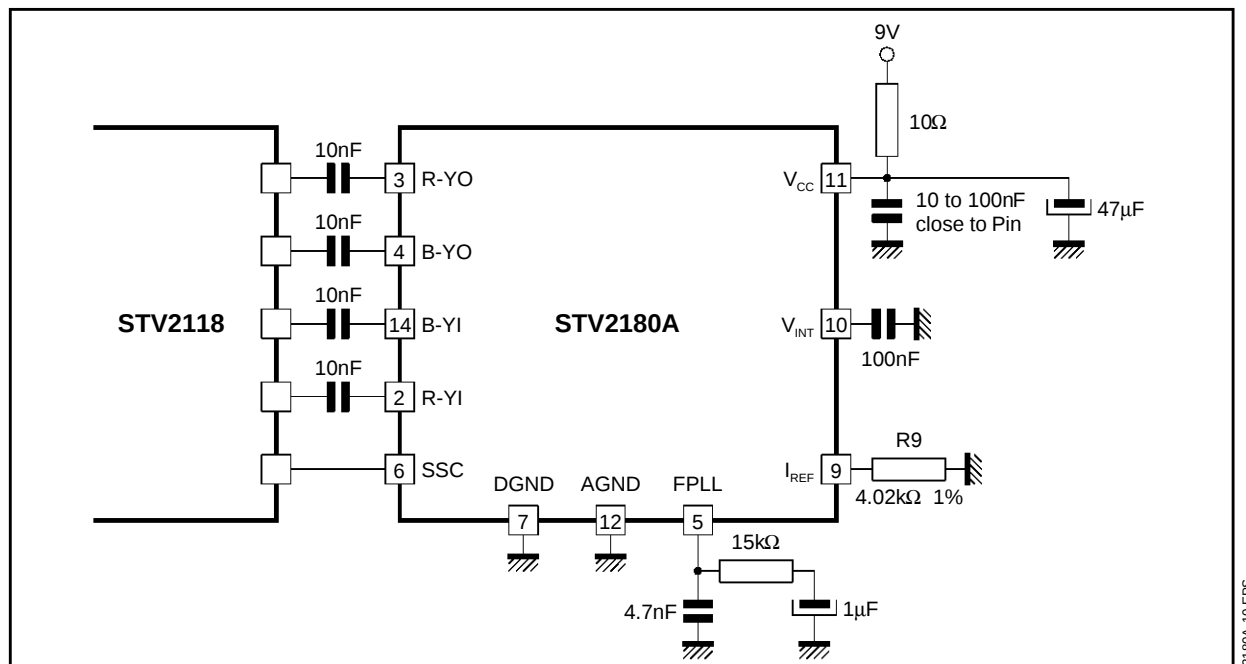
Pin 9 : I_{REF}



Pin 5 : FPLL

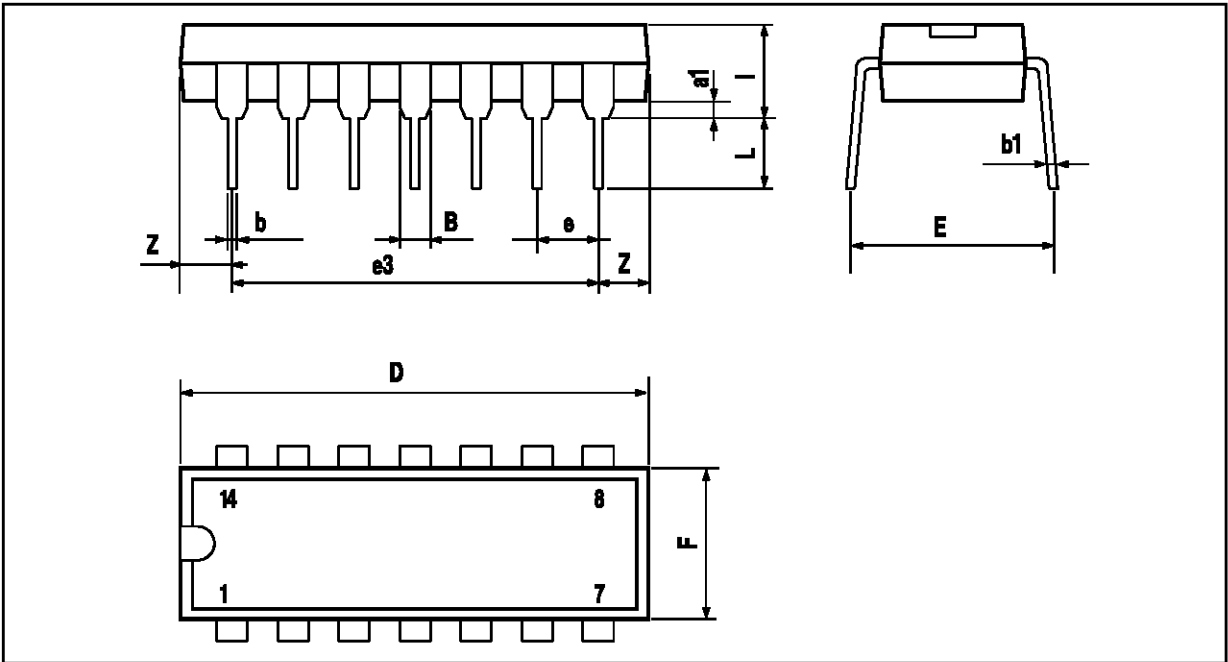


TYPICAL APPLICATION



2180A-10.EPS

PACKAGE MECHANICAL DATA
14 PINS - PLASTIC PACKAGE



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.51			0.020		
B	1.39		1.65	0.055		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		15.24			0.600	
F			7.1			0.280
l			5.1			0.201
L		3.3			0.130	
Z	1.27		2.54	0.050		0.100

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