

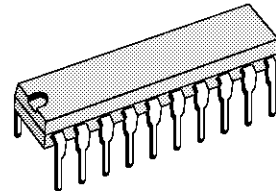
**CONTROL HEAD PLAYBACK  
& RECORD AMPLIFIER AND SIGNALS INTERFACE**

PRELIMINARY DATA

- CONTROL HEAD PLAYBACK AMPLIFIER WITH AUTOMATIC GAIN CONTROL AND SIGNAL CONDITIONNING
- CONTROL HEAD RECORD AMPLIFIER WITH SINK AND SOURCE OUTPUT STAGE
- REWRITE OPERATION TO CHANGE THE DUTY OF THE CONTROL SIGNAL
- 4 COMPARATORS WITH INTERNAL FIXED THRESHOLD
- CAPSTAN TACHO COMPARATOR
- EASY INTERFACE TO STANDARD MICRO-CONTROLLERS

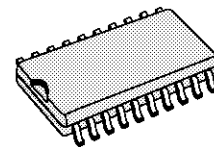
**DESCRIPTION**

The STV5718 is a bipolar circuit for VCR application. It is intended to process the CTL-signal in record and playback mode. An internal AGC provides a wide range of input signal level. 5 internal comparators are intended to convert signals from optical and hall sensors to TTL-levels.



**DIP20**  
(Plastic Package)

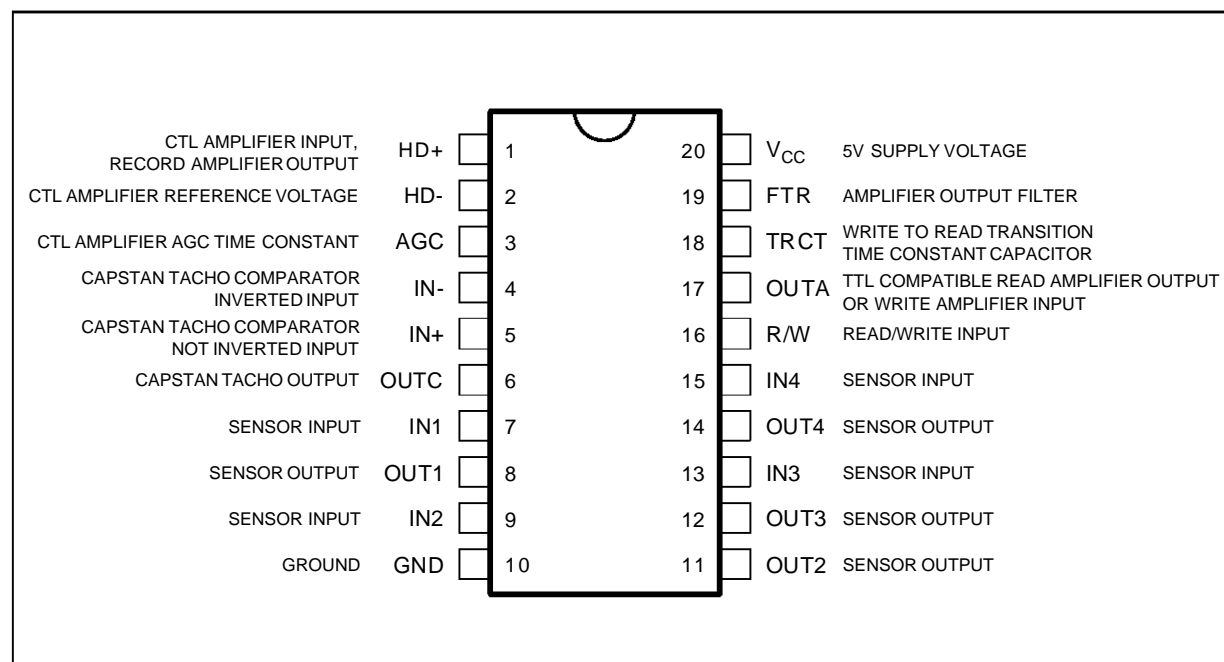
**ORDER CODE : STV5718**



**SO20 LARGE**  
(Plastic Package)

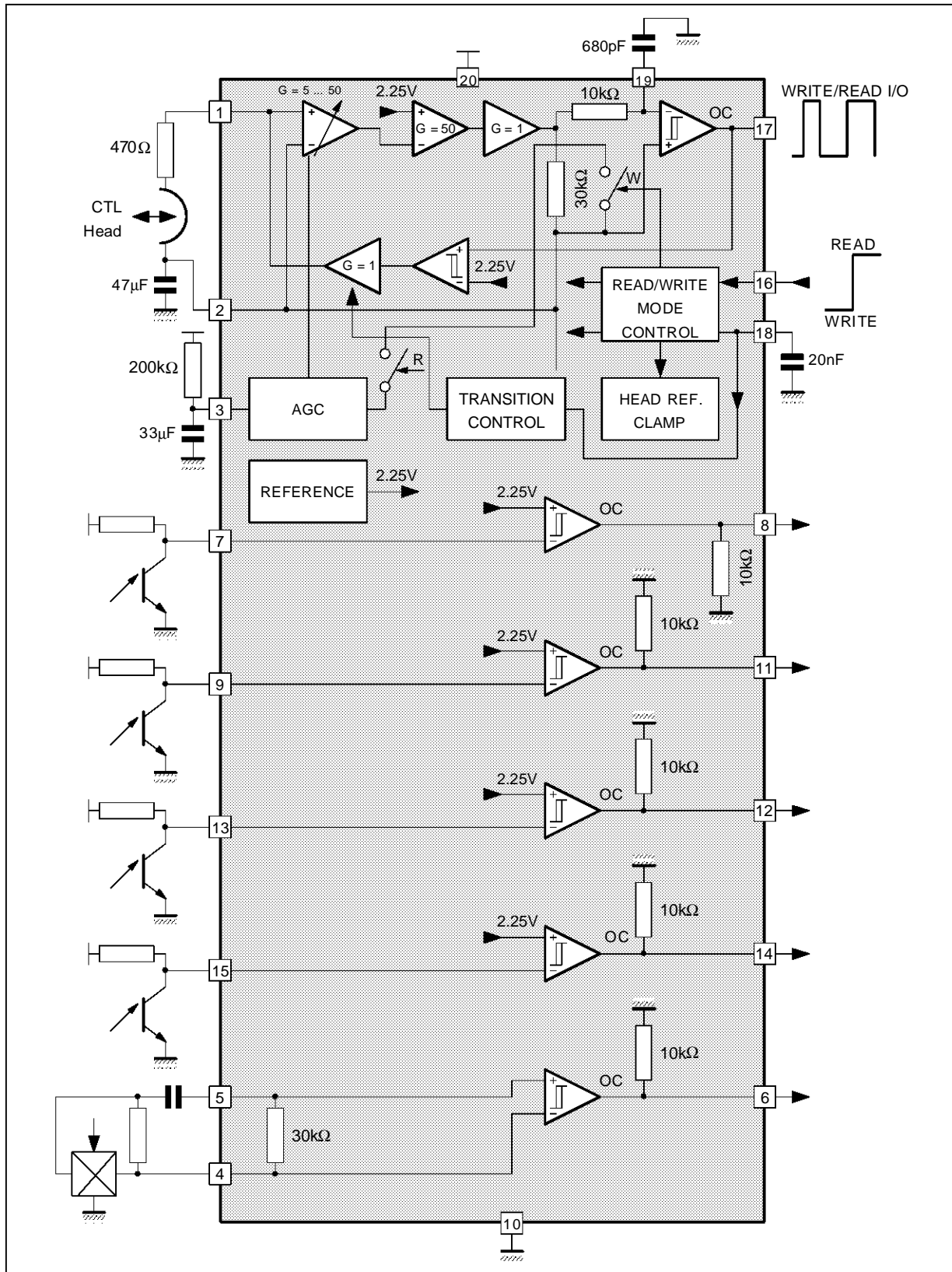
**ORDER CODE : STV5718D**

**PIN CONNECTIONS**



5718-01.EPS

BLOCK DIAGRAM



5718-02.EPS

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	Supply Voltage	10	V
V <sub>I</sub>	DC Input Voltage	-3, V <sub>CC</sub>	V
V <sub>O</sub>	DC Output Voltage	V <sub>CC</sub>	V
I <sub>O</sub>	Open Collector Output Current	5	mA
T <sub>oper</sub>	Operating Temperature	0, +70	°C
T <sub>stg</sub>	Storage Temperature	-55, +150	°C

5718-01.TBL

## THERMAL DATA

Symbol	Parameter	Value	Unit		
R <sub>th (j-a)</sub>	Junction-ambient Thermal Resistance	SO20	Max.	120	°C/W
		DIP20	Max.	70	°C/W

5718-02.TBL

## ELECTRICAL CHARACTERISTICS

V<sub>CC</sub> = 5V ±5%, T<sub>amb</sub> = 25°C, unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>CC</sub>	Operating Supply Voltage (Pin 20)		4.75	5	5.5	V
I <sub>CC</sub>	Supply Current (Pin 20)	- Pins 4-7-9-13-15-19 low		8.4		mA
P <sub>D</sub>	Total Power Dissipation	- Pins 5-16 high		42		mW

## CTL READ AMPLIFIER

V <sub>REF</sub>	CTL Reference Voltage (Pin 2)			2.20		V
R <sub>IN</sub>	Input Resistance (Pin 1)			6.7		kΩ
G <sub>V</sub>	Voltage Gain (Pins 1-19)	AGC not active, Pin 3 > 3.3V, f = 1kHz	66			dB
R <sub>F</sub>	Filter Output Impedance (Pin 19)		7	10	13	kΩ
V <sub>IN</sub>	Peak Input Voltage (Pin 1)		0.5			mV

## CTL PULSE DETECTOR

I <sub>H+</sub>	Positive Threshold (Pins 17-19)			2.75		V
I <sub>H-</sub>	Negative Threshold (Pins 17-19)			1.65		V
V <sub>SAT</sub>	Output Saturation Voltage (Pin 17)	V <sub>17</sub> = Low, I <sub>18</sub> = 1.8mA			0.4	V
I <sub>C</sub>	Output Leakage Current (Pin 17)	V <sub>17</sub> = V <sub>CC</sub>			10	mA
Z <sub>OUT</sub>	Output Impedance (Pin 17)	V <sub>17</sub> = V <sub>CC</sub>	7.5	10	12.5	kΩ

## CTL WRITE AMPLIFIER

V <sub>RWL</sub>	Read/Write Enable Input Low Voltage (Pin 16)		-0.3		1.7	V
V <sub>RWH</sub>	Read/Write Enable Input High Voltage (Pin 16)		2.8		V <sub>CC</sub>	V
V <sub>RWL</sub>	Write Enable Input Low Voltage (Pin 17)	Pin 16 = Low	-0.3		1.7	V
V <sub>RWH</sub>	Write Enable Input High Voltage (Pin 17)	Pin 16 = Low	2.8		V <sub>CC</sub>	V
V <sub>SATL</sub>	Output Saturation Voltage Low State (Pin 1)	Pin 16 = Low, Pin 17 = Low, I <sub>SINK</sub> = 5mA			0.4	V
V <sub>SATH</sub>	Output Saturation Voltage High State (Pin 1)	Pin 16 = Low, Pin 17 = High, I <sub>SOURCE</sub> = 5mA, I <sub>SOURCE</sub> = 2mA			1.2 1.1	V V

## MODE COMMUTATION

I <sub>TR+</sub>	Discharging Current (Pin 18)	Read to Write Mode		5		mA
I <sub>TR-</sub>	Charging Current (Pin 18)	Write to Read Mode		50		μA

## SENSOR INTERFACE

I <sub>IN</sub>	Bias Current (Pins 7-9-13-15)	V <sub>IN</sub> = 1V			1	μA
I <sub>TH</sub>	Positive Threshold (Pins 7-9-13-15)			2.4		V
I <sub>THYS</sub>	Negative Threshold (Pins 7-9-13-15)			2.0		V

5718-03.TBL

# STV5718

## ELECTRICAL CHARACTERISTICS

$V_{CC} = 5V \pm 5\%$ ,  $T_{amb} = 25^{\circ}C$ , unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
SENSOR INTERFACE (continued)						
$V_{SAT}$	Saturation Voltage (Pins 8-11-12-14)	$I_{SINK} = 1.8mA$			0.4	V
$I_L$	Leakage Current (Pins 8-11-12-14)	$V_{OUT} = V_{CC}$			10	$\mu A$
$R_o$	Output Impedance (Pins 8-11-12-14)	$V_{OUT} = V_{CC}$	7.5	10	12.5	$k\Omega$

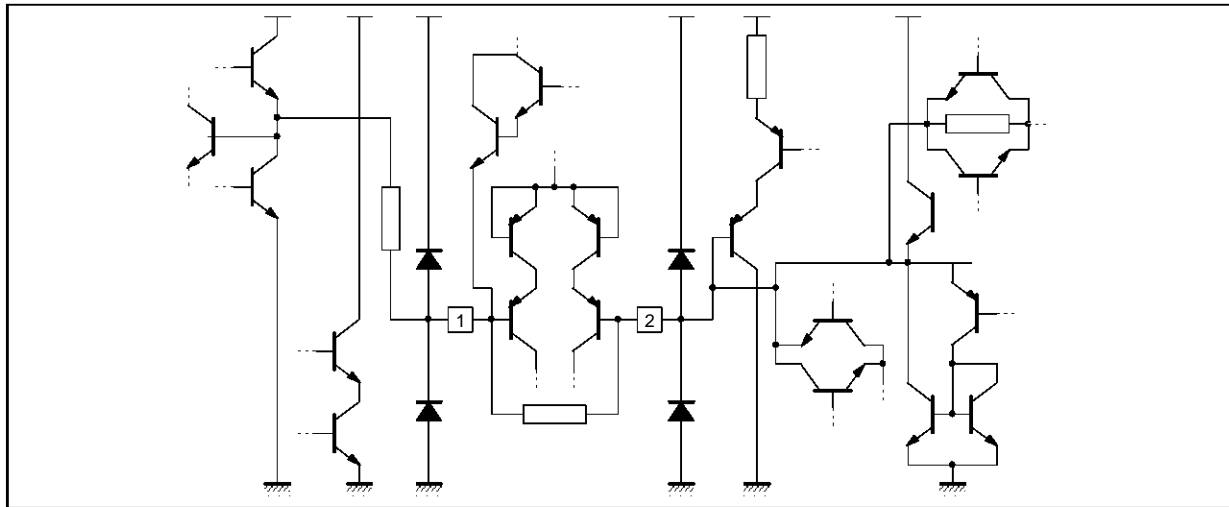
## CAPSTAN TACHO COMPARATOR

$I_{IN}$	Bias Current (Pins 4-5)	$V_{IN} = Low$			1	$\mu A$
$V_{OFF}$	Input Offset Voltage (Pins 4-5)				10	mV
$I_{THYS}$	Input Resistor (Pins 4-5)		22.5	30	37.5	$k\Omega$
$V_{SAT}$	Saturation Voltage (Pin 6)	$I_{SINK} = 1.8mA$			0.4	V
$I_L$	Leakage Current (Pin 6)	$V_{OUT} = V_{CC}$			10	$\mu A$
$R_o$	Output Impedance (Pin 6)	$V_{OUT} = V_{CC}$	7.5	10	12.5	$k\Omega$

5718-04TBL

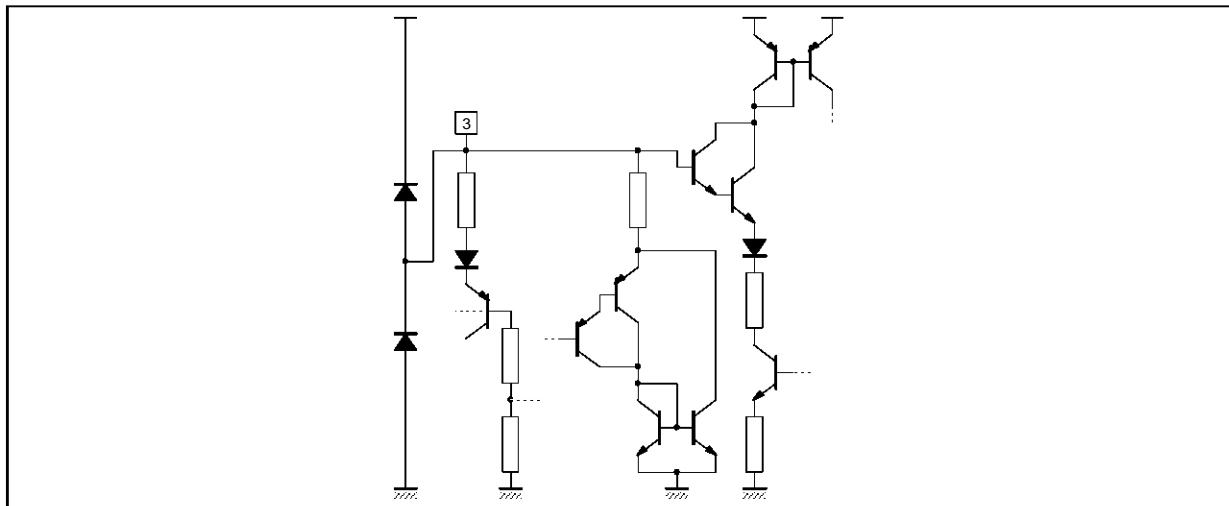
## INPUT/OUTPUT PIN CONFIGURATION

### Pins 1-2



5718-03.EPS

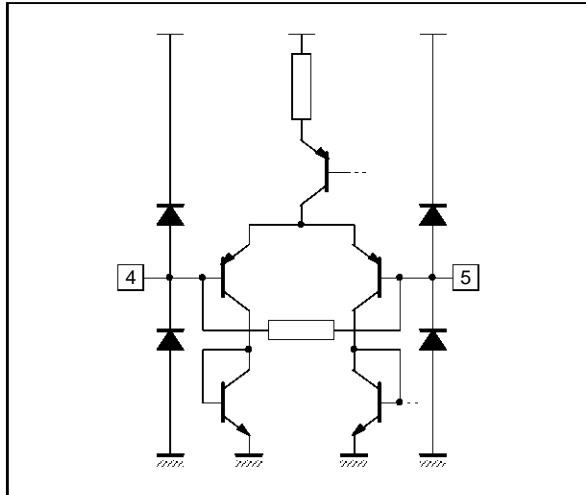
### Pin 3



5718-04.EPS

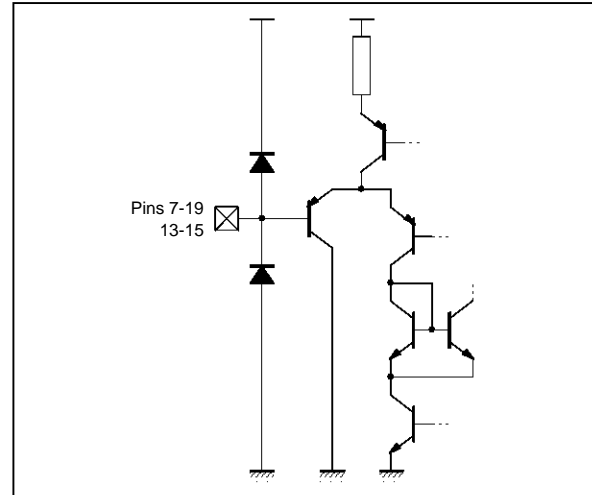
INPUT/OUTPUT PIN CONFIGURATION (continued)

Pins 4-5



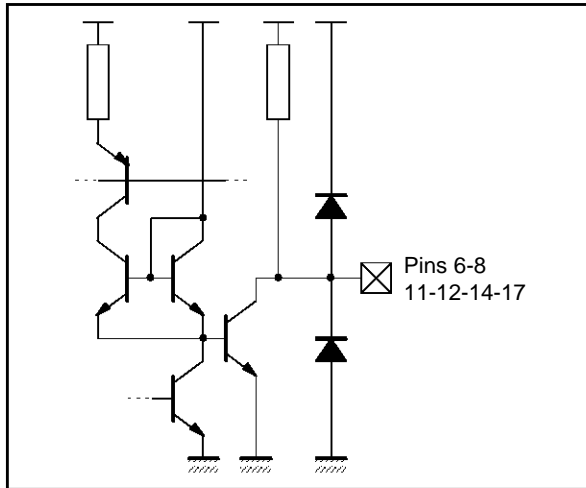
5718-05.EPS

Pins 7-9-13-15



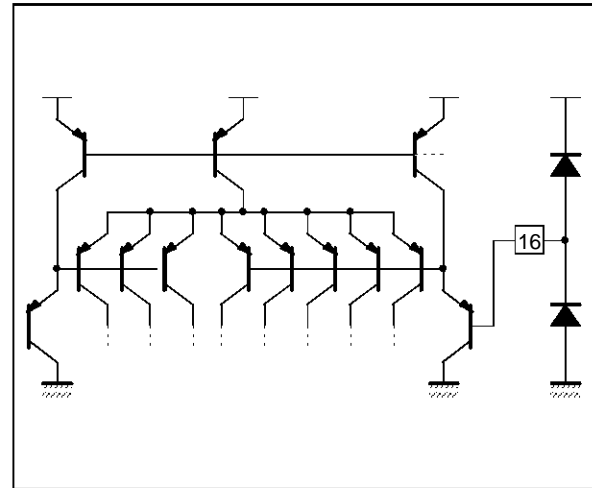
5718-06.EPS

Pins 6-8-11-12-14-17



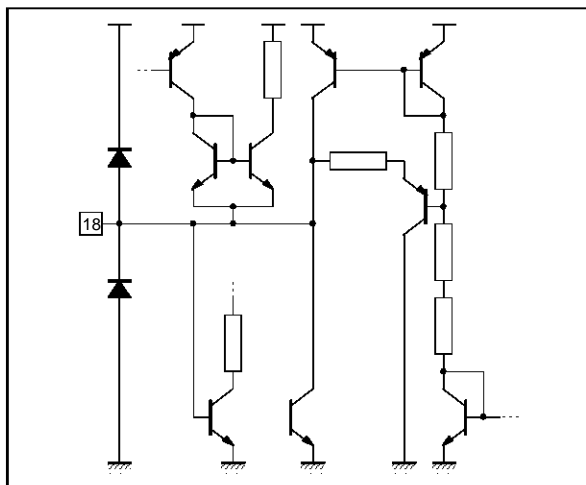
5718-07.EPS

Pin 16



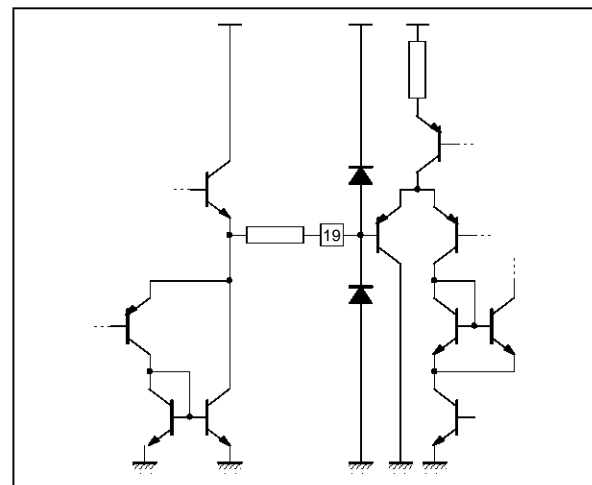
5718-08.EPS

Pin 18



5718-09.EPS

Pin 19

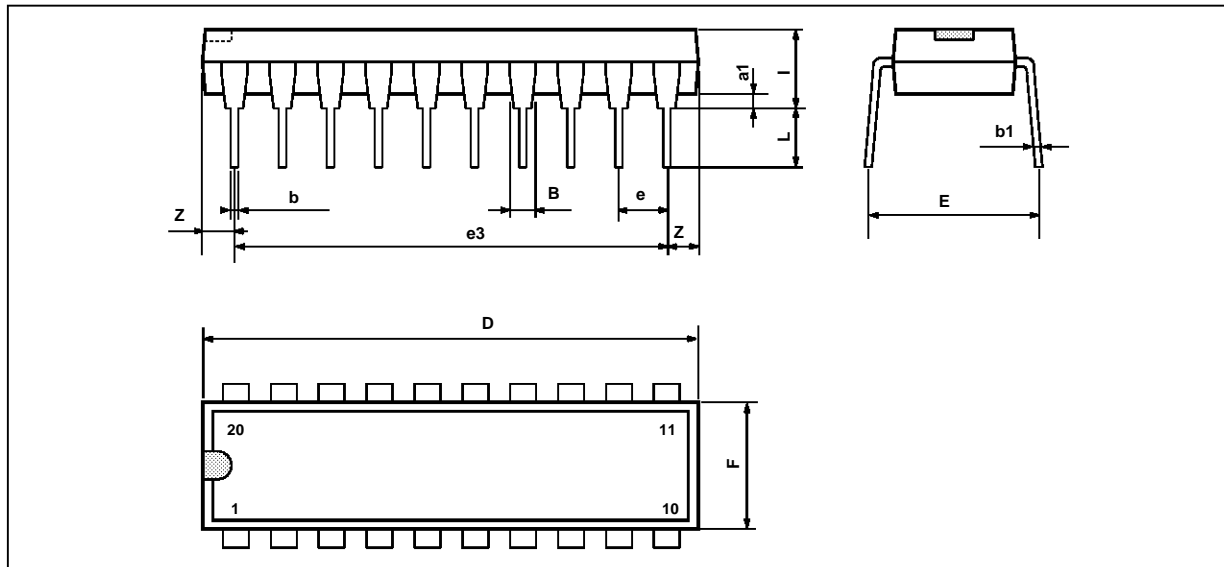


5718-10.EPS

# STV5718

## PACKAGE MECHANICAL DATA

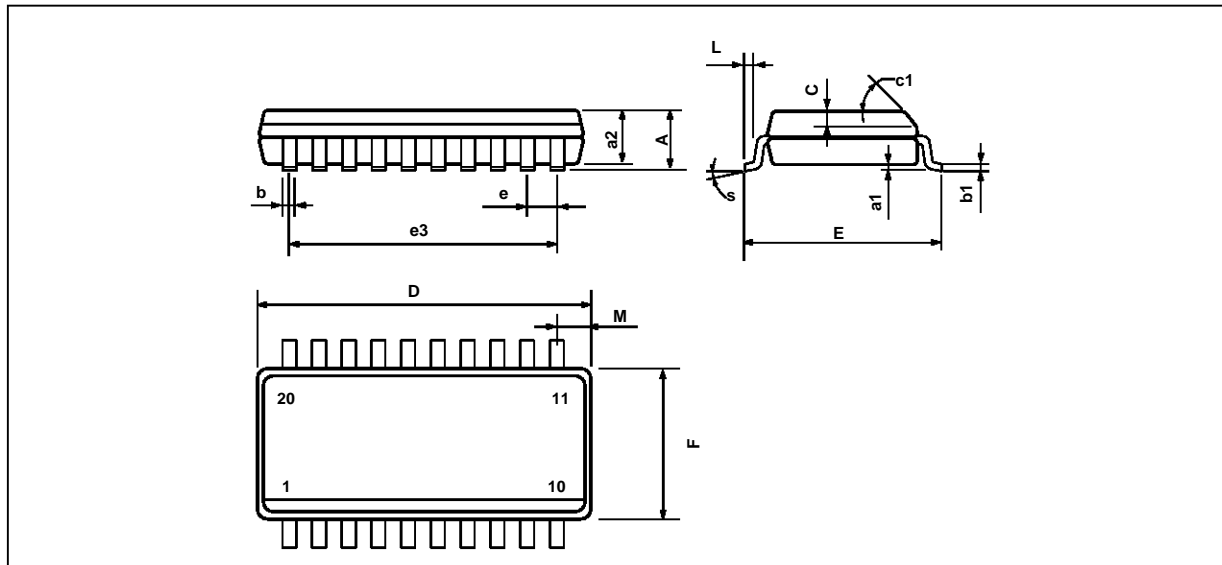
20 PINS - PLASTIC DIP



PM-DIP20.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.254			0.010		
B	1.39		1.65	0.055		0.065
b		0.45			0.018	
b1		0.25			0.010	
D			25.4			1.000
E		8.5			0.335	
e		2.54			0.100	
e3		22.86			0.900	
F			7.1			0.280
i			3.93			0.155
L		3.3			0.130	
Z			1.34			0.053

DIP20.TBL

**PACKAGE MECHANICAL DATA****20 PINS - PLASTIC MICROPACKAGE (SO)**

PM-SO20L.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			2.65			0.104
a1	0.1		0.2	0.004		0.008
a2			2.45			0.096
b	0.35		0.49	0.014		0.019
b1	0.23		0.32	0.009		0.013
C		0.5			0.020	
c1	45° (typ.)					
D	12.6		13.0	0.496		0.510
E	10		10.65	0.394		0.419
e		1.27			0.050	
e3		11.43			0.450	
F	7.4		7.6	0.291		0.300
L	0.5		1.27	0.020		0.050
M			0.75			0.030
S	8° (max.)					

SO20L.TBL

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