

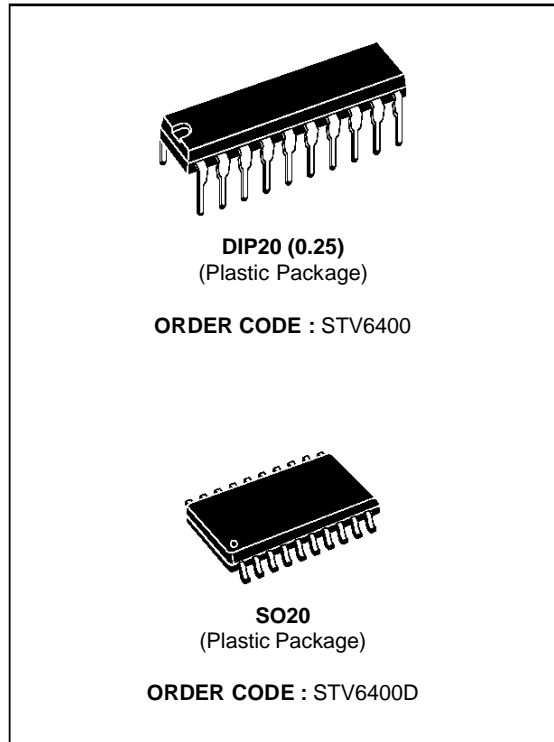
DOUBLE SCART INTERFACE

- TWO PERIPLUGS I/O SOURCES MANAGEMENT
- TWO 150Ω INTEGRATED BUFFERS FOR PLUG DRIVE
- ONE OUTPUT WITH MUTING CAPABILITY
- 3 DIGITAL BUFFER OUTPUTS FOR EXTERNAL SWITCHES CONTROL
- LARGE SUPPLY VOLTAGE RANGE
- BANDWIDTH : 19MHz typ.
- CROSSTALK : 50dB min.
- I²C BUS CONTROL

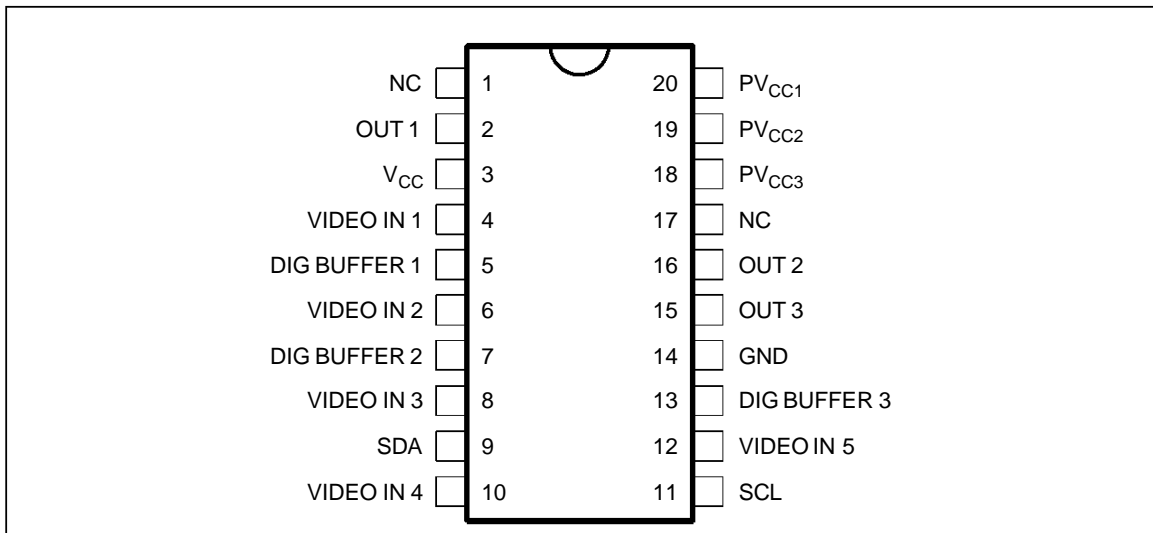
DESCRIPTION

The STV6400 is a bipolar circuit for TV and VCR applications.

It is intended to process all switches relating to a 2 periplugs I/O application



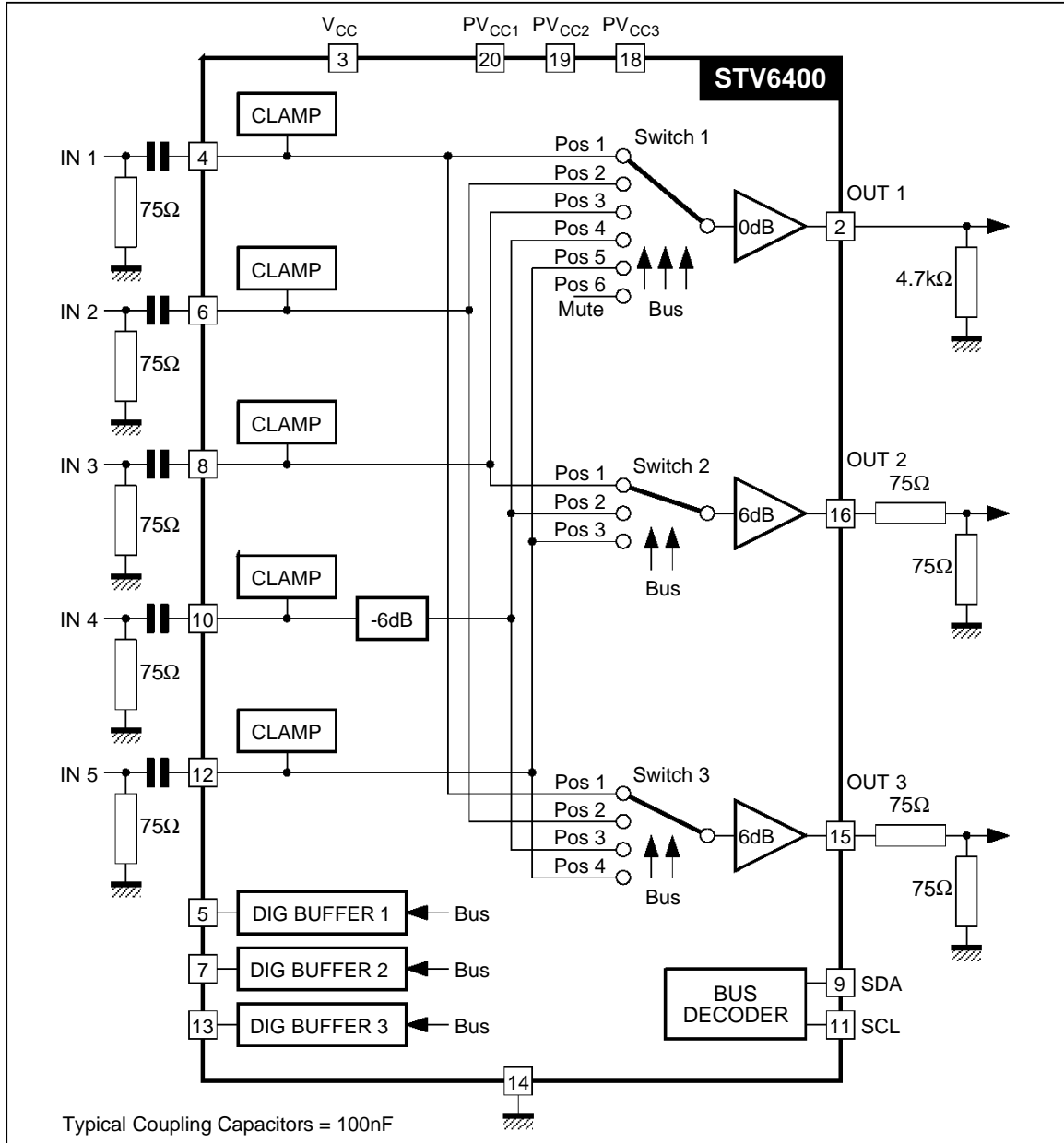
PIN CONNECTIONS



6400-01.EPS

STV6400

BLOCK DIAGRAM



6400-02.EPS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CC}	Supply Voltage	12.0	V
T _{oper}	Operating Temperature	-10, + 70	°C
T _{stg}	Storage Temperature	-55, + 150	°C

6400-01.TBL

THERMAL DATA

Symbol	Parameter	Value	Unit
R _{th (j-a)}	Junction-ambient Thermal Resistance	DIP20	70
		SO20	100

6400-02.TBL

DC AND AC ELECTRICAL CHARACTERISTICS

V_{CC} = 5V, T_{amb} = 25°C (Unless otherwise specified)R_{LOAD OUT1} = 4.7kΩ, R_{LOAD OUT2 OUT3} = 150Ω, V_{IN} = 1V_{PP}

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V _{CC}	Operating Supply Voltage		4,75	5	11.0	V
I _{CC}	Supply Current	Without loads		27	40	mA
S _{vr}	Supply Voltage Rejection	1kHz		-36		dB

VIDEO INPUTS

V _{DCIN}	DC Input Voltage (black level)			1,4		V
I _{LCAK}	Leakage Current Input			1	3	μA
CAPIN	Input Capacitance			5		pF
V _{IN0}	Input Signal Amplitude	Video 4			2.5	V _{PP}
V _{IN6}	Input Signal Amplitude	Video 1 2 3 5			1.5	V _{PP}

VIDEO OUTPUTS

DYN	Dynamic Output Signal (out 1)	V _{CC} = 5V	2,5			V _{PP}
DYN	Dynamic Output Signal (out 1)	V _{CC} = 4.75V	2,3			V _{PP}
DYN	Dynamic Output Signal (out 2,3)	V _{CC} = 5V V _{CC} = 4.75V	3 2.8			V _{PP} V _{PP}
BW0	0dB Gain Bandwidth at -3dB	V _{IN} = 1V _{PP}	10	23		MHz
BW6	6dB Gain Bandwidth at -3dB	V _{IN} = 1V _{PP}	10	19		MHz
CT*	Crosstalk between Input 1, 2, 3, 5 and Output 2,3	V _{IN} = 1V _{PP} , f = 5MHz		-62	-53	dB
CT*	Crosstalk between Input 4, and Output 2,3	V _{IN4} = 2V _{PP} , f = 5MHz		-60	-52	dB
CT*	Crosstalk between Input 1, 2, 3, 5 and Output 1	V _{IN} = 1V _{PP} , f = 5MHz		-60	-55	dB
CT*	Crosstalk between Input 4 and Output 1	V _{IN4} = 2V _{PP} , f = 5MHz		-53	-50	dB
Z _{OUT}	Output Impedance			4	10	Ω
G ₀	0dB Gain		-0.5	0	+0.5	dB
G ₆	6dB Gain		5.5	6	6.5	dB
DCOUT	DC Output Voltage			0.7		V
DPH10	Differential Phase 0dB Output	V _{IN} = 1V _{PP}		0.25		
DPH6	Differential Phase 6dB Output	V _{IN} = 1V _{PP}		0.5		
DGAIN0	Differential Gain 0dB Output	V _{IN} = 1V _{PP}		1.5		%
DGAIN6	Differential Gain 6dB Output	V _{IN} = 1V _{PP}		1.8		%
MUTE	Muting Suppression at Output 1	V _{IN} = 1V _{PP} , f = 5MHz		-50	-45	dB

DIGITAL BUFFERS

V _{OL}	Low Level Output Voltage	I = 3 mA			0,4	V
Z _{OUT}	Output Resistance at High Level			30		kΩ
DCMAX	Max DC Voltage				V _{CC}	V

* DIP20 package.

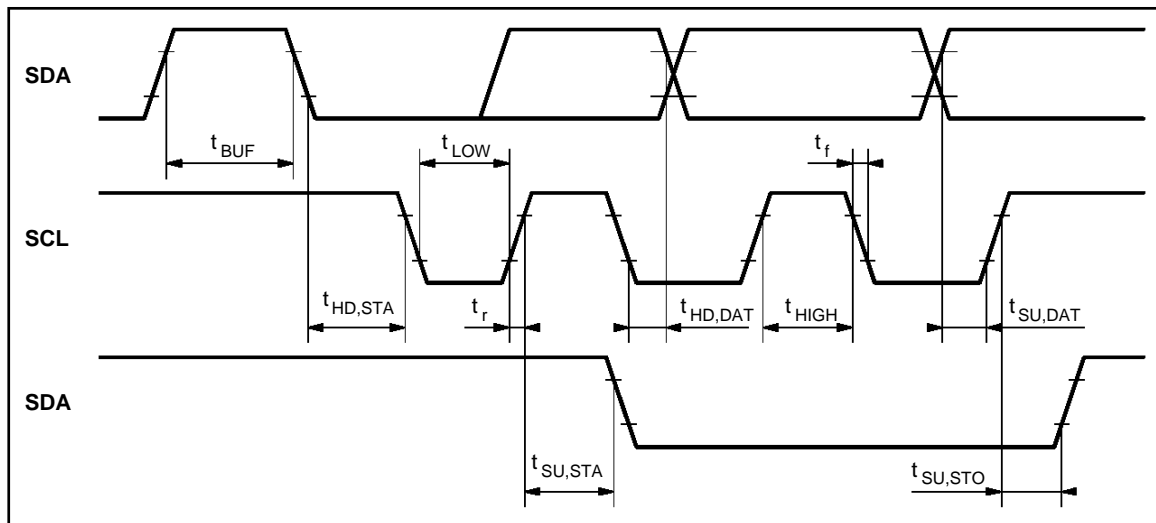
6400-03.TBL

I²C BUS CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min.	Max.	Unit
SCL					
V _{IL}	Low Level Input Voltage		- 0.3	+ 1.5	V
V _{IH}	High Level Input Voltage		3.0	V _{CC} + 0.5	V
I _{LI}	Input Leakage Current	V _I = 0 to V _{CC}	- 10	+ 10	μA
f _{SCL}	Clock Frequency		0	100	kHz
t _R	Input Rise Time	1.5V to 3V		1000	ns
t _F	Input Fall Time	1.5V to 3V		300	ns
C _I	Input Capacitance			10	pF
SDA					
V _{IL}	Low Level Input Voltage		- 0.3	+ 1.5	V
V _{IH}	High Level Input Voltage		3.0	V _{CC} + 0.5	V
I _{LI}	Input Leakage Current	V _I = 0 to V _{CC}	- 10	+ 10	μA
C _I	Input Capacitance			10	pF
t _R	Input Rise Time	1.5V to 3V		1000	ns
t _F	Input Fall Time	1.5V to 3V		300	ns
V _{OL}	Low Level Output Voltage	I _{OL} = 3mA		0.4	V
t _F	Output Fall Time	3V to 1.5V		250	ns
C _L	Load Capacitance			400	pF
TIMING					
t _{LOW}	Clock Low Period		4.7		μs
t _{HIGH}	Clock High Period		4.0		μs
t _{SU,DAT}	Data Set-up Time		250		ns
t _{HD,DAT}	Data Hold Time		0	340	ns
t _{SU,STO}	Set-up Time from Clock High to Stop		4.0		μs
t _{BUF}	Start Set-up Time following a Stop		4.7		μs
t _{HD,STA}	Start Hold Time		4.0		μs
t _{SU,STA}	Start Set-up Time following Clock Low-to-High Transition		4.7		μs

6400-04.TBL

Figure 1 : I²C Bus Timing



6400-03.EPS

SOFTWARE SPECIFICATION

I²C Address Byte

92 HEXA

DATA BYTE

B7	B6	B5	B4	B3	B2	B1	B0	
X	X	0	0		0 0 0 0 1 1 1 1	0 0 1 1 0 1 1 1	0 1 0 1 0 1 0 1	SWITCH 1 POSITION 1 VIDEO IN 1 POSITION 2 VIDEO IN 2 POSITION 3 VIDEO IN 3 POSITION 4 VIDEO IN 4 POSITION 5 VIDEO IN 5 POSITION 6 MUTE NOT ALLOWED NOT ALLOWED
X	X	0	1		X X X X	0 0 1 1	0 1 0 1	SWITCH 2 POSITION 1 VIDEO IN 3 POSITION 2 VIDEO IN 4 POSITION 3 VIDEO IN 5 NOT ALLOWED
X	X	1	0		X X X X	0 0 1 1	0 1 0 1	SWITCH 2 POSITION 1 VIDEO IN 1 POSITION 2 VIDEO IN 2 POSITION 3 VIDEO IN 4 POSITION 4 VIDEO IN 5
X	X	1	1		X X 1/0	X 1/0 X	1/0 X X	DIGITAL BUFFER DIG BUFFER 1 DIG BUFFER 2 DIG BUFFER 3

Remark : The letter "X" means don't care.

Example : XX00X100 means. The switch 1 is connected to Video input 5

Example : XX11X011 means. Digital buffer 1 is at high level
Digital buffer 2 is at high level
Digital buffer 3 is at low level

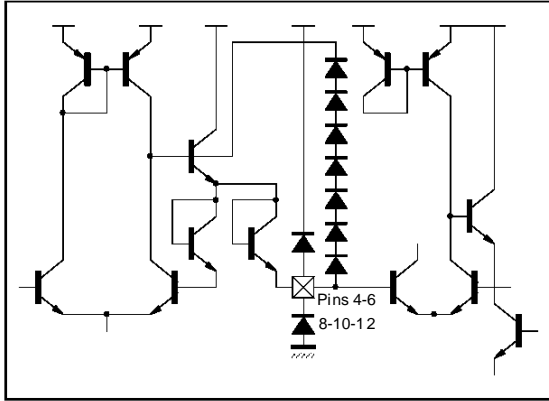
The starting condition upon power-on is undetermined.

In this case 4 words of 16 bits are necessary to fix the device configuration.

In other case only one word of 16 bits is necessary to modify one configuration of the device.

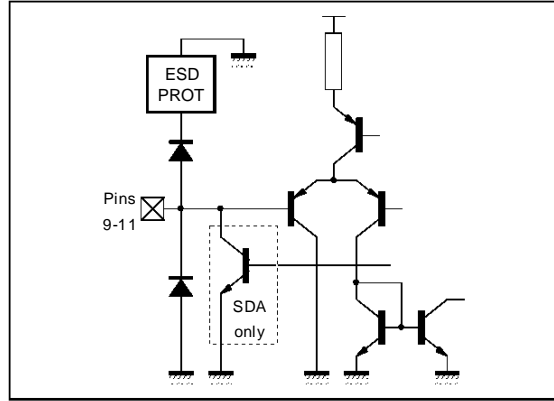
INPUT/OUTPUT PIN CONFIGURATION

Pins 4-6-8-10-12 Video Input



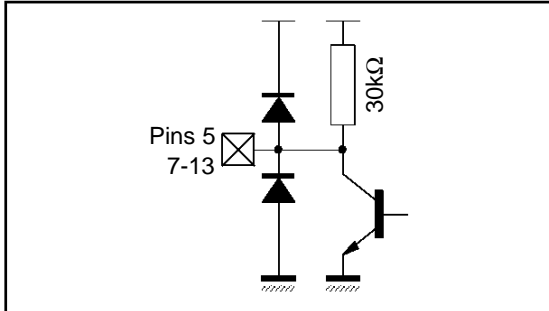
6400-04.EPS

Pins 9 - 11 Bus Inputs



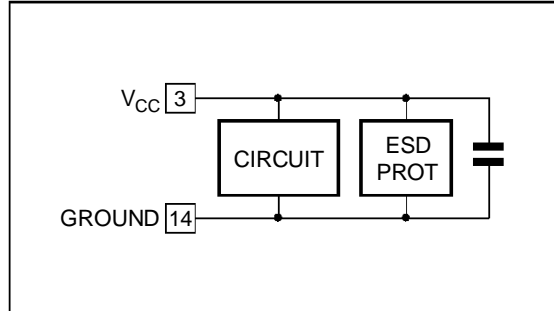
6400-06.EPS

Pins 5-7-13 Digital Buffer Output



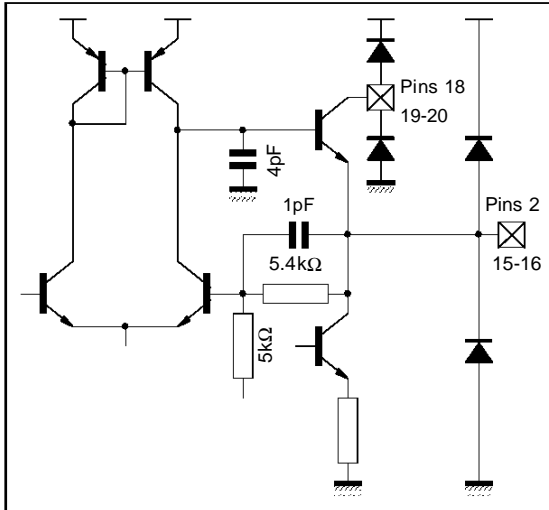
6400-05.EPS

Pins 3-14 Supply Voltage



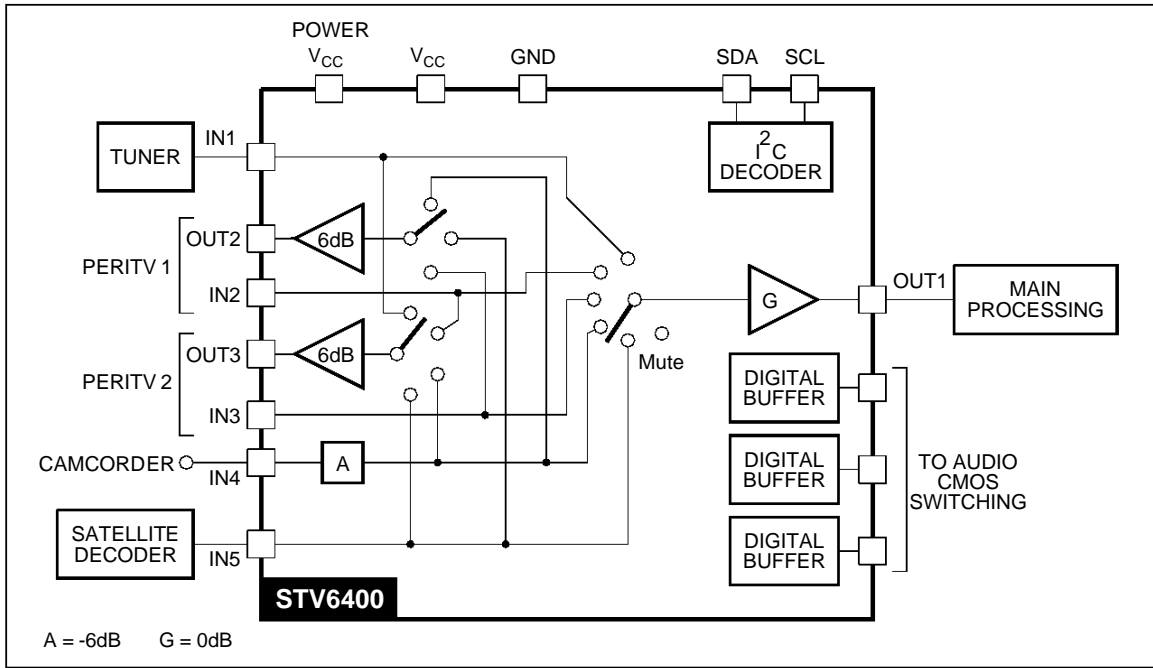
6400-07.EPS

Pins 2-15-16-18-19-20 Video Outputs and PVcc



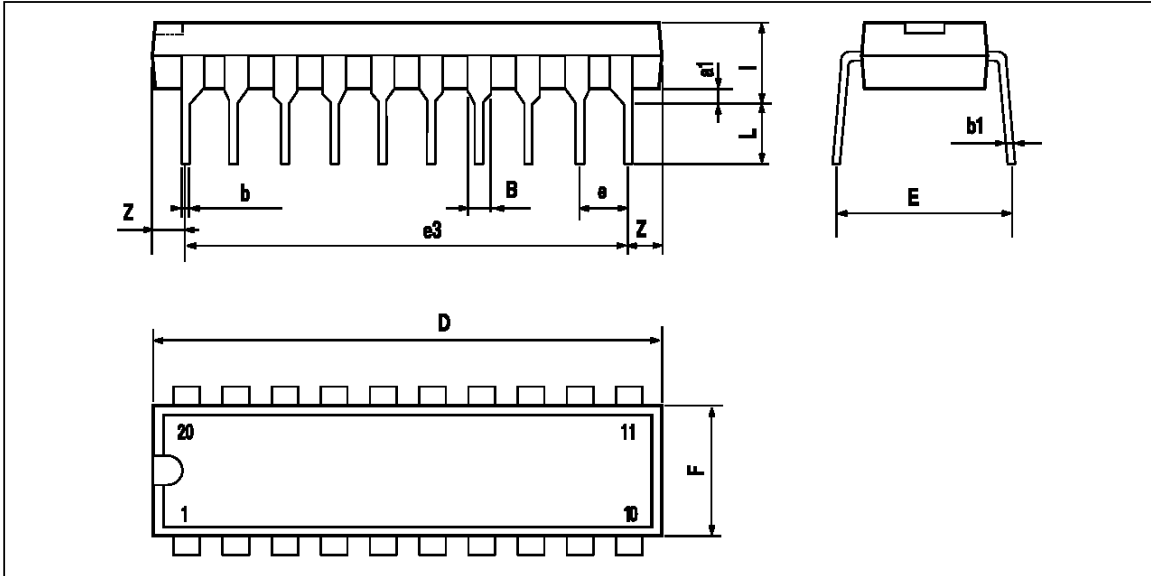
6400-08.EPS

TYPICAL APPLICATION



STV6400

PACKAGE MECHANICAL DATA 20 PINS - PLASTIC DIP20 (0.25)

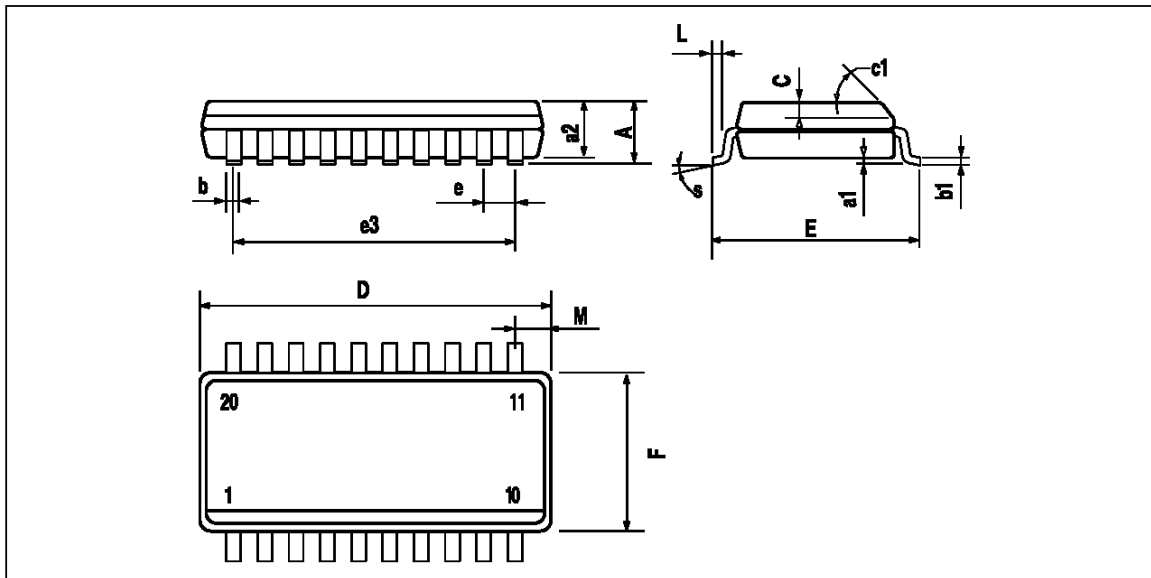


PM-DIP20.EPS

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
L			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-SO20.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			2.65			0.104
a1	0.1		0.3	0.004		0.012
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		0.512
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		0.299
L	0.5		1.27	0.020		0.050
M			0.75			0.030
S	8° (Max.)					

SO20.TBL

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