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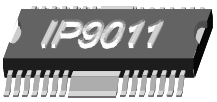
IP9011

6-CH Motor Drive IC

DESCRIPTIONS

IP9011 is a 6-CH motor driver. It is suitable for CD-P/ VCD-P/DVD-P systems. The motor driver part is composed of four BTL drivers and two forward/reverse controlled DC motor drivers.



28SSOPH-375B

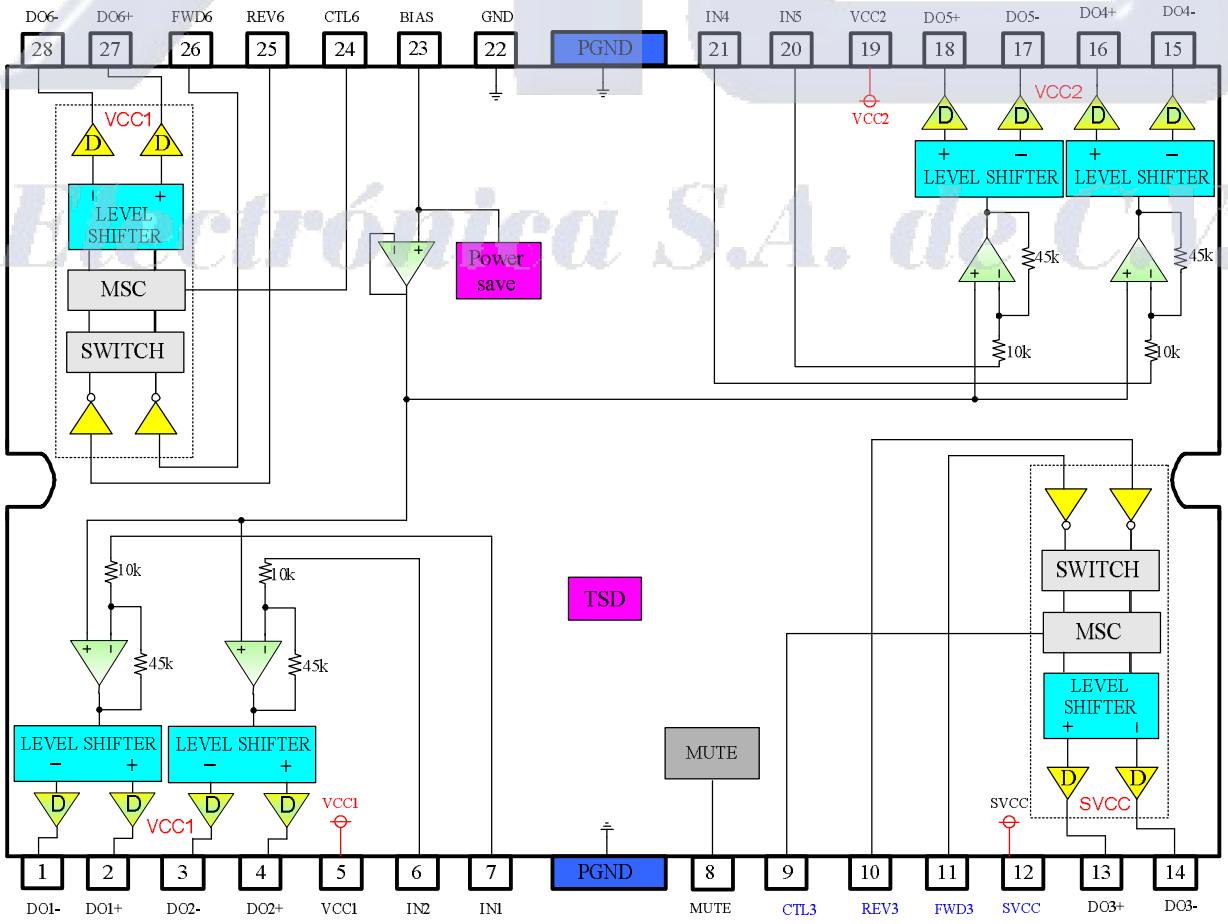
FEATURES

- 4-CH BTL drivers.
- 2-CH forward/reverse controlled DC motor drivers.
- Built-in TSD (thermal shut down) circuit.
- Built-in mute circuit.
- Operating supply voltage (4.3V~13.2V).

ORDER INFORMATION

Device	Order Code	Package	Packing
IP9011	IP9011	28SSOPH-375A 28SSOPH-375B	Tube
	IP9011-TF		Tape and Reel
IP9011L	IP9011L		Lead-Free Tube
	IP9011L-TF		Lead-Free Tape and Reel

BLOCK DIAGRAM



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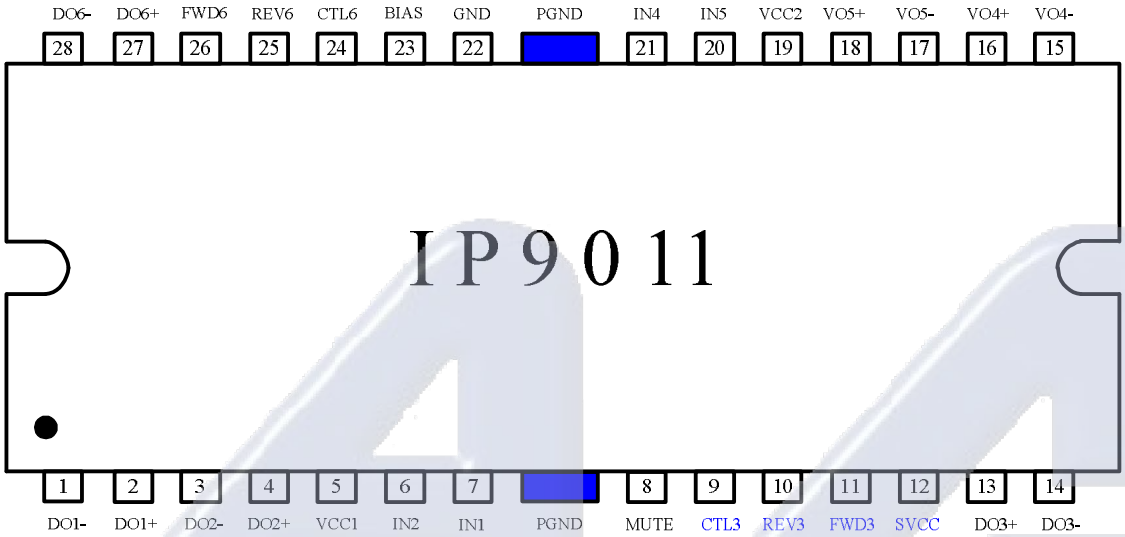
PIN CONNECTIONS



PIN DESCRIPTIONS

NO	SYMBOL	I/O	DESCRIPTION	NO	SYMBOL	I/O	DESCRIPTION
1	DO1-	O	CH1 driver output(-)	15	DO4-	O	CH4 driver output(-)
2	DO1+	O	CH1 driver output(+)	16	DO4+	O	CH4 driver output(+)
3	DO2-	O	CH2 driver output(-)	17	DO5-	O	CH5 driver output(-)
4	DO2+	O	CH2 driver output(+)	18	DO5+	O	CH5 driver output(+)
5	VCC1	-	Power supply voltage 1	19	VCC2	-	Power supply voltage 2
6	IN2	I	CH2 input	20	IN5	I	CH5 input
7	IN1	I	CH1 input	21	IN4	I	CH4 input
8	MUTE	I	Mute	22	GND	-	Ground
9	CTL3	I	Loading motor speed control	23	BIAS	I	Bias
10	REV3	I	Loading motor reverse input	24	CTL6	I	Loading motor speed control
11	FWD3	I	Loading motor forward input	25	REV6	I	Loading motor reverse input
12	SVCC	-	Signal supply voltage	26	FWD6	I	Loading motor forward input
13	DO3+	O	CH3 driver output(+)	27	DO6+	O	CH6 driver output(+)
14	DO3-	O	CH3 driver output(-)	28	DO6-	O	CH6 driver output(-)

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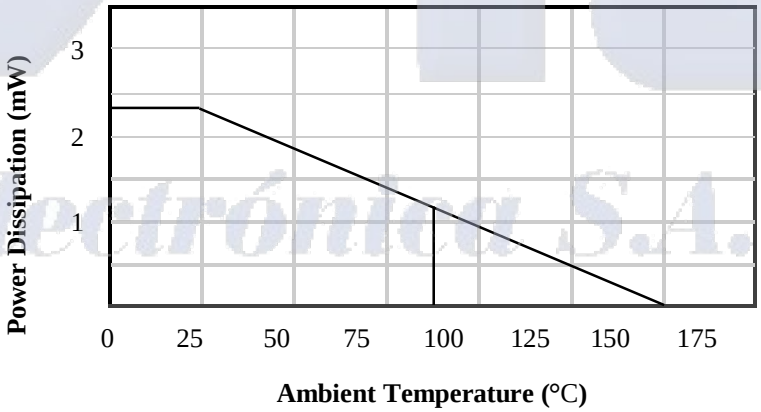
ABSOLUTE MAXIMUM RATINGS

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum supply voltage	VCCmax	15	V
Power dissipation	Pd	2.3 *	W
Operating temperature	Topr	-35 ~ +85	°C
Storage temperature	Tstg	-55 ~ 150	°C

Note>
1. When mounted on 50mm X 50mm X 1mm PCB (Phenolic resin material).
2. Power dissipation reduces 18.4 mW/°C for using above Ta=25°C
3. Do not exceed Pd and SOA.

POWER DISSIPATION CURVE



RECOMMENDED OPERATING CONDITIONS

CHARACTERISTICS	SYMBOL	VALUE	UNIT
* Signal supply Voltage	SVCC	4.3 ~ 13.2	V
Power supply Voltage 1	VCC1	4.3 ~ 13.2	V
Power supply Voltage 2	VCC2	4.3 ~ 13.2	V

* SVCC > VCC1, VCC2

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ELECTRICAL CHARACTERISTICS

(SVCC=8V, VCC1=VCC2=5V, RL=12ohm, Bias=1.65V, Ta = 25°C unless otherwise specified.)

CHARACTERISTICS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent circuit current	Icc	No Load	-	15	20	mA
[BTL DRIVE PART]						
Output offset voltage	Voos	Vin=Vref	-60	-	+60	mV
Maximum output voltage	Voms	-	3.6	4.0	-	V
Closed-loop voltage gain	Avfs	Vin=0.1Vrms, f=1kHz	-	19.0	-	dB
Mute on voltage	Vmon	Pin24=sweep	-	-	0.5	V
Mute off voltage	Vmoff	Pin24=sweep	1.5	-	-	V
Mute pin current	Imp	Pin24=5.0V		200	300	uA
Bias pin current	Ibias	Pin23=2.5V		80	120	uA
[LOADING DRIVER PART(CH3)]						
Input high level voltage	Vih		1.5	-	-	V
Input low level voltage	Vil		-	-	0.5	V
FWD/REV pin current	Iin	Pin10=Pin11=5.0V	-	200	300	uA
Maximum output voltage	Vo	RL=25 ohm	6.0	6.5	-	V
Voltage gain	Gvf	Pin22=sweep	7	9	11	dB
[LOADING DRIVER PART(CH6)]						
Input high level voltage	Vih		1.5	-	-	V
Input low level voltage	Vil		-	-	0.5	V
FWD/REV pin current	Iin	Pin10=Pin11=5.0V	-	200	300	uA
Maximum output voltage	Vo	RL=25 ohm	3.6	4.0	-	V
Voltage gain	Gvf	Pin22=sweep	7	9	11	dB

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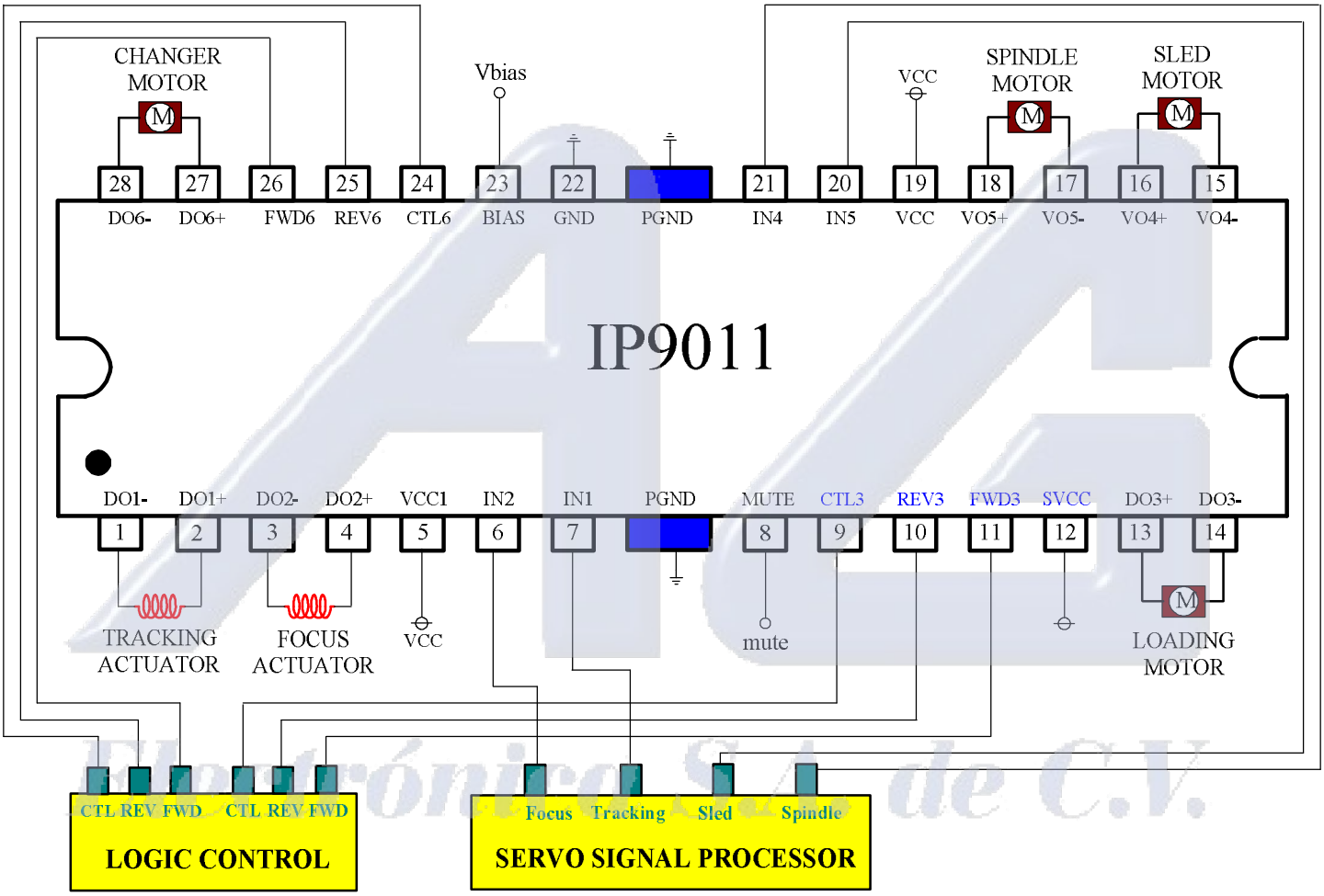
TYPICAL APPLICATION CIRCUIT



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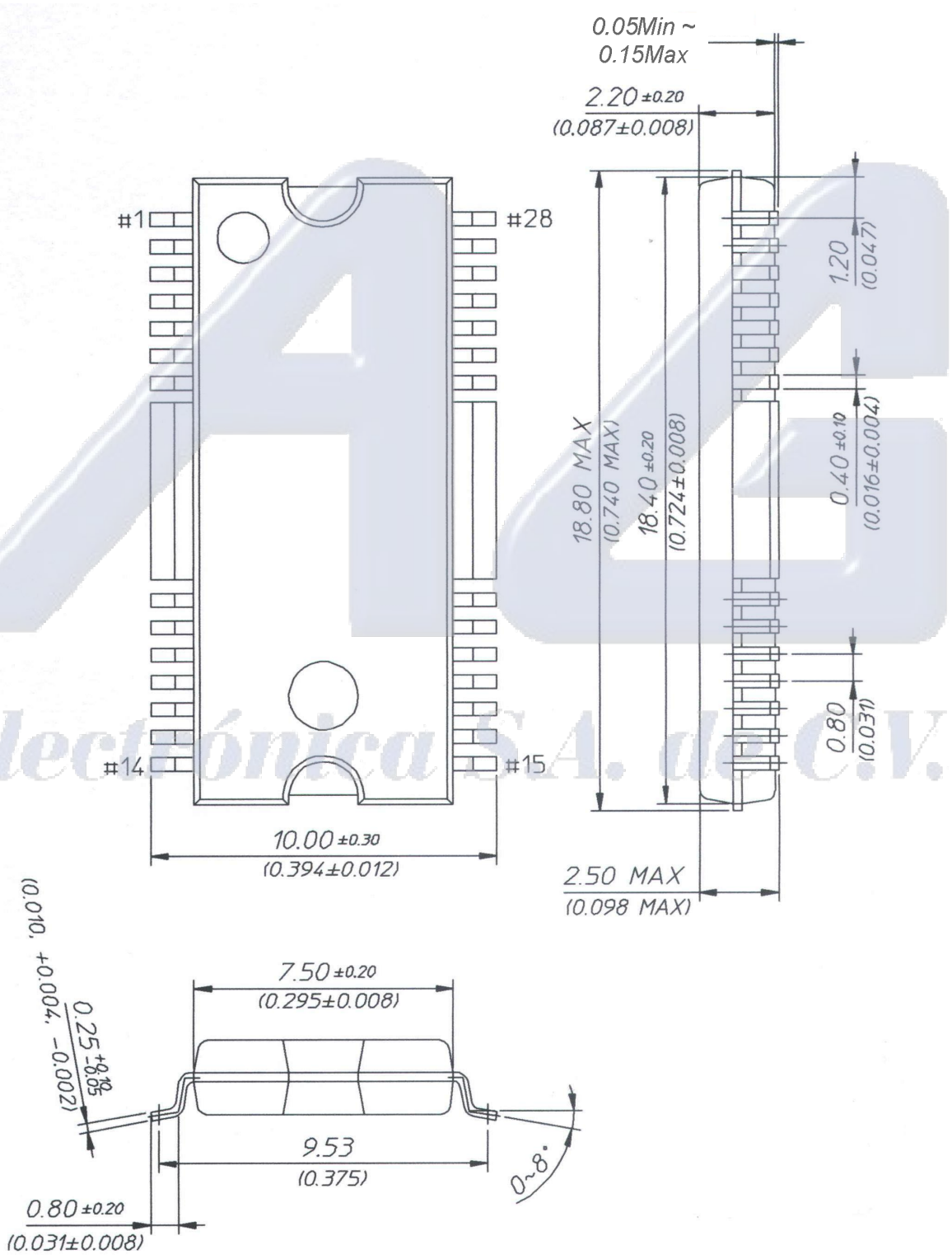
PACKAGE DIMENSION(28SSOPH-375A)



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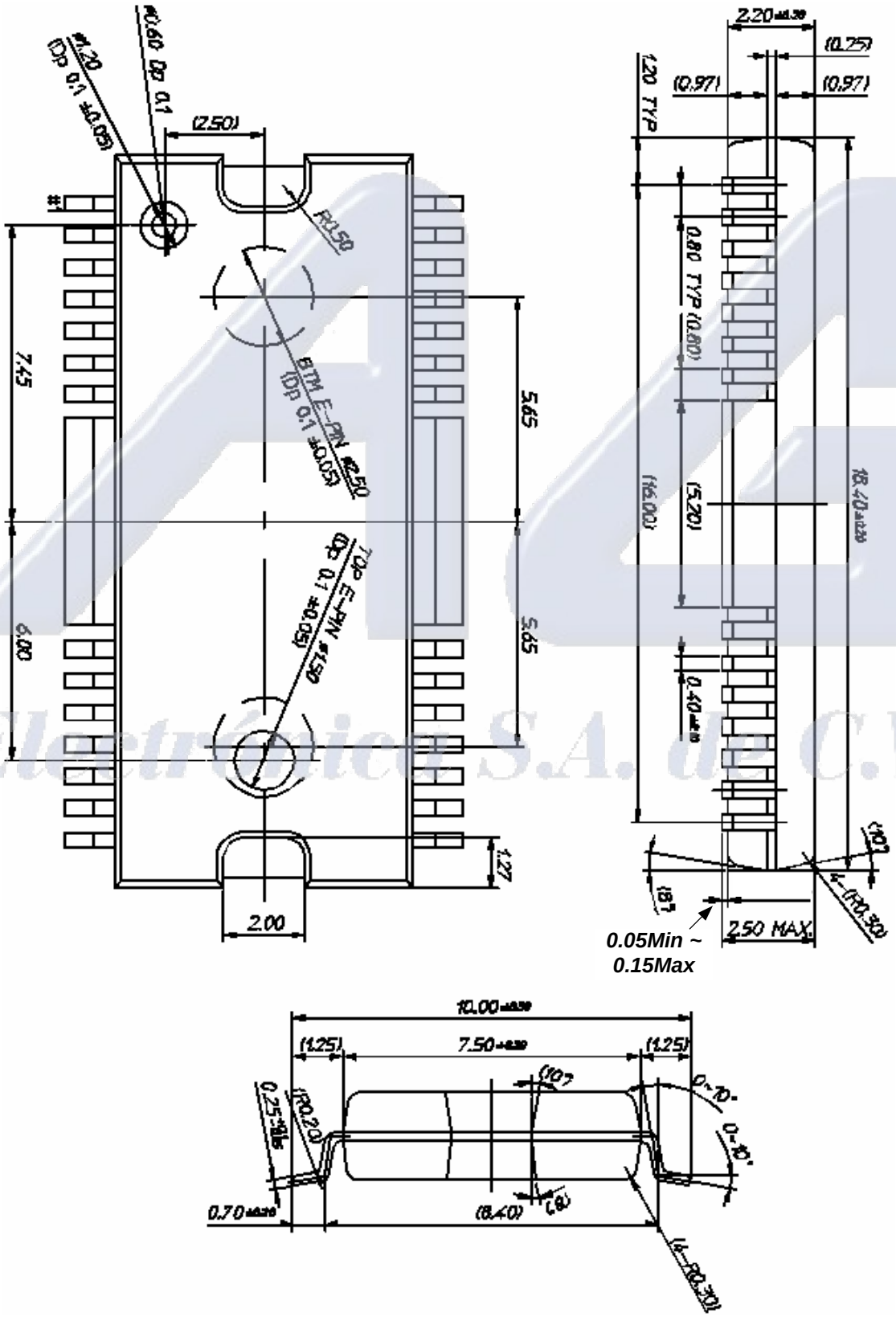
PACKAGE DIMENSION(28SSOPH-375B)



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