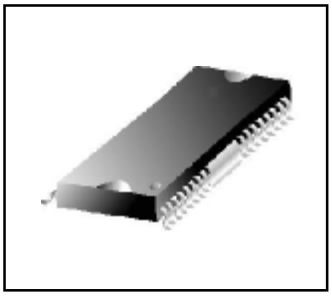
IP4504A

5-CH MOTOR DRIVE IC

DESCRIPTIONS

The IP4504A is a 5-CH motor driver for CD-P/VCDP/ DVDP systems. It is composed of 2-CH BTL driver, 2-CH BTL driver with current feedback and 1-CH forward/reverse controlled DC motor driver.



FEATURES

- 2-CH BTL driver
- 2-CH BTL driver with current feedback
- 1-CH forward/reverse controlled DC motor driver
- Built-in motor speed control circuit
- Built-in TSD (thermal shut down) circuit.
- Built-in mute circuit excluding CH1.
- Operating supply voltage (4.5V~13.2V).

ORDER INFORMATION

Device	Package	Operating Temp
IP4504A	28SSOPH-375A	-35°C ~ +85°C
IP4504ATF	28SSOPH-375A	-35°C ~ +85°C
IP4504A	28SSOPH-375B	-35°C ~ +85°C
IP4504ATF	28SSOPH-375B	-35°C ~ +85°C

ELECTRICAL CHARACTERISTICS

(VCC1=8V, VCC2=5V, f = 1kHz, RL = 8ohm, Rs=0.5ohm, Ta = 25°C unless otherwise specified.)

CHARACTERISTICS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent circuit current	Icc	No Load	-	17	27	mA
	Iccm	No Load (Vcc1=Vcc2=5V)	-	12	22	
Mute on current	Iamute	Pin23=GND	-	5	9	mA
	Iamutem	Vcc1=Vcc2=5V	-	3.8	8	
Mute on voltage	Vamon	Pin23=variation	-	-	0.5	V
Mute off voltage	Vamoff	Pin23=variation	2.0	-	-	V
Reference mute on voltage	Vrmon	Pin22=variation	-	-	0.7	V
Reference mute off voltage	Vrmoff	Pin22=variation	1.3	-	-	V
[ACTUATOR PART (CH4,CH5)]						
Output offset current	Ioo	Pin1=Pin9=Pin22=Vref	-15	0	15	mA
Maximum output voltage 45	Vom45	Vcc2=5V, RL=8 ohm	3.2	3.8	-	V
	Vom45m	Vcc1=Vcc2=5V, RL=8 ohm	2.8	3.4	-	
Transmission gain 45	Gm45	Vin=0.1Vrms, f=1kHz	-	1.4	-	A/V
[SPINDLE,SLED PART (CH2,CH3)]						
Output offset voltage 23	Voo23	Vin=Vref	-100	-	+100	mV
Maximum output voltage 23	Vom23	Vcc1=8V,RL=12 ohm	5.2	6.0	-	V
	Vom23m	Vcc1=Vcc2=5V RL=12 ohm	3.0	3.6	-	
Closed-loop voltage gain 23	Avf23	Vin=0.1Vrms, f=1kHz	16	18	20	dB
Slew rate 23	SR23	Vout = 4.0Vpp, Square	-	1.5	-	V/usec
Ripple rejection ratio 23	RR23	Vin=0.1Vrms, f=120Hz	50	60	-	dB

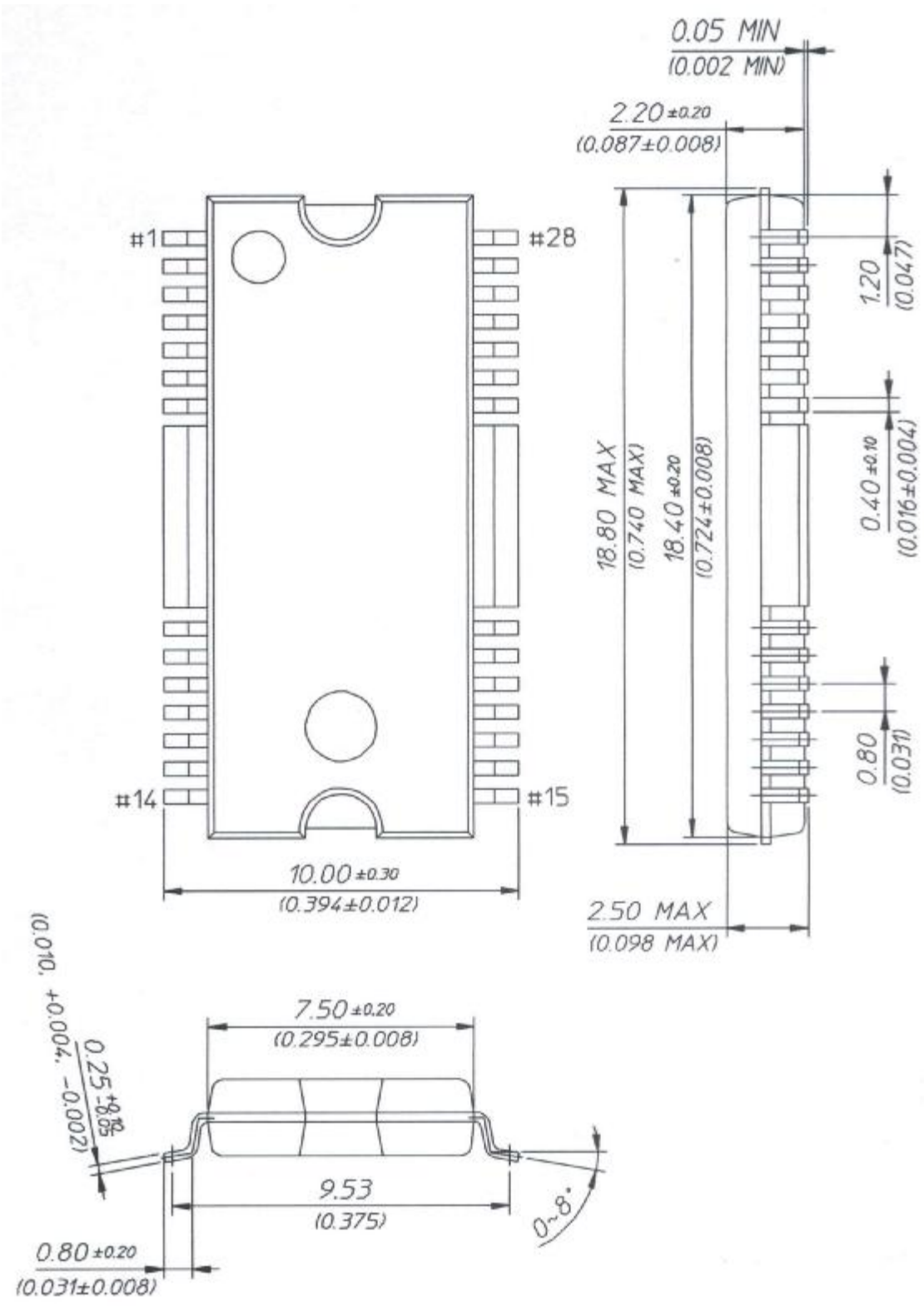
ELECTRICAL CHARACTERISTICS (Continued)

(VCC1=8V, VCC2=5V, f = 1kHz, RL = 8ohm, Rs=0.5ohm, Ta = 25°C unless otherwise specified.)

CHARACTERISTICS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
[TRAY DRIVE PART (CH1)]						
Input High Level Voltage	Vih	-	2.0	-	-	V
Input Low Level Voltage	Vil	-	-	-	0.5	V
Output voltage	Vo	Vcc1=8V, RL=45ohm, Pin10=open	3.8	4.5	5.2	V
	Vom	Vcc1=Vcc2=5V, RL=45ohm, Pin10=open	2.1	2.6	3.1	
CTL to output transfer gain	Gv	Vcc1=8V, RL=45ohm, Pin10=3V ~ 4V	0.8	1.2	1.6	V/V
Output offset voltage 1	Voo1	Pin11=Pin12=5V	-100		+100	mV
Output offset voltage 2	Voo2	Pin11=Pin12=0V	-100		+100	mV
Maximum Output Current	Iomax[1]		-	0.7	-	A

Note 1 : This is not tested in mass production

PACKAGE DIMENSION(28SSOPH-375A)



PACKAGE DIMENSION(28SSOPH-375B)