



IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

DESCRIPTIONS

IP9008 is a 5-CH motor driver for CD-P/VCDP/DVDP systems. It is composed of 4-CH BTL drivers, 1-CH forward /reverse controlled DC motor driver and two adjustable regulator controllers.



FEATURES

- 4-CH BTL driver.
- 1-CH forward/reverse controlled DC motor driver.
- Built-in two adjustable regulator controllers.
- Built-in TSD (thermal shut down) circuit.
- Built-in mute circuit.
- Built-in power save circuit.
- Operating supply voltage (4.3V~13.2V).

- * L : Lead Free
- * TF : Tape & Reel packing
- * L-TF : Lead Free and Tape & Reel packing

ORDER INFORMATION

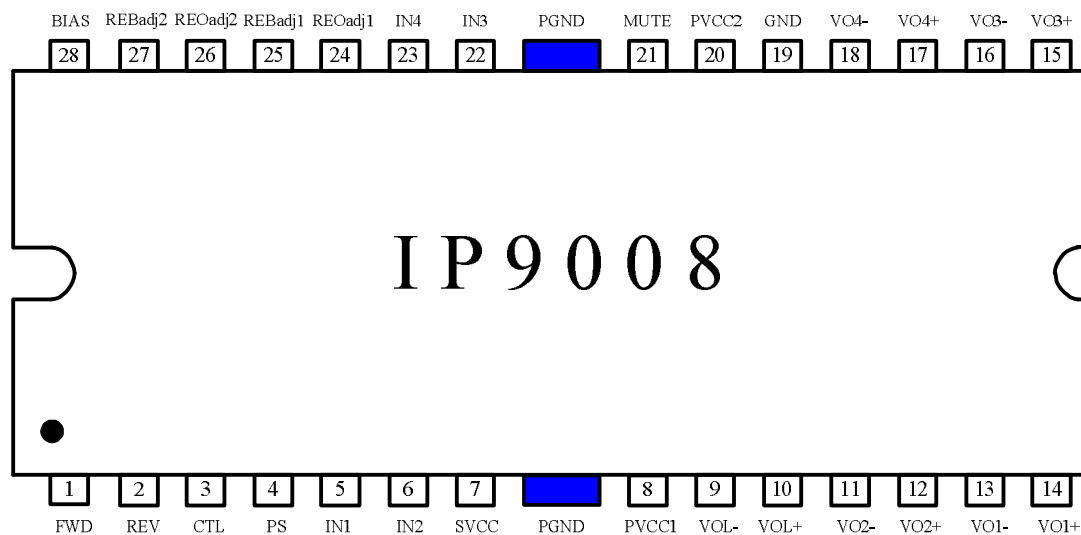
Device	Package	Operating Temp
IP9008	28SSOPH-375A	-35°C ~ +85°C
IP9008-TF	28SSOPH-375A	-35°C ~ +85°C
IP9008L	28SSOPH-375A	-35°C ~ +85°C
IP9008L-TF	28SSOPH-375A	-35°C ~ +85°C
IP9008	28SSOPH-375B	-35°C ~ +85°C
IP9008-TF	28SSOPH-375B	-35°C ~ +85°C
IP9008L	28SSOPH-375B	-35°C ~ +85°C
IP9008L-TF	28SSOPH-375B	-35°C ~ +85°C



IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

PIN CONNECTIONS



PIN DESCRIPTIONS

NO	SYMBOL	I/O	DESCRIPTION	NO	SYMBOL	I/O	DESCRIPTION
1	FWD	I	Loading motor forward input	15	VO4+	O	CH4 driver output(+)
2	REV	I	Loading motor reverse input	16	VO4-	O	CH4 driver output(-)
3	CTL	I	Loading motor speed control	17	VO3+	O	CH3 driver output(+)
4	PS	I	Power save	18	VO3-	O	CH3 driver output(-)
5	IN1	I	CH1 input	19	GND	-	Ground
6	IN2	I	CH2 input	20	PVCC2	-	Power supply 2
7	SVCC	-	Signal power supply	21	MUTE	I	Mute
8	PVCC1	-	Power supply 1	22	IN3	I	CH3 input
9	VOL-	O	Loading driver output(-)	23	IN4	I	CH4 input
10	VOL+	O	Loading driver output(+)	24	REOadj1	O	Adjustable regulator 1 feedback
11	VO2-	O	CH2 driver output(-)	25	REBadj1	O	Adjustable regulator 1 control
12	VO2+	O	CH2 driver output(+)	26	REOadj2	O	Adjustable regulator 2 feedback
13	VO1-	O	CH1 driver output(-)	27	REBadj2	O	Adjustable regulator 2 control
14	VO1+	O	CH1 driver output(+)	28	BIAS	I	Bias



IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

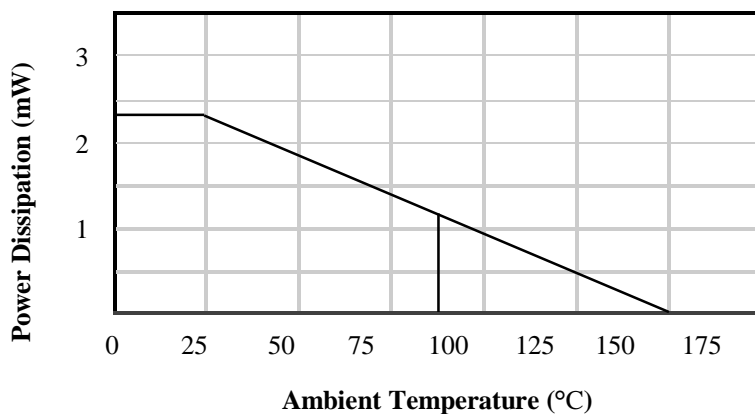
ABSOLUTE MAXIMUM RATINGS

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	PVCC1	4.3 ~ SVCC	V
Power supply Voltage 2	PVCC2	4.3 ~ SVCC	V



IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS

(SVCC=12.0V, PVCC1=PVCC2=5V, RL=8ohm, Bias=1.65V, Ta = 25°C unless otherwise specified.)

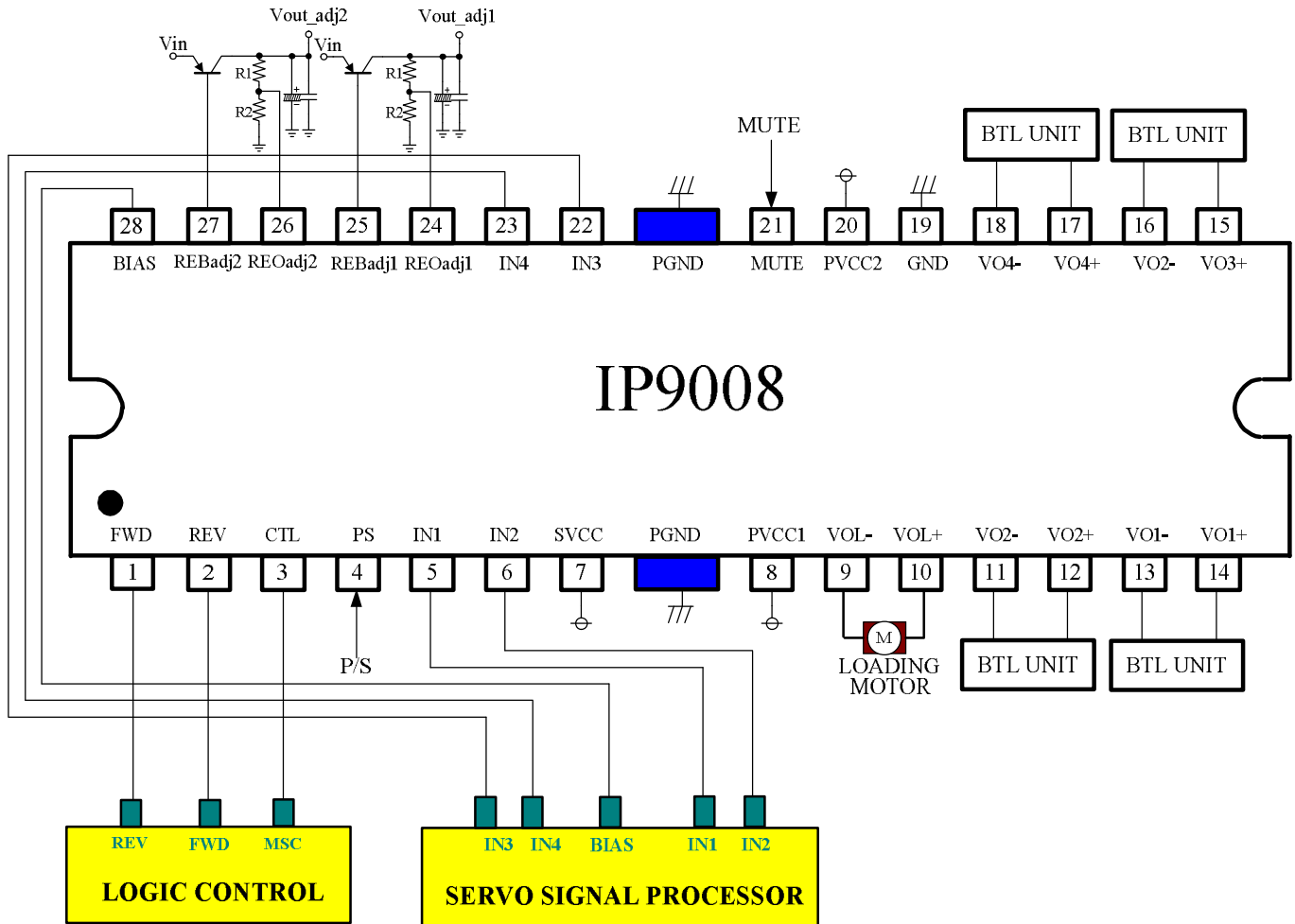
CHARACTERISTICS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent circuit current	Icc	No Load	-	15	23	mA
Power save on current	Ips	Pin5=GND	-	0.5	2.0	mA
Power save on voltage	Vpson	Pin5=sweep	-	-	0.5	V
Power save off voltage	Vpsoff	Pin5=sweep	2.0	-	-	V
[BTL DRIVE PART]						
Output offset voltage	Voos	Vin=Vref	-80	-	+80	mV
Maximum output voltage	Voms	-	3.6	4.0	-	V
Closed-loop voltage gain	Avfs	Vin=0.1Vrms, f=1kHz	17	19	21	dB
Mute on voltage	Vmon	Pin21=sweep	-	-	0.5	V
Mute off voltage	Vmoff	Pin21=sweep	1.5	-	-	V
Mute pin current	Imp	Pin21=5.0V		200	300	uA
Bias pin current	Ibias	Pin28=2.5V		80	120	uA
[ADJUSTABLE REGULATOR PART]						
Output voltage	VREG	IL=100mA	Vout* 0.95	Vout	Vout* 1.05	V
Load Regulation	ΔVom	IL=0->200mA	-50	0	50	mV
Line Regulation	ΔVcc	Vcc=6->10V, IL=100mA	-50	0	50	mV
[LOADING DRIVER PART]						
Input high level voltage	Vih	-	1.5	-	-	V
Input low level voltage	Vil	-	-	-	0.5	V
FWD/REV pin current	Iin	Pin1=Pin2=5.0V	-	200	300	uA
Maximum output voltage	Vo	RL=25 ohm	9.0	10	-	V
Voltage gain	Gvf	Pin3=sweep	7	9	11	dB



IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

TYPICAL APPLICATION CIRCUIT

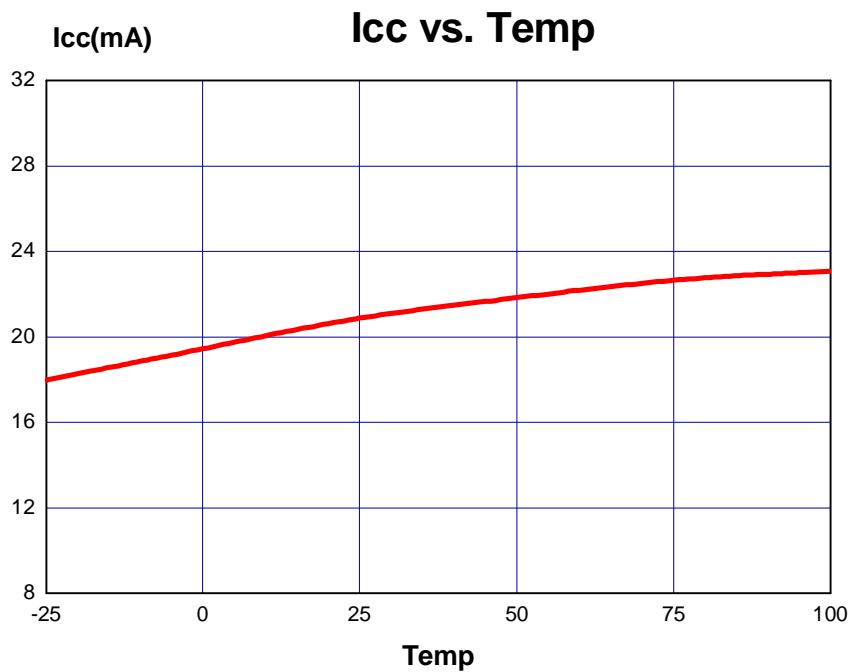
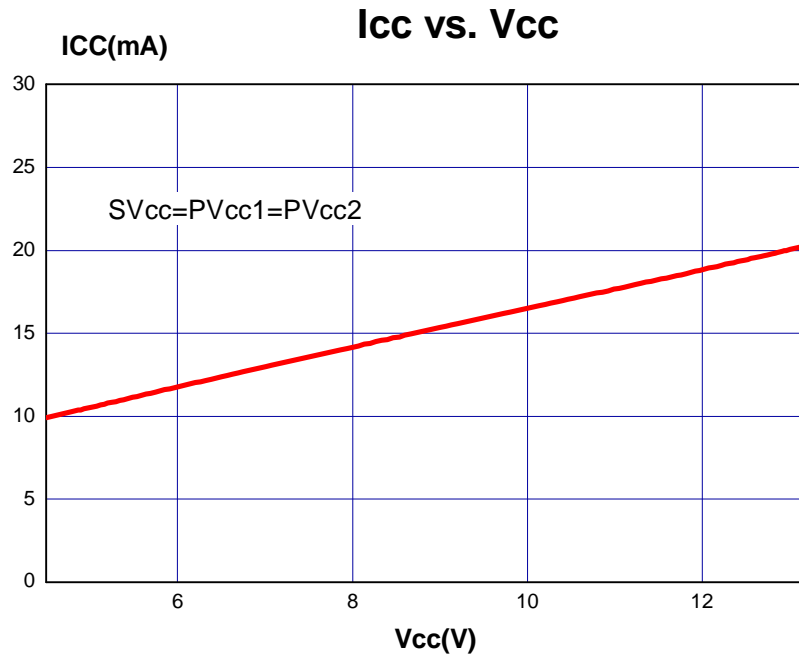




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS CURVES

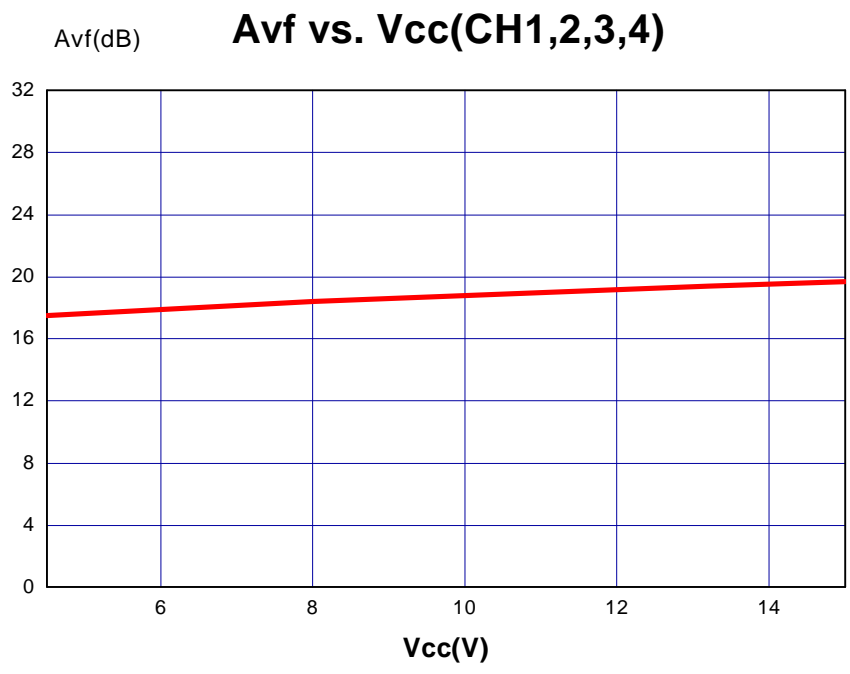
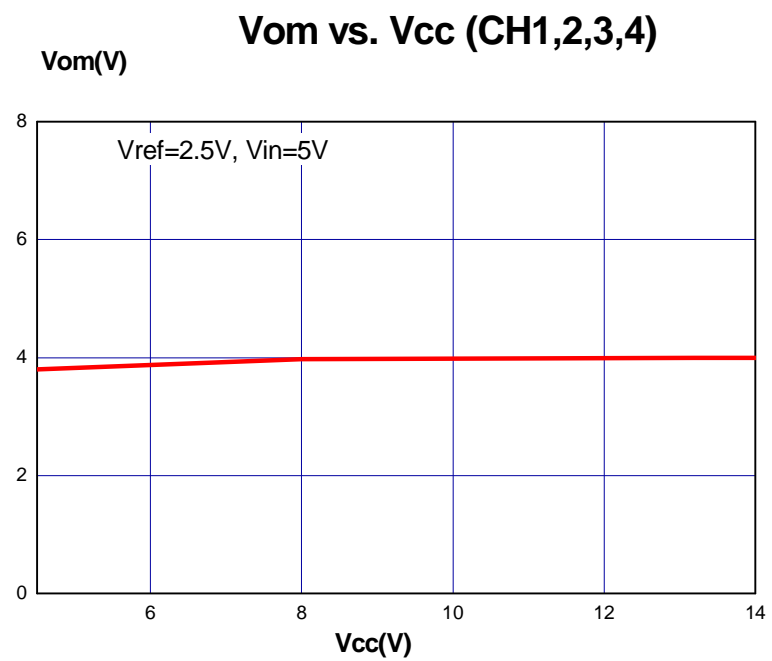




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS CURVES (Continued)

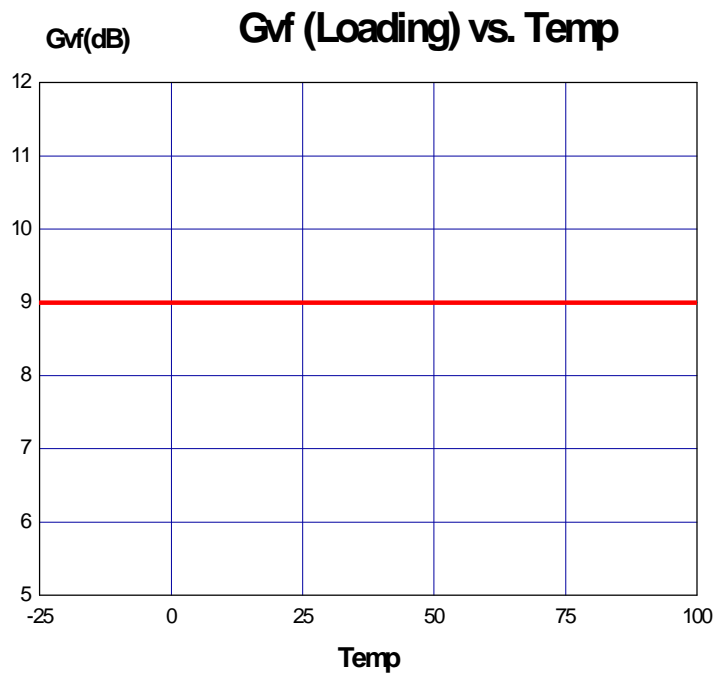
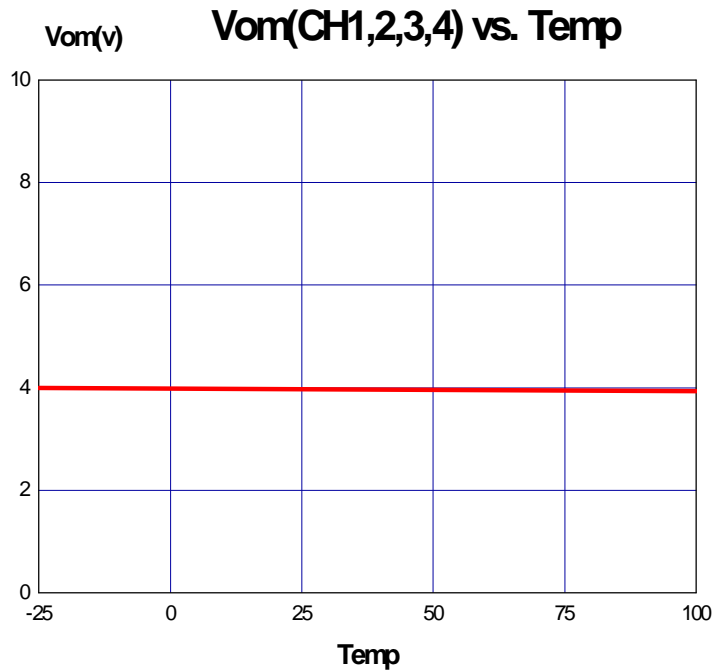




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS CURVES (Continued)

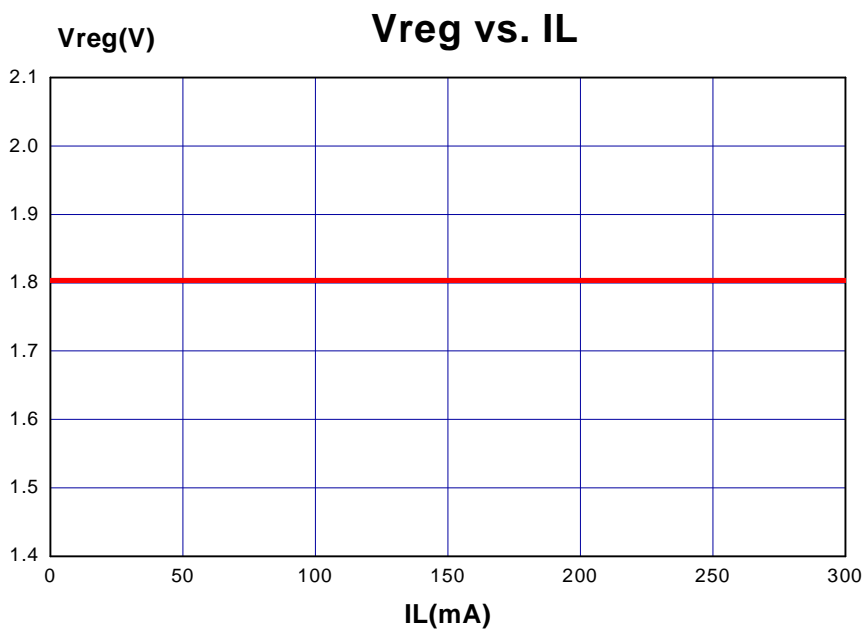
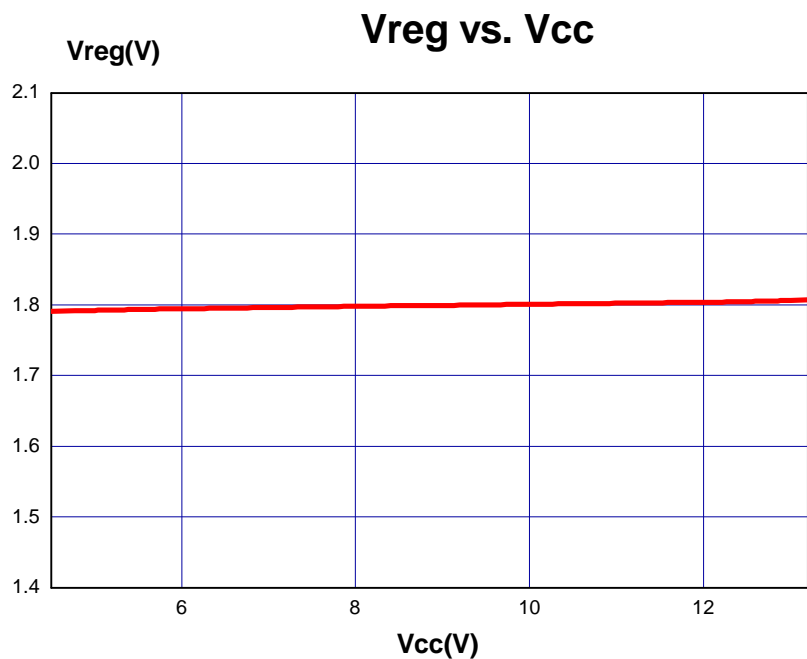




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS CURVES (Continued)

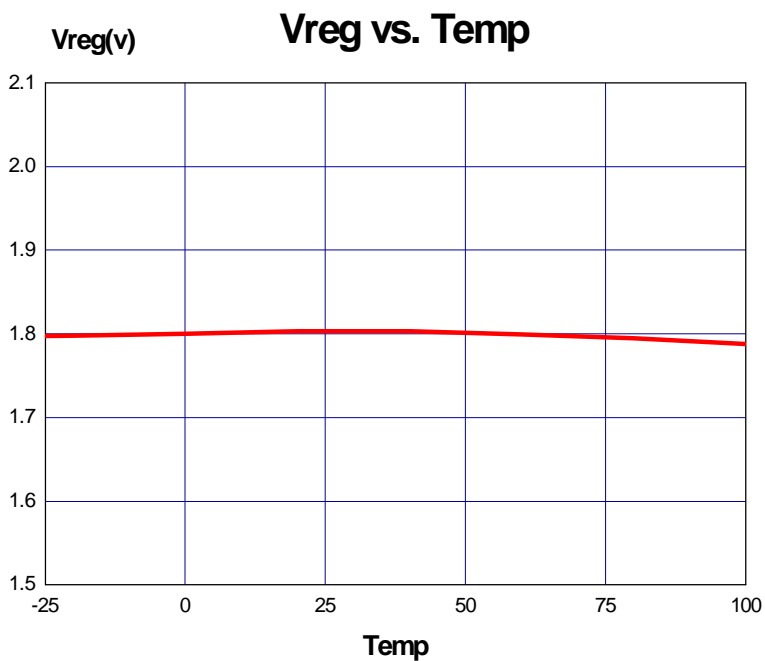




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

ELECTRICAL CHARACTERISTICS CURVES (Continued)

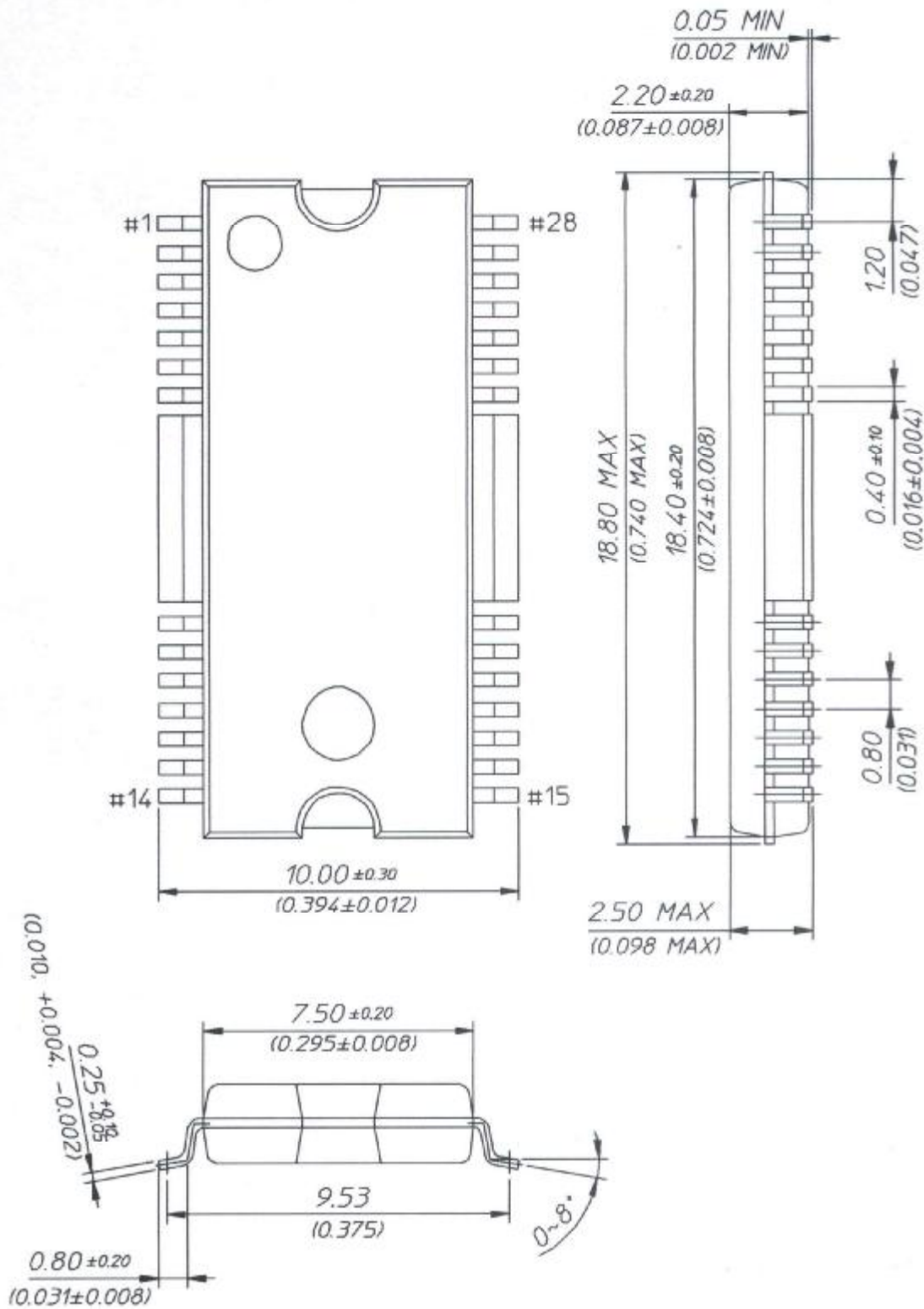




IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

PACKAGE DIMENSION(28SSOPH-375A)





IP9008

5-CH MOTOR DRIVE IC+ 2-Reg controllers

PACKAGE DIMENSION(28SSOPH-375B)

