MP1208/09 DIE

12-Bit, Microprocessor Compatible
Double-Buffered Digital-to-Analog Converter
CMOS Die Specifications

ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (TA = 25°C)

V_{DD} to GND .... 0 V, +17 V
V_{REF} to GND .... +25 V
Digital Input Voltage (V_{IN}) to GND ... –0.5 to V_{DD} +0.5 V
V_{OUT1}, V_{OUT2} (pin 1, pin 2) to GND .. –0.5 to V_{DD} +0.5 V
T_J (maximum) .... 150°C

Ordering Information

Part No.	Parameters		
	INL (LSB)	DNL (LSB)	GE (LSB)
MP1208T-DIE	0.5	1.0	16.0
MP1209S-DIE	1.0	1.0	16.0

Electrical Parameters And Test Conditions (T_A = 25°C, V_{DD} = 15 V, V_{REF} = 10 V)

PARAMETER	DESCRIPTION	MIN	MAX	UNITS	CONDITIONS
N	Resolution	12		Bits	
INL	Relative Accuracy		0.5	LSB	Best Straight Line
DNL	Differential Non-Linearity		1.0	LSB	
GE	Gain Error		16.0	LSB	Using Internal R_{FB}
PSRR	Power Supply Rejection Ratio		20	ppm / %	
I_{OUT}	Output Leakage Current		10.0	nA	
R_{IN}	Input Resistance	5	20	KΩ	
V_{IN}	Logic “1”	2.4		V	
V_{IL}	Logic “0”		0.8	V	
I_{LKG}	Input Leakage Current		1.0	µA	
I_{DD}	Supply Current		2.0	mA	V_{IN} = 0, 15 V

NOTES:
(1) Die are 100% electrically tested in wafer form to meet the limits shown above.
(2) Die are visually inspected per MIL-STD-883, Method 2010, condition B to an AQL of 2.5%.
(3) Absolute maximum ratings are for TA = 25°C unless otherwise specified.
(4) AC electrical characteristics are neither guaranteed nor tested in die form.
(5) Electrical performance and yield after assembly are not guaranteed due to variations in assembly processes.
(6) Wafers and die are processed using ESD handling precautions, and are shipped vacuum-packed.

PHYSICAL CHARACTERISTICS

Die Data

Die Size	X = 113 mils, Y = 121 mils
Pad Size	4 X 4 mils nominal
Pad Metal	Al
Thickness	15 mils nominal
Backside Material	Si
Backside Potential	V_{DD}

Pad Designations

1. $\overline{CS}$
2. $\overline{WR1}$
3. AGND
4. DB5
5. DB4
6. DB3
7. DB2
8. DB1
9. DB0 (LSB)
10. V_{REF}
11. R_{FB}
12. DGND
13. I_{OUT1}
14. I_{OUT2}
15. DB11 (MSB)
16. DB10
17. DB9
18. DB8
19. DB7
20. DB6
21. $\overline{XFER}$
22. $\overline{WR2}$
23. BYTE 1/$\overline{BYTE 2}$
24. V_{DD}*

*Connect pin 24 first