



**MOTOROLA**

Product Preview

# 28-Channel Inkjet Driver

The MC34156 is a 28-Channel Decoder/Driver intended to be used in inkjet printer applications. By using sophisticated SMARTMOS™ technology, it has been possible to combine low power CMOS inputs and logic and high current, high voltage bipolar outputs capable of sustaining a maximum of 30 V.

A 4-to-14 line decoder determines the selected output driver (n) in each 14-driver bank. Two independent output enable inputs (active low) then provide the final decoding to activate 1- or 2-of-28 outputs (OUT<sub>AN</sub> and/or OUT<sub>BN</sub>). The ac electrical characteristics of the drivers are tightly controlled and thereby the energy of the device delivers to the inkjet print head. A Chip Enable function is provided to lock out the drivers during system power up. The 28 bipolar power outputs are open collector 30 V Darlington drivers capable of sinking 500 mA at ambient temperatures up to 70°C. All driver outputs are capable of withstanding a contact discharge of ±8.0 kV with the IC biased.

- ESD Output Protection with Clamping Diodes
- Addressable Data Entry
- Tightly Controlled AC and Electrical Characteristics for Inkjet Printers
- CMOS, TTL Compatible Inputs
- Low Power CMOS Logic

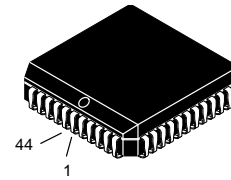
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## MC34156

### 28-CHANNEL INKJET DRIVER (SMARTMOS™ Technology)

#### SEMICONDUCTOR TECHNICAL DATA

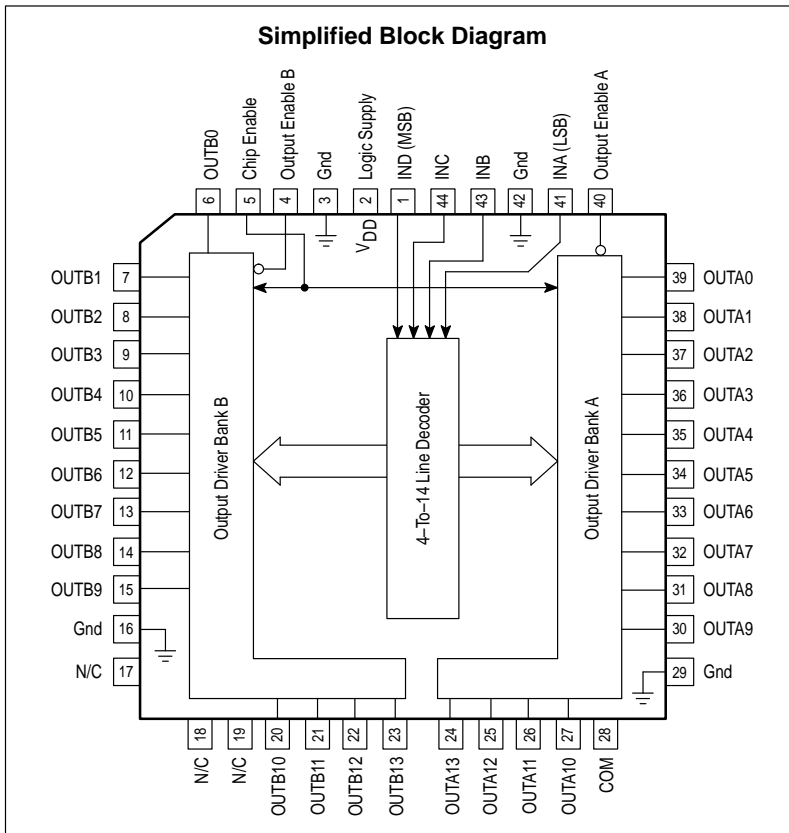


**FN SUFFIX**  
PLASTIC PACKAGE  
CASE 777

#### ORDERING INFORMATION

Device	Operating Temperature Range	Package
MC34156FN	T <sub>A</sub> = 0° to +70°C	Plastic Package

#### Simplified Block Diagram



#### PIN ASSIGNMENTS

Pin No.	Pin Name	Pin Description
1	IND	4th Decoder Input
2	V <sub>DD</sub>	Power Supply
3	Gnd	Ground
4	ENB	Enable Pin for B Set Drivers
5	Chip Enable	Chip Enable
6	OUTB0	B Set 1st Driver
7	OUTB1	B Set 2nd Driver
8	OUTB2	B Set 3rd Driver
9	OUTB3	B Set 4th Driver
10	OUTB4	B Set 5th Driver
11	OUTB5	B Set 6th Driver
12	OUTB6	B Set 7th Driver
13	OUTB7	B Set 8th Driver
14	OUTB8	B Set 9th Driver
15	OUTB9	B Set 10th Driver
16	Gnd	Ground
17	N/C	Not Connected
18	N/C	Not Connected
19	N/C	Not Connected
20	OUTB10	B Set 11th Driver
21	OUTB11	B Set 12th Driver
22	OUTB12	B Set 13th Driver
23	OUTB13	B Set 14th Driver
24	OUTA13	A Set 14th Driver
25	OUTA12	A Set 13th Driver
26	OUTA11	A Set 12th Driver
27	OUTA10	A Set 11th Driver
28	COM	Common
29	Gnd	Ground
30	OUTA9	A Set 10th Driver
31	OUTA8	A Set 9th Driver
32	OUTA7	A Set 8th Driver
33	OUTA6	A Set 7th Driver
34	OUTA5	A Set 6th Driver
35	OUTA4	A Set 5th Driver
36	OUTA3	A Set 4th Driver
37	OUTA2	A Set 3rd Driver
38	OUTA1	A Set 2nd Driver
39	OUTA0	A Set 1st Driver
40	ENA	Enable Pin for A Set Drivers
41	INA	1st Decoder Input
42	Gnd	Ground
43	INB	2nd Decoder Input
44	INC	3rd Decoder Input

Figure 1. Functional Block Diagram

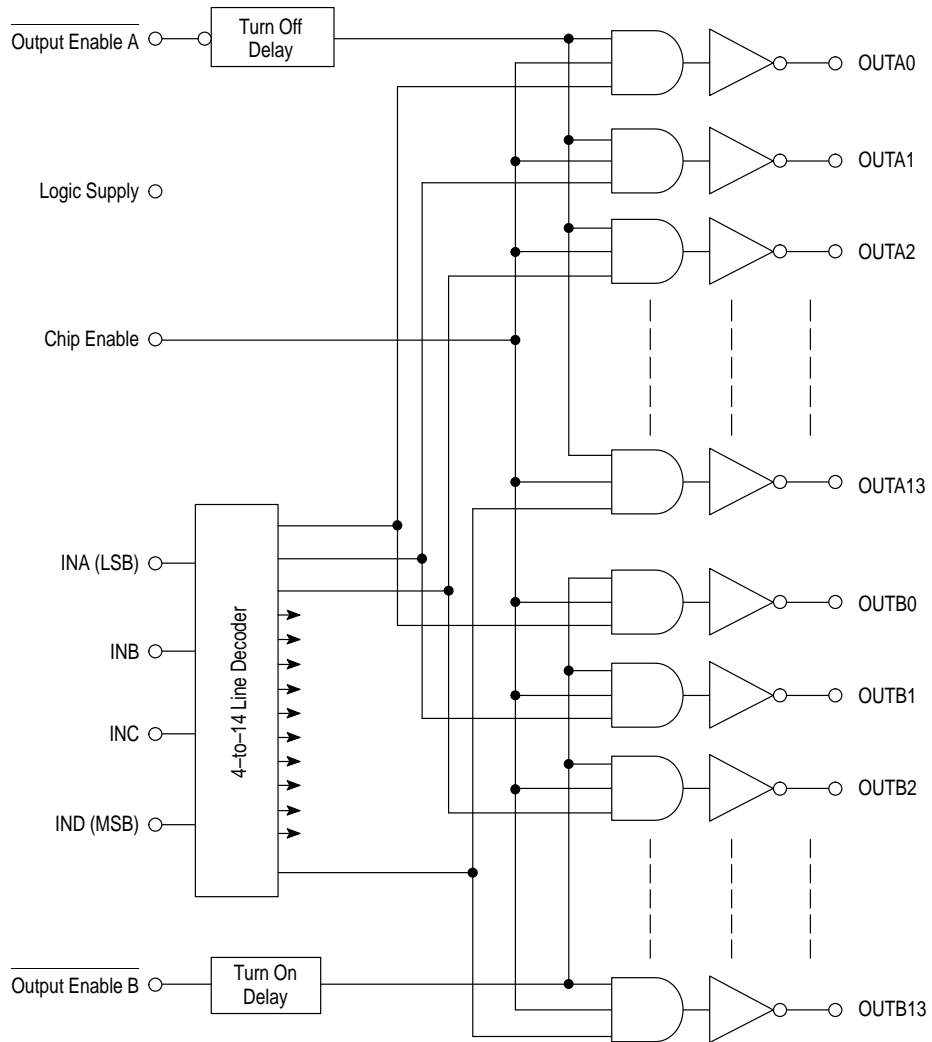


Figure 2. Output Driver Configuration

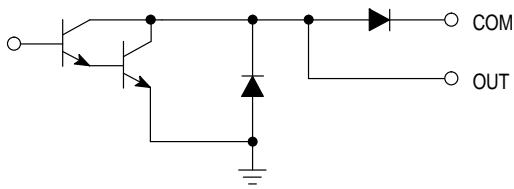
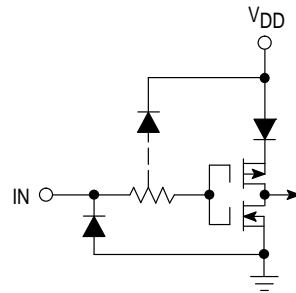
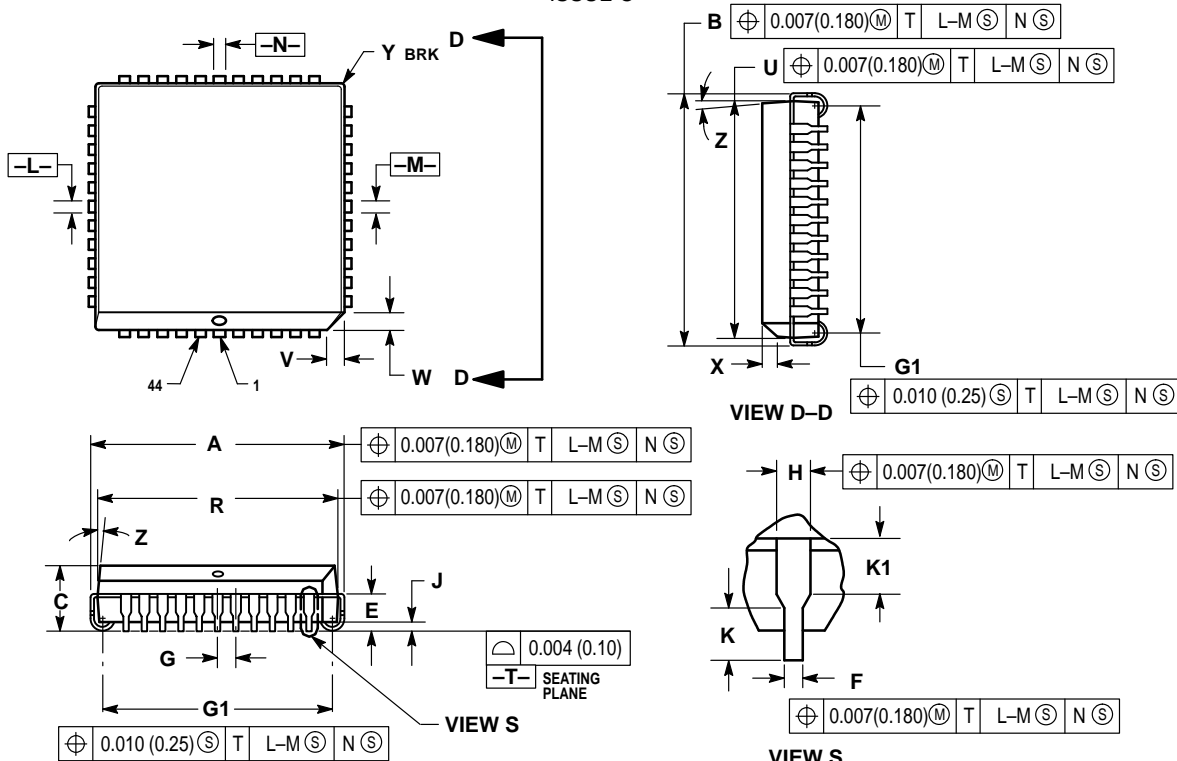


Figure 3. Typical Input Circuit



OUTLINE DIMENSIONS

FN SUFFIX  
PLASTIC PACKAGE  
CASE 777-02  
ISSUE C



NOTES:

1. DATUMS -L-, -M-, AND -N- ARE DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
2. DIMENSION G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
3. DIMENSIONS R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.25) PER SIDE.
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
5. CONTROLLING DIMENSION: INCH.
6. THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
7. DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.685	0.695	17.40	17.65
B	0.685	0.695	17.40	17.65
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050 BSC		1.27 BSC	
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.650	0.656	16.51	16.66
U	0.650	0.656	16.51	16.66
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2°	10°	2°	10°
G1	0.610	0.630	15.50	16.00
K1	0.040	—	1.02	—

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