

# Hex inverter/buffer drivers (open-collector)

## 74F06

### FEATURES

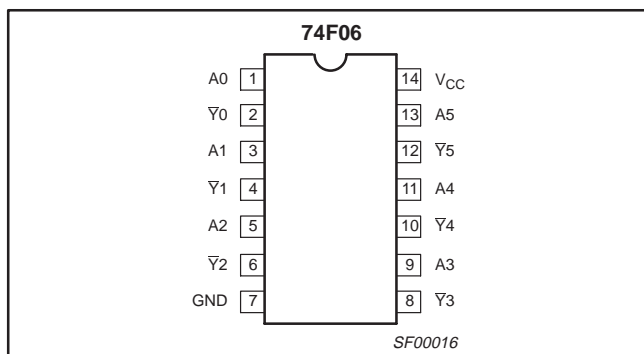
- Open Collector output drive 64mA
- High speed
- 12V output termination voltage

TYPE	TYPICAL PROPAGATION DELAY	TYPICAL SUPPLY CURRENT (TOTAL)
74F06	3.5ns	30mA

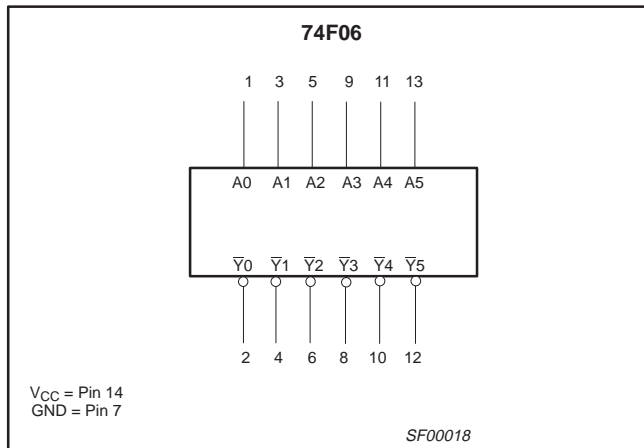
### ORDERING INFORMATION

DESCRIPTION	TYPE NUMBER	PKG DWG #
14-pin plastic dual in-line package	N74F06N	SOT27-1
14-pin plastic small outline package	N74F06D	SOT108-1

### PIN CONFIGURATIONS



### LOGIC SYMBOLS



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**ABSOLUTE MAXIMUM RATINGS**

(Operation beyond the limit set forth in this table may impair the useful life of the device.  
Unless otherwise noted these limits are over the operating free air temperature range.)

SYMBOL	PARAMETER	RATING	UNIT
$V_{CC}$	Supply voltage	-0.5 to +7.0	V
$V_{IN}$	Input voltage	-0.5 to +7.0	V
$I_{IN}$	Input current	-30 to +5	mA
$V_{OUT}$	Voltage applied to output in High output state	-0.5 to 12	V
$I_{OUT}$	Current applied to output in Low output state	128	mA
$T_{amb}$	Operating free air temperature range	0 to +70	°C
$T_{stg}$	Storage temperature range	-65 to +150	°C

**RECOMMENDED OPERATING CONDITIONS**

SYMBOL	PARAMETER	LIMITS			UNIT
		MIN	NOM	MAX	
$V_{CC}$	Supply voltage	4.5	5.0	5.5	V
$V_{IH}$	High-level input voltage	2.0			V
$V_{IL}$	Low-level input voltage			0.8	V
$I_{Ik}$	Input clamp current			-18	mA
$V_{OH}$	High-level output voltage			12	V
$I_{OL}$	Low-level output current			64	mA
$T_{amb}$	Operating free air temperature range	0		+70	°C

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**DC ELECTRICAL CHARACTERISTICS**

(Over recommended operating free-air temperature range unless otherwise noted.)

SYMBOL	PARAMETER	TEST CONDITIONS <sup>1</sup>	LIMITS			UNIT	
			MIN	TYP <sup>2</sup>	MAX		
$I_{OH}$	High-level output current	$V_{CC} = \text{MIN}, V_{IL} = \text{MAX},$ $V_{OH} = \text{MAX}, V_{IH} = \text{MIN}$			250	$\mu\text{A}$	
$V_{OL}$	Low-level output voltage	$V_{CC} = \text{MIN},$ $V_{IL} = \text{MAX},$ $V_{IH} = \text{MIN}$	$I_{OL} = \text{MAX}$	$\pm 10\% V_{CC}$	0.30	0.50	V
				$\pm 5\% V_{CC}$	0.30	0.50	V
$V_{IK}$	Input clamp voltage	$V_{CC} = \text{MIN}, I_I = I_{IK}$		-0.73	-1.2	V	
$I_I$	Input current at maximum input voltage	$V_{CC} = \text{MAX}, V_I = 7.0\text{V}$			100	$\mu\text{A}$	
$I_{IH}$	High-level input current	$V_{CC} = \text{MAX}, V_I = 2.7\text{V}$			20	$\mu\text{A}$	
$I_{IL}$	Low-level input current	$V_{CC} = \text{MAX}, V_I = 0.5\text{V}$			-0.6	mA	
$I_{CC}$	Supply current (total)	$V_{CC} = \text{MAX}$			5.0	8.0	mA
					30	43	mA

**NOTES:**

- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable type.
- All typical values are at  $V_{CC} = 5\text{V}, T_{\text{amb}} = 25^\circ\text{C}$ .

**AC ELECTRICAL CHARACTERISTICS**

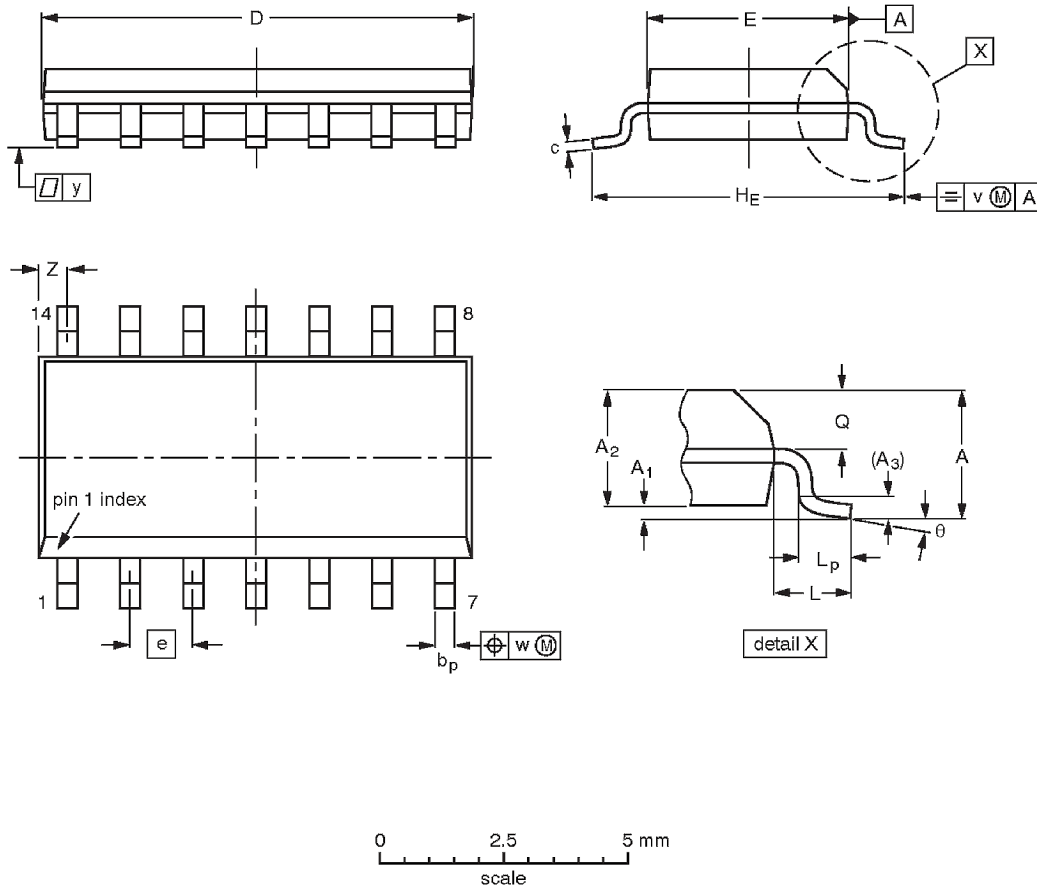
SYMBOL	PARAMETER	TEST CONDITION	LIMITS					UNIT
			$V_{CC} = +5.0\text{V}$ $T_{\text{amb}} = +25^\circ\text{C}$ $C_L = 50\text{pF}, R_L = 100\Omega$			$V_{CC} = +5.0\text{V} \pm 10\%$ $T_{\text{amb}} = 0^\circ\text{C to } +70^\circ\text{C}$ $C_L = 50\text{pF}, R_L = 100\Omega$		
			Min	Typ	Max	Min	Max	
$t_{PLH}$ $t_{PHL}$	Propagation delay An to $\bar{Y}_n$	Waveform 1	2.0 1.5	3.5 3.0	6.0 5.5	1.5 1.0	6.5 6.0	ns

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**SO14:** plastic small outline package; 14 leads; body width 3.9 mm

**SOT108-1**



**DIMENSIONS (inch dimensions are derived from the original mm dimensions)**

UNIT	A max.	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	b <sub>p</sub>	c	D <sup>(1)</sup>	E <sup>(1)</sup>	e	H <sub>E</sub>	L	L <sub>p</sub>	Q	v	w	y	z <sup>(1)</sup>	θ
mm	1.75	0.25 0.10	1.45 1.25	0.25	0.49 0.36	0.25 0.19	8.75 8.55	4.0 3.8	1.27	6.2 5.8	1.05	1.0 0.4	0.7 0.6	0.25	0.25	0.1	0.7 0.3	8° 0°
inches	0.069	0.010 0.004	0.057 0.049	0.01	0.019 0.014	0.0100 0.0075	0.35 0.34	0.16 0.15	0.05	0.244 0.228	0.041	0.039 0.016	0.028 0.024	0.01	0.01	0.004	0.028 0.012	

**Note**

1. Plastic or metal protrusions of 0.15 mm (0.006 inch) maximum per side are not included.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION
	IEC	JEDEC	JEITA		
SOT108-1	076E06	MS-012			