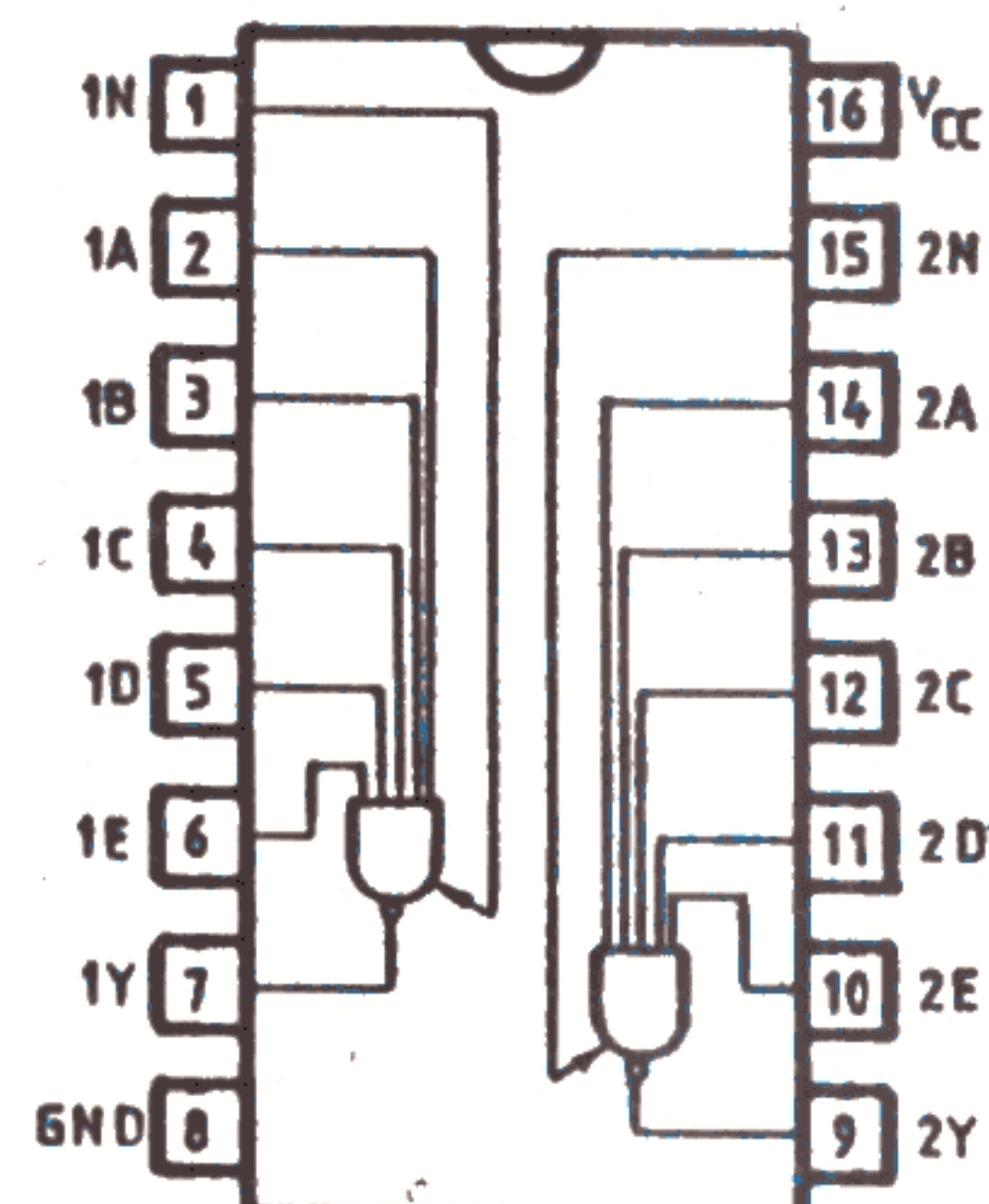


DUAL 5-INPUT NAND GATES

FZH 131
FZH 135

Note :
Noise immunity can be increased
by connecting an external
capacitor between "N" pin and
gate output "Y" .

$$Y = A.B.C.D.E$$



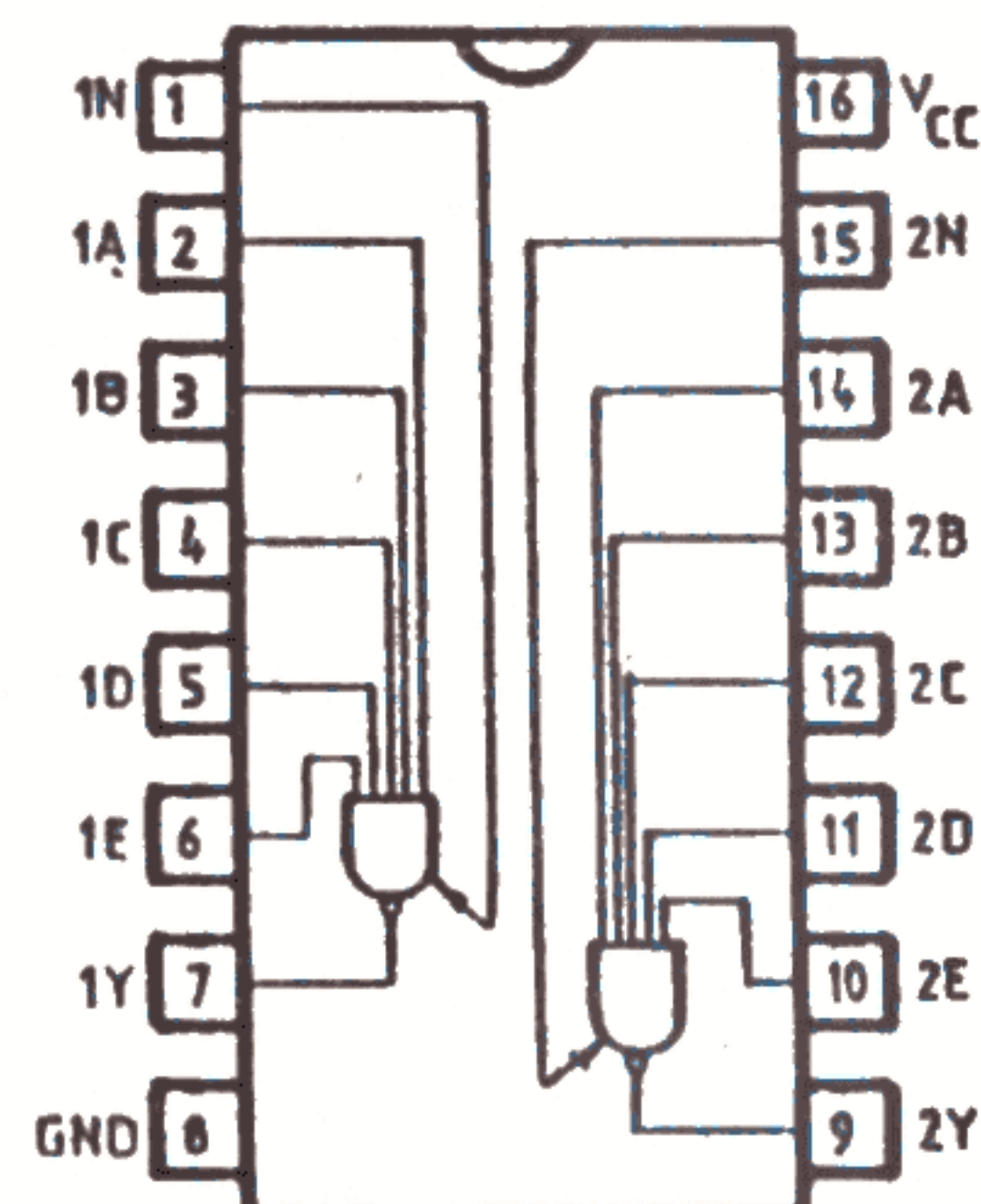
PACKAGE MP-117 / TOP VIEW

DUAL 5-INPUT NAND BUFFERS

FZH 141
FZH 145

Note :
Noise immunity can be increased
by connecting an external
capacitor between "N" pin and
gate output "Y" .

$$Y = A.B.C.D.E$$



PACKAGE MP-117 / TOP VIEW

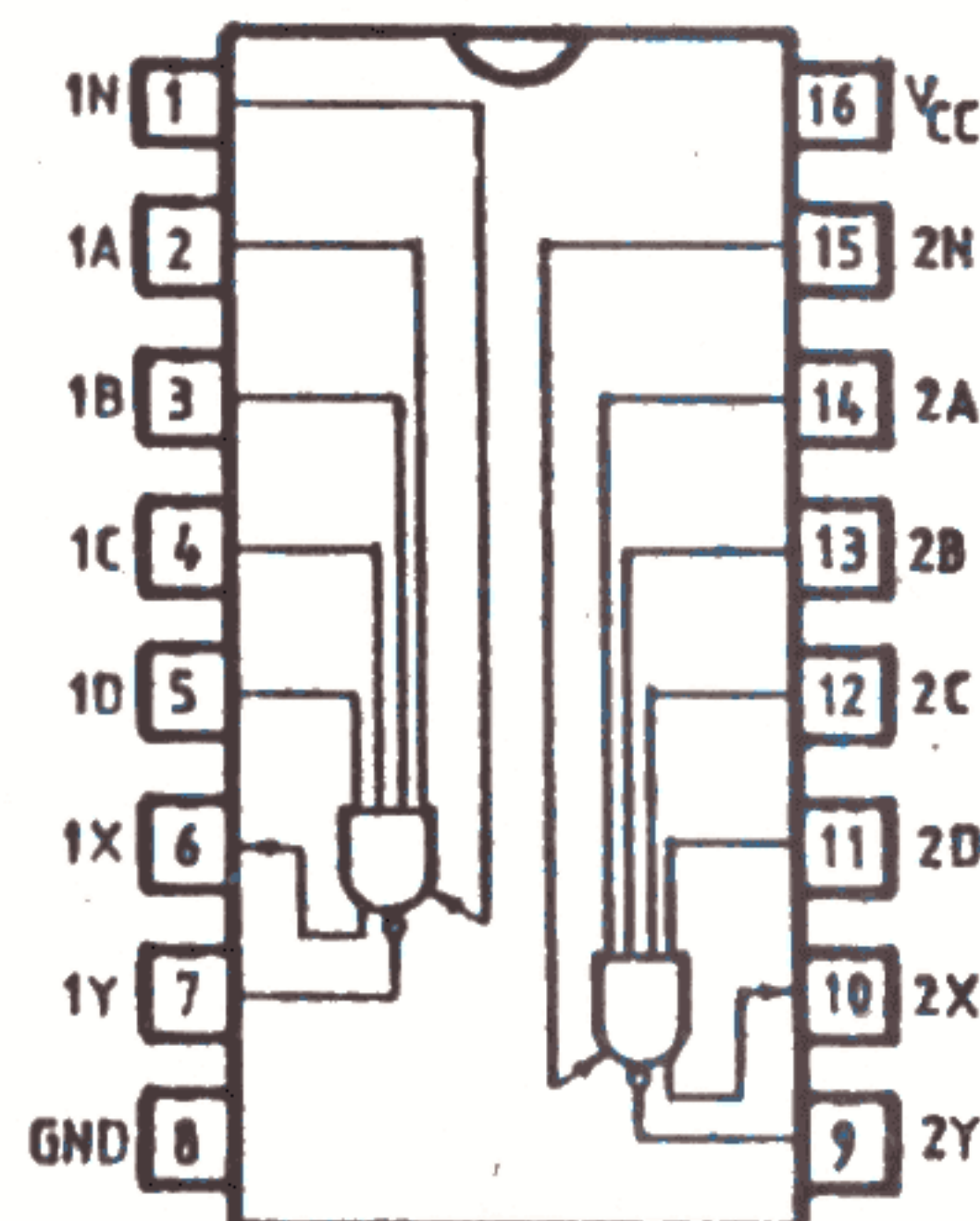
DUAL EXPANDABLE 4-INPUT NAND GATES

FZH 171
FZH 175

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Note :
"N" pin for external filter is
also available .

$$Y = A.B.C.D.X$$



PACKAGE MP-117 / TOP VIEW

BASIC CHARACTERISTICS

F A M I L Y	OPERATING TEMPERATURE RANGE	VCC (V)	
		min.	max.
CDB ... E	0 °C ... + 70 °C	4.75	5.25
CDB ... EM	-55 °C ... + 125 °C	4.50	5.50
CDB ... HE	0 °C ... + 70 °C	4.75	5.25
CDB ... HEM	-55 °C ... + 125 °C	4.50	5.50
74 LS ...	0 °C ... + 70 °C	4.75	5.25
54 LS ...	-55 °C ... + 125 °C	4.50	5.50
FZH .101 ... 171	0 °C ... + 70 °C	13.5	17
FZH 105 ... 175	-25 °C ... + 85 °C	13.5	17

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BASIC CHARACTERISTICS PER NAND GATE

PARAMETER	TTL	TTL-H	TTL-LS	HLL	Unit
FAMILIES	CDB ...	CDB...H	54/74LS..	FZH ...	
VIH min	2	2	2	7.5	V
VIL max	0.8	0.8	0.7/0.8	4.5	V
IIH max	40	50	20	1	µA
- IIL max	1.6	2	0.4	1.8	mA
VOL max	0.4	0.4	0.4/0.5	1.7	V
VOH min	2.4	2.4	2.5/2.7	12	V
IDL min	16	20	4/8	18	mA
- IOH min	0.8	1	0.4	0.1	mA
IOS	18...55	40...100	15...100	15...60	mA
ICC typ @ VOL	3	6.5	0.6	3	mA
ICC typ @ VOH	1	2.5	0.2	1	mA
- VIK max	1.8	1.8	1.5	-	V
Pd medium	10	22	2	30	mW
tpLH typ	12	6	9	175	ns
tpHL typ	8	6.5	10	175	ns