## **National** Semiconductor

### Semiconductors

Integrated Circuits - Digital DTL

### 930 Series DTL

National's DTL family is a complete line of medium speed, medium power and high noise immunity circuits containing a variety of gates and binaries to provide the greatest flexibility to the logic designer. The circuits are available in both a 6k pull-up version for lower power dissipation and a 2k pull-up version for increased speed. The logic gates are augmented by a buffer, a power gate and an extender. All the flip-flops operate on the master-slave principle.

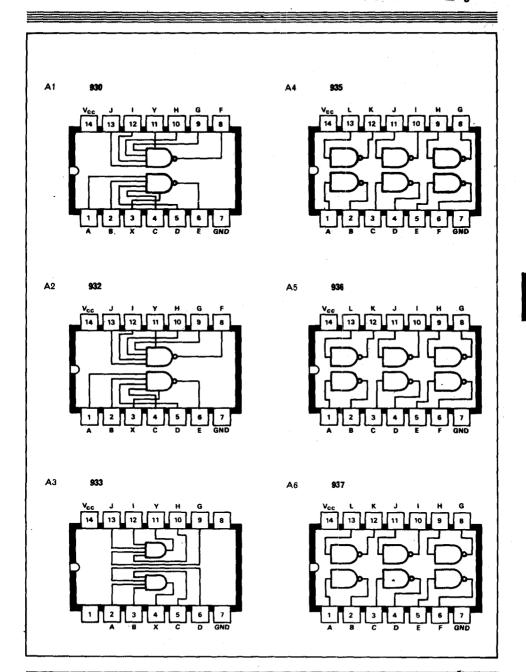
Devices are available in 14-pin moulded dual-in-line packages.

#### **FEATURES**

Operating power supply	5.0V
Maximum power supply (continuous)	8.0V
Logic '1' output level (minimum at 25°C)	2.6V
Logic '0' output level (maximum at 25°C)	0.4V
Typical noise immunity	1.0V
Logic '1' input level (minimum at 25°C)	1.9V
Logic '0' input level (maximum at 25°C)	1.1V

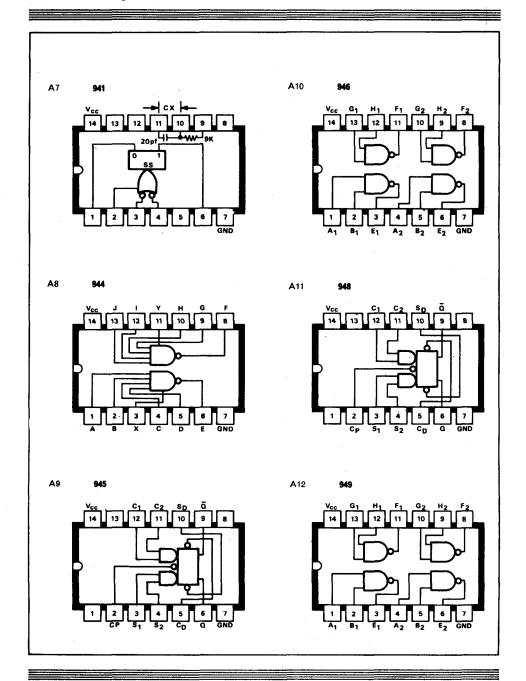
#### REFERENCE TABLE. See outline drawing No. 109 for physical dimensions.

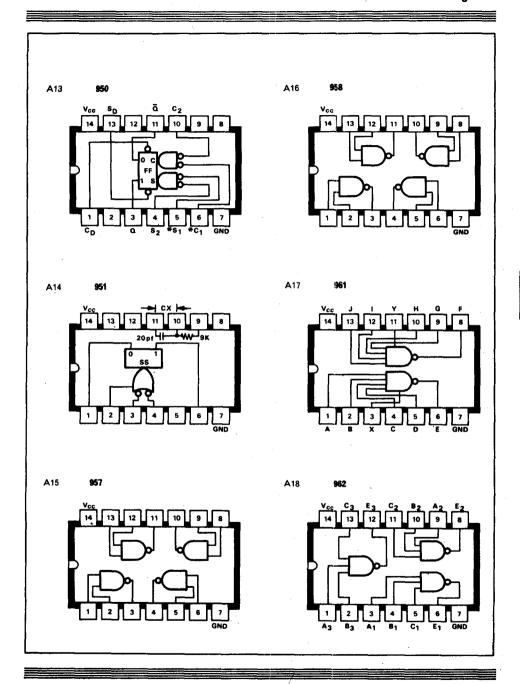
Code	Description	Stock No.	Connection Diagram No
DM930N	Dual four input gate with expander (6k)	19636E	A1
DM932N	Dual four input buffer with expander	19637C	A2
DM933N	Dual four input extender	19638A	A3
DM935N	Hex inverter without input diodes (6k)	19749R	A4
DM936N	Hex inverter gate (6k)	19639X	A5
DM937N	Hex inverter gate (2k)	19750A	A6
DM944N	Dual four input power gate	19640B	A8
DM945N .	RS/JK clocked flip-flop (6k)	19641 X	A9
DM946N	Quad two input gate (6k)	19642R	A10
DM948N	RS/JK clocked flip-flop (2k)	19643G	A11
DM949N	Quad two input gate (2k)	19751 X	` A12
DM957N	Quad two input buffer	29003F	A15
DM958N	Quad two input power gate	29004 D	A16 ·
DM961N	Dual four input gate with expander (2k)	19644F	A17
DM962N	Triple three input gate (6k)	19645C	A18
DM963N	Triple three input gate (2k)	19646A	A19
DM9093N	Dual JK flip-flop separate clocks (6k)	19647X	A20
DM9094N	Dual JK flip-flop separate clocks (2k)	19649F	A21
DM9097N	Dual JK flip-flop common clock (2k)	19650R	A22
DM9099N	Dual JK flip-flop common clock (6k)	19648H	A23
DM1800N	Dual 5-input gate (6k)	30997B	A24
DM1801N	Dual 5-input gate (2k)	30998X	A25



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**Connection Diagrams** 





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**Connection Diagrams** 

