

Logic Gate IC Assortments (7400 series)

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

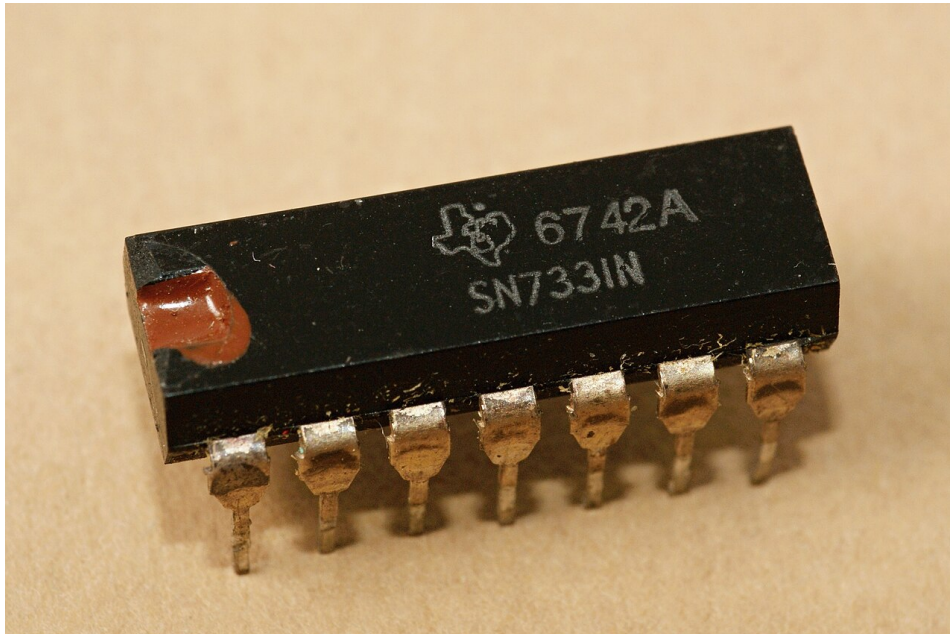


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7400 series logic gate ICs implement AND, OR, NAND, NOR, XOR, NOT, flip-flops and counters, letting students build digital circuits from first principles before moving to microcontrollers. Assortments cover the common gates and functions.

Key Features

- 7400, 7402, 7404, 7408, 7432, 7486
- 74LS and 74HC families
- DIP packages
- Multiple gates per chip
- TTL and CMOS compatibility

Typical Uses in the Workshop

- Build combinational logic circuits
- Make flip-flops and latches
- Design counters and decoders
- Teach truth tables and Karnaugh maps

Safe Operation

1. Check the data sheet pinout first
2. Wire VCC and ground correctly
3. Drive inputs from switches or logic
4. Read outputs on LEDs
5. Test each truth table entry

SAFETY NOTES

- Do not exceed the supply voltage limits
- Unused inputs float - tie them high or low
- Keep chips off conductive surfaces when powered
- Handle with ESD care
- Check orientation before insertion

Maintenance & Consumables

- Keep chips sorted by function
- Store in antistatic foam or tubes
- Check the socket contacts
- Replace fried chips
- Label the assortment

Specification & Buying Notes

An assortment of 74HC (CMOS) gates suits modern school projects with 5 V or 3.3 V logic. Quality originals match specs; beware fake stock on budget carts.