



National
Qualifications
2025

X860/75/12

**Practical Electronics
Data sheet**

MONDAY, 12 MAY
1:30 PM – 2:30 PM



* X 8 6 0 7 5 1 2 *

Relationships required for National 5 Practical Electronics

$$V = IR$$

$$R_T = R_1 + R_2 + \dots$$

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$$

$$P = IV$$

$$P = I^2R$$

$$P = \frac{V^2}{R}$$

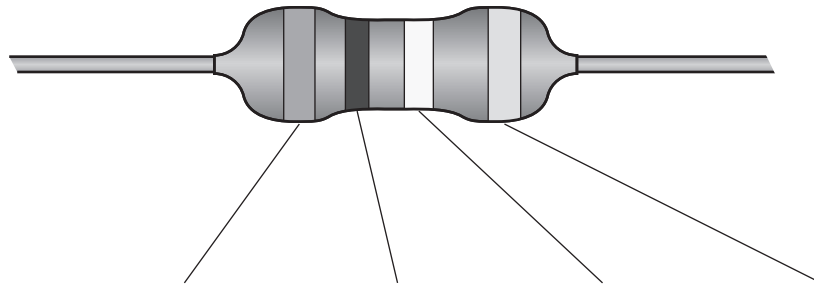
$$\frac{V_1}{V_2} = \frac{R_1}{R_2}$$

$$V_2 = \frac{R_2}{R_1 + R_2} \times V_S$$

$$f = \frac{1}{T}$$

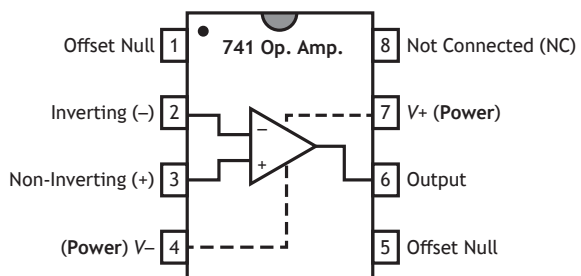
Resistor colour codes

4-band resistor

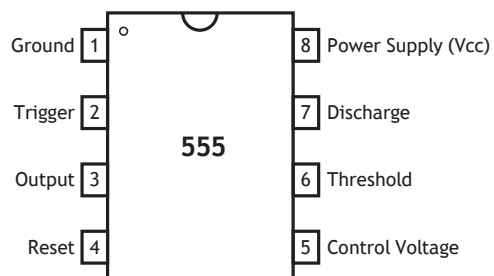


Colour	1 st band value	2 nd band value	Multiplier	Tolerances
Black	0	0	× 1	
Brown	1	1	× 10	±1%
Red	2	2	× 100	±2%
Orange	3	3	× 1 000	±3%
Yellow	4	4	× 10 000	±4%
Green	5	5	× 100 000	±0.5%
Blue	6	6	× 1 000 000	±0.25%
Violet	7	7	× 10 000 000	±0.10%
Grey	8	8	× 100 000 000	±0.05%
White	9	9	× 1 000 000 000	
Gold			× 0.1	±5%
Silver			× 0.01	±10%
No band				±20%

IC Pinout diagrams

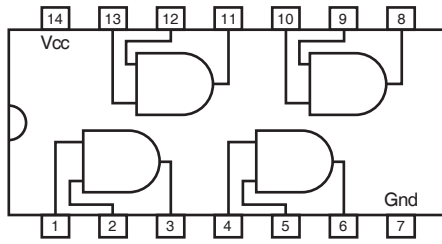


741 Op-amp

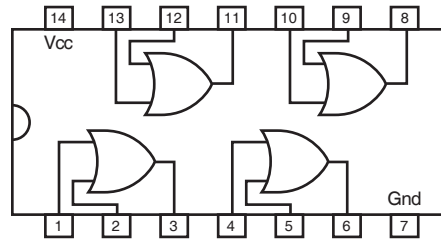


555 timer

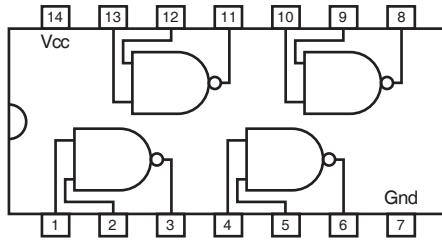
[Turn over



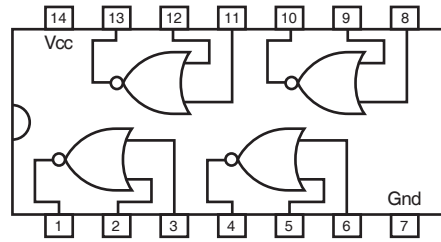
7408 Quad 2 input
AND Gates



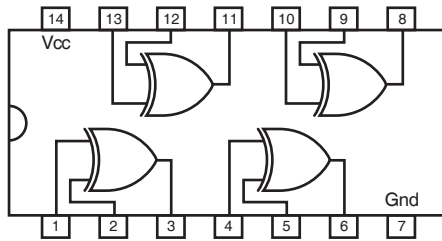
7432 Quad 2 input
OR Gates



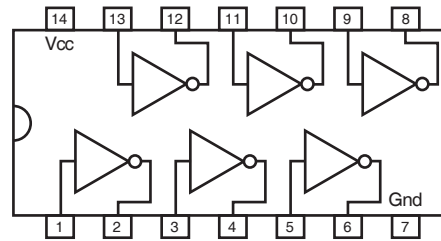
7400 Quad 2 input
NAND Gates



7402 Quad 2 input
NOR Gates



7486 Quad 2 input
XOR Gates



7404 Hex NOT Gates
(Inverters)

[END OF DATA SHEET]