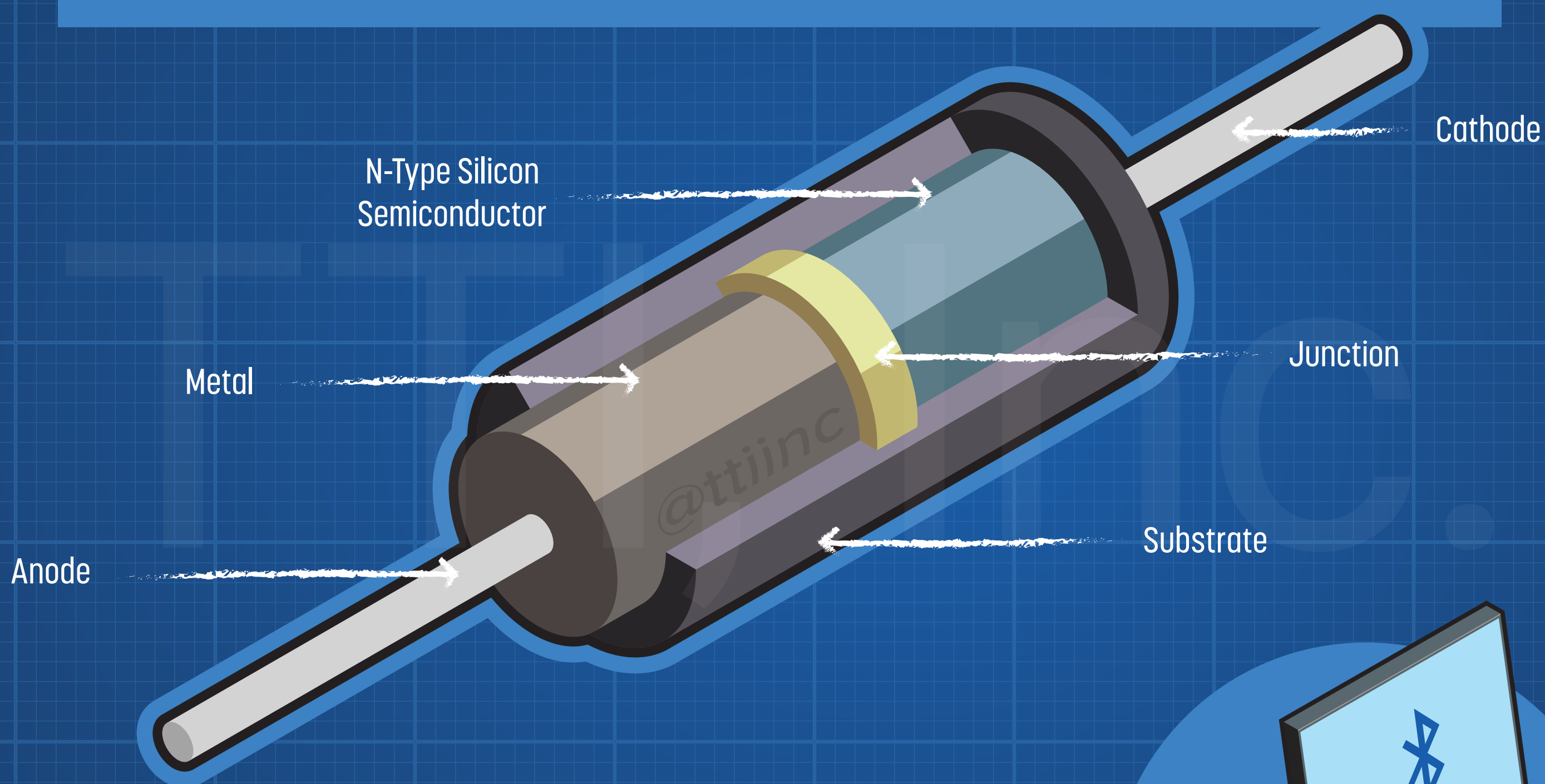


SCHOTTKY DIODES vs. CONVENTIONAL DIODES

Schottky diodes: metal junction = fast switching & low forward voltage drop
Conventional silicon diodes: slower switching & higher forward voltage drop



What's the Difference
at 10A Current?

Silicon P-N

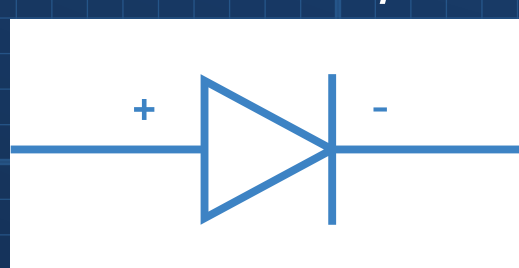
0.7V is needed to "turn on":

$$I_F = 10A \rightarrow V_F = 0.7V$$

And 7W of power is consumed:

$$P = V \times I = 0.7 \times 10 = 7W$$

Generic Diode Symbol



Schottky

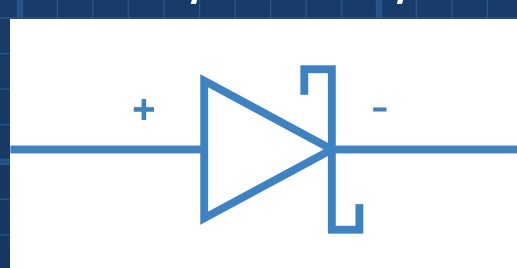
0.3V is needed to "turn on":

$$I_F = 10A \rightarrow V_F = 0.3V$$

And 3W of power is consumed:

$$P = V \times I = 0.3 \times 10 = 3W$$

Schottky Diode Symbol



Schottky diodes enhance power efficiency in RF applications such as smartphones and laptops due to their **fast switching speeds** and **low forward voltage drops**, minimizing power loss.