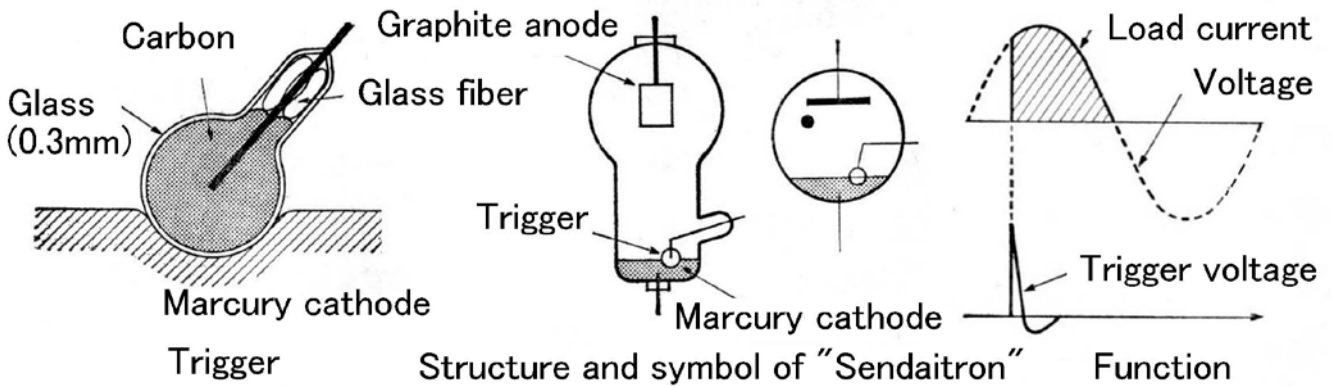


c6 From mercury rectifier and thyatron to power semiconductor

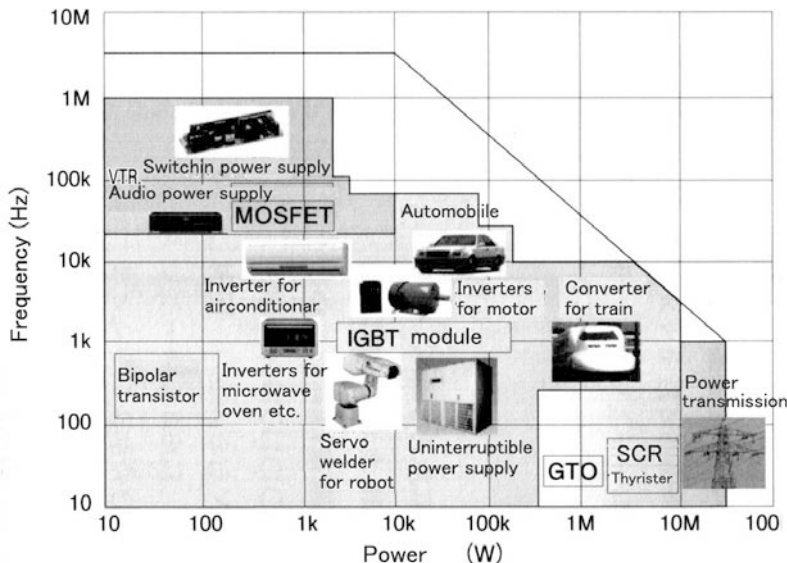


Mercury rectifier 5H69      872A      4H72      2H66      Thyatron(power control) (5G69)



“Sendaitron” (Watanabe, Hatta, Kawai (1949))

GTO : Gate Turn-Off transistor, IGBT : Insulated Gate Bipolar Transistor



Model 0系 (1964~)  
ダイオード + 変圧器  
端子切り替え



Model 300 (1992~)  
and Model 500  
GTO + PWM control  
electric power  
regeneration brake



Model 700 (1998~)  
IGBT Inverter