

15 From mercury rectifier and thyatron to power semiconductor



Mercury rectifier 5H69



872A



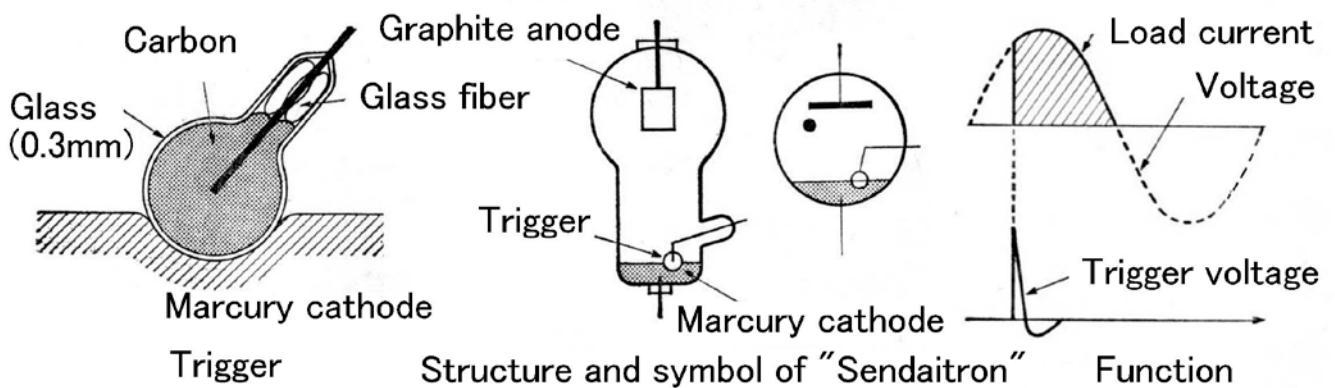
4H72



2H66

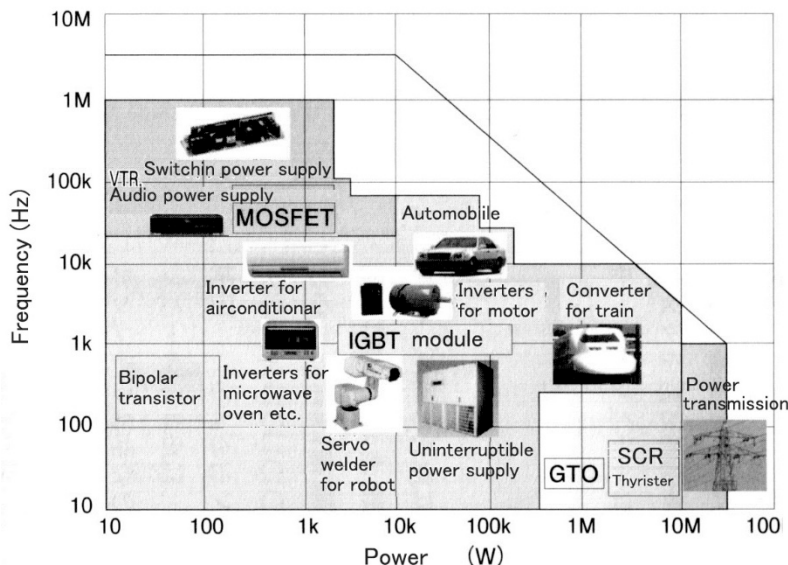


Thyratron(power control) (5G69)

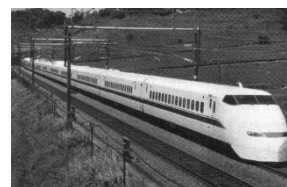


"Sendaitron" (Watanabe, Hatta, Kawai (1949))

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



Application of power semiconductor categorized by power and frequency (Power semiconductor influencing the worlds (in Japanese)、J. of IEEJ (2008))