The Emitter Turn-Off (ETO) Thyristor

is a key enabling technology for Flexible AC Transmission System (FACTS) that will safeguard our nations electric power transmission and distribution.

**Gate drive power consumption**
- low gate drive power consumption, high reliability
- gate drive power does not vary significantly with ETO current and switching frequency, approximately 15 – 25 watt.

**Snubberless turn-off**
- turn-off current: 5000A
- turn-off bus voltage: 2500V
- turn-off peak voltage: 3800V
- maximum power density: 239 kW/cm²
- maximum current density: 100 A/cm²

**Applications of the ETO:**
- Distributed Energy Resources
- Energy Storage
- FACTS
- Motor Drives
- Power System Protection

**Advantages of the ETO:**
- 5000A snubberless turn-off capability
- Low switching loss & conduction loss
- Low cost device and circuit
- Easy for series and parallel operation
- Low gate drive power
- Built-in over-current protection and current sensor

**On-state characteristics**
- low voltage drop, low conduction loss
- strong positive temperature coefficient
- excellent for parallel operation

**Snubberless turn-off loss**
- fast turn-off speed, low turn-off loss
- different turn-off loss with different ETO