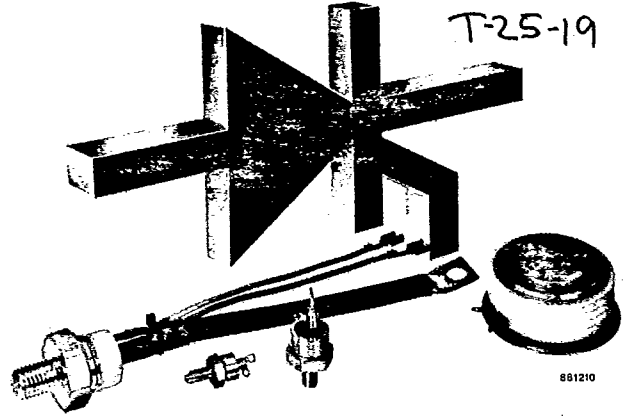


Thyristors

Typical applications

- AC and DC motor drives
- Inverters
- Uninterruptable power supply (UPS)
- Switch-mode power supplies



Line Commutated Thyristors

| Type | Version | V _{DRM} / V _{RRM} (V) | | | | | | | | I _{TAV} T _C =85°C A | I _{TRMS} A | I _{TSM} 45°C A | V _{T0} V | r _r mΩ | T _{VJM} °C | R _{thJC} ⊙ K/W | R _{thCK} ⊙ K/W | Fig. Nr. |
|---------|---------|---|-----|-----|-----|------|------|------|------|---|------------------------|-------------------------------|----------------------|----------------------|------------------------|-------------------------------|-------------------------------|-------------|
| | | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | | | | | | | | | |
| CS 5 | 2,3 | ● | ● | ● | ● | ● | ● | | | 11,5 | 25 | 180 | 1,0 | 33 | 125 | 1,8 | 1,0 | 1,2 |
| CS 8 | 2,3 | ● | ● | ● | ● | ● | ● | | | 16 | 25 | 250 | 1,0 | 18 | 125 | 1,5 | 1,0 | 1,2 |
| CS 16 | 2,3 | | ● | ● | ● | ● | ● | ● | | 19 | 30 | 350 | 1,0 | 12 | 125 | 1,0 | 0,6 | 3,4 |
| CS 23 | 2,3 | | ● | ● | ● | ● | ● | ● | | 25 | 50 | 450 | 1,0 | 10 | 125 | 1,0 | 0,6 | 3,4 |
| CS 35 | 4 | | ● | ● | ● | ● | ● | ● | | 60 | 120 | 1200 | 0,85 | 3,5 | 125 | 0,4 | 0,2 | 5 |
| CS 52 | 1,8 | | | ● | ● | ● | ● | ● | | 50 | 120 | 1600 | 1,0 | 3,65 | 125 | 0,55 | 0,1 | 9,10 |
| CS 72 | 1,8 | | | ● | ● | ● | ● | ● | | 75 | 160 | 2000 | 1,0 | 2,6 | 125 | 0,36 | 0,1 | 9,10 |
| CS 112 | 1,8 | | | ● | ● | ● | ● | ● | | 124 | 220 | 2700 | 1,0 | 2,0 | 125 | 0,2 | 0,06 | 9,10 |
| CS 142 | 1,8 | | | ● | ● | ● | ● | ● | | 140 | 260 | 3100 | 1,0 | 1,7 | 125 | 0,18 | 0,04 | 9,10 |
| CS 220 | 2 | | | | ● | | ● | ● | ● | 220 | 450 | 7000 | 0,95 | 1,0 | 125 | 0,12 | 0,03 | 11 |
| CS 300 | 3 | | | | ● | | ● | ● | ● | 330 | 600 | 8500 | 1,0 | 0,43 | 125 | 0,09 | 0,03 | 11 |
| CS 400 | 2 | | | | ● | ● | ● | ● | | 465 | 1200 | 8500 | 1,0 | 0,46 | 125 | 0,052 | 0,008 | 7 |
| CS 550 | 1 | | | | ● | ● | ● | ● | ● | 550 | 1500 | 10500 | 1,0 | 0,367 | 125 | 0,044 | 0,008 | 7 |
| CS 1000 | 2 | | | | ● | ● | ● | ● | ● | 980 | 2000 | 20000 | 1,0 | 0,23 | 125 | 0,025 | 0,005 | 8 |
| CS 1300 | 1 | | | | ● | ● | ● | ● | ● | 1200 | 3000 | 30000 | 0,9 | 0,187 | 125 | 0,0225 | 0,005 | 8 |

Line Commutated Thyristors, for higher voltage

| Type | Version | V _{DRM} / V _{RRM} (V) | | | | | | | | | | I _{TAV} T _C =85°C A | I _{TRMS} A | I _{TSM} 45°C A | V _{T0} V | r _r mΩ | T _{VJM} °C | R _{thJC} ⊙ K/W | R _{thCK} ⊙ K/W | Fig. Nr. |
|---------|---------|---|------|------|------|------|------|------|------|------|------|---|------------------------|-------------------------------|----------------------|----------------------|------------------------|-------------------------------|-------------------------------|-------------|
| | | 1800 | 2000 | 2200 | 2300 | 2400 | 2500 | 2700 | 3000 | 3200 | 3500 | | | | | | | | | |
| CS 351 | 1 | | | | ● | | | | | | | 310 | 1000 | 5500 | 1,0 | 1,37 | 125 | 0,065 | 0,008 | 6 |
| CS 411 | 1 | ● | ● | | ● | | | | | | | 420 | 1200 | 9000 | 1,0 | 0,95 | 125 | 0,044 | 0,008 | 7 |
| CS 601 | 1 | ● | ● | | ● | ● | | | | | | 600 | 2000 | 16000 | 1,1 | 0,48 | 120 | 0,030 | 0,005 | 8 |
| CS 661 | 1 | | | | | | | ● | ● | ● | | 680 ^② | 3000 | 19000 | 1,0 | 0,67 | 120 | 0,025 | 0,005 | 8 |
| CS 1001 | 1 | | ● | ● | | ● | | | | | | 930 | 2500 | 25000 | 1,05 | 0,35 | 125 | 0,0225 | 0,005 | 8 |

Fast Thyristors

| Type | Version | V _{DRM} / V _{RRM} (V) | | | | | | | I _{TAV} T _C =85°C A | t _q μs | I _{TRMS} A | I _{TSM} 45°C A | V _{T0} V | r _r mΩ | T _{VJM} °C | R _{thJC} ⊙ K/W | R _{thCK} ⊙ K/W | Fig. Nr. |
|---------|---------|---|-----|------|------|------|------|------|---|----------------------|------------------------|-------------------------------|----------------------|----------------------|------------------------|-------------------------------|-------------------------------|-------------|
| | | 600 | 800 | 1000 | 1100 | 1200 | 1300 | 1400 | | | | | | | | | | |
| CSF 369 | 1 | ● | ● | ● | ● | ● | ● | | 360 | 20-40 | 1000 | 5200 | 1,2 | 1,0 | 125 | 0,047 | 0,008 | 6 |
| CSF 399 | 1 | | | | ● | ● | ● | ● | 510 | 25-40 | 1500 | 10800 | 1,2 | 0,445 | 125 | 0,040 | 0,008 | 7 |
| CSF 499 | 1 | | | | ● | ● | ● | ● | 880 | 20-40 | 2000 | 20000 | 1,2 | 0,264 | 125 | 0,024 | 0,005 | 8 |

① for disc devices: double side cooling

② at T_C = 80°C.

