

Gate Turn-Off Thyristors

IXYS UK offers a broad range of high specification devices with voltage ratings to 4.5kV (2.8kV DC link) and controllable current ratings of up to 4kA are available to meet the toughest demands in applications such as traction propulsion and auxiliaries, AC industrial drives, FACT's and active VAr controllers. Offering both symmetrical devices for applications with a reverse blocking requirement e.g. current sourced inverters and asymmetric blocking devices for applications where no reverse blocking requirement exists e.g. voltage sourced inverters.

A new addition to the range is the 4500V, 4000A, G4000EF450 Asymmetric GTO thyristor, available in a hermetically sealed capsule with an 85mm electrode diameter

Gate Turn-off Thyristors are still the component of choice when it comes to very high power converters and we remain totally committed to this technology for the foreseeable future.

Features and benefits

- Advanced technologies and lifetime control
- Controllable current ratings up to 4000A
- Fully hermetic pressure contact construction
- Available in 5 package sizes to industry standards



IXYS UK can also offer a range of complimentary products to its GTO thyristor range including:

- anti-parallel diodes
- snubber diodes
- snubber capacitors
- clamps

Applications

- Transportation propulsion
- Transportation auxiliaries
- Industrial drives
- Medium voltage AC drives
- Energy and renewables
- High power converters



Asymmetric GTO's

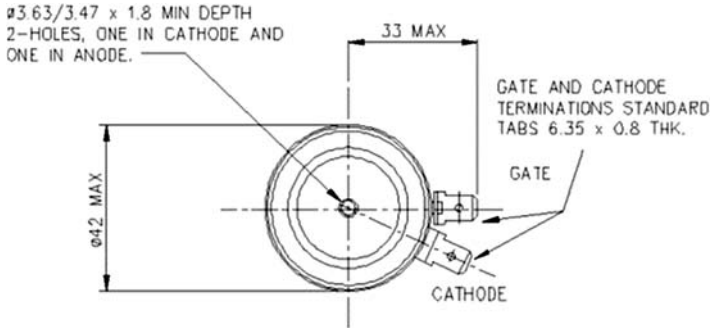
| Part No. | V _{DRM} | V _{RRM} | I _{TGQM} @ C _s | | I _{TAV} | I _{TSM} | I ² t | Typ. Switching | | V _T | T _{JM} | R _{thJK} | Fig. No. |
|------------|----------------------|------------------|------------------------------------|-----|----------------------|------------------------|-----------------------|-----------------|-----------------|-----------------------------------|-----------------|-------------------|----------|
| | V _{GK} =-2V | | | | T _K =55°C | 10ms 1/2 sine | | Times | | I _T =I _{TGQM} | | 180° | |
| | | | | | | V _R = ≤ 10V | | t _{gt} | t _{gq} | | | Sine | |
| | V | V | A | μF | A | kA | kA ² s | μs | μs | V | °C | K/W | |
| G1000NC450 | 4500 | 18 | 1000 | 2.0 | 545 | 8.00 | 320 x 10 ³ | 4.5 | 14 | 4.0 | 125 | 0.0270 | W36 |
| G1000QC250 | 2500 | 18 | 1000 | 1.0 | 615 | 8.00 | 320 x 10 ³ | 2.8 | 13 | 2.5 | 125 | 0.0380 | W35 |
| G1000QC450 | 4500 | 18 | 1000 | 1.0 | 443 | 6.50 | 211 x 10 ³ | 3.0 | 13 | 4.0 | 125 | 0.0380 | W35 |
| G2000HF250 | 2500 | 18 | 2000 | 4.0 | 1030 | 16.00 | 1.28x10 ⁶ | 3.0 | 25 | 2.8 | 125 | 0.0220 | W85 |
| G2000HF450 | 4500 | 18 | 2000 | 4.0 | 890 | 13.70 | 938x10 ³ | 4.0 | 25 | 3.5 | 125 | 0.0220 | W85 |
| G2500HF250 | 2500 | 18 | 2500 | 6.0 | 1085 | 16.00 | 1.28x10 ⁶ | 3.0 | 25 | 3.1 | 125 | 0.0200 | W85 |
| G3000TF250 | 2500 | 18 | 3000 | 5.0 | 1690 | 30.00 | 4.5x10 ⁶ | 3.5 | 26 | 2.5 | 125 | 0.0120 | W86 |
| G3000TF450 | 4500 | 18 | 3000 | 6.0 | 1381 | 24.00 | 2.88x10 ⁶ | 4.0 | 22 | 4.0 | 125 | 0.0120 | W86 |
| G4000EF450 | 4500 | 18 | 4000 | 6.0 | 1480 | 26.00 | 3.38x10 ⁶ | 4.0 | 30 | 4.4 | 125 | 0.0110 | W104 |

Symmetric GTO's

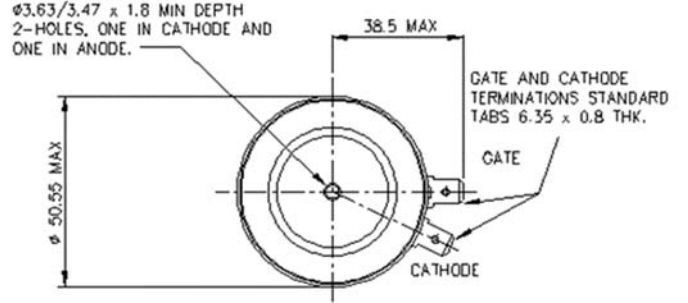
| Part No. | V _{DRM} | V _{RRM} | I _{TGQM} @ C _s | | I _{TAV} | I _{TSM} | I ² t | Typ. Switching | | V _T | T _{JM} | R _{thJK} | Fig. No. |
|------------|----------------------|------------------|------------------------------------|-----|----------------------|------------------------|-------------------|-----------------|-----------------|-----------------------------------|-----------------|-------------------|----------|
| | V _{GK} =-2V | | | | T _K =55°C | 10ms 1/2 sine | | Times | | I _T =I _{TGQM} | | 180° | |
| | | | | | | V _R = ≤ 10V | | t _{gt} | t _{gq} | | | Sine | |
| | V | V | A | μF | A | kA | kA ² s | μs | μs | V | °C | K/W | |
| H0500KC200 | 2000 | 2000 | 500 | 1.0 | 280 | 3.00 | 45 x 103 | 2.0 | 5 | 3.2 | 125 | 0.0650 | W34 |
| H0500KC20Y | 2000 | 100 | 500 | 1.0 | 280 | 3.00 | 45 x 103 | 2.0 | 5 | 3.2 | 125 | 0.0650 | W34 |
| H0500KC25D | 2500 | 2000 | 500 | 1.0 | 280 | 3.00 | 45 x 103 | 2.0 | 5 | 3.2 | 125 | 0.0650 | W34 |
| H0500KC25Y | 2500 | 100 | 500 | 1.0 | 280 | 3.00 | 45 x 103 | 2.0 | 5 | 3.2 | 125 | 0.0650 | W34 |
| H0700KC140 | 1400 | 1400 | 700 | 1.5 | 360 | 4.00 | 80 x 103 | 3.0 | 5 | 2.75 | 125 | 0.0630 | W34 |
| H0700KC14Y | 1400 | 100 | 700 | 1.5 | 360 | 4.00 | 80 x 103 | 3.0 | 5 | 2.75 | 125 | 0.0630 | W34 |
| H0700KC17D | 1700 | 1400 | 700 | 1.5 | 360 | 4.00 | 80 x 103 | 3.0 | 5 | 2.75 | 125 | 0.0630 | W34 |
| H0700KC17Y | 1700 | 100 | 700 | 1.5 | 360 | 4.00 | 80 x 103 | 3.0 | 5 | 2.75 | 125 | 0.0630 | W34 |
| H1200NC200 | 2000 | 2000 | 1200 | 3.0 | 670 | 10.50 | 550 x 103 | 3.0 | 12 | 3.3 | 125 | 0.0270 | W36 |
| H1200NC20Y | 2000 | 100 | 1200 | 3.0 | 670 | 10.50 | 550 x 103 | 3.0 | 12 | 3.3 | 125 | 0.0270 | W36 |
| H1200NC25D | 2500 | 2000 | 1200 | 3.0 | 670 | 10.50 | 550 x 103 | 3.0 | 12 | 3.3 | 125 | 0.0270 | W36 |
| H1200NC25Y | 2500 | 100 | 1200 | 3.0 | 670 | 10.50 | 550 x 103 | 3.0 | 12 | 3.3 | 125 | 0.0270 | W36 |

Fast Switching GTO's

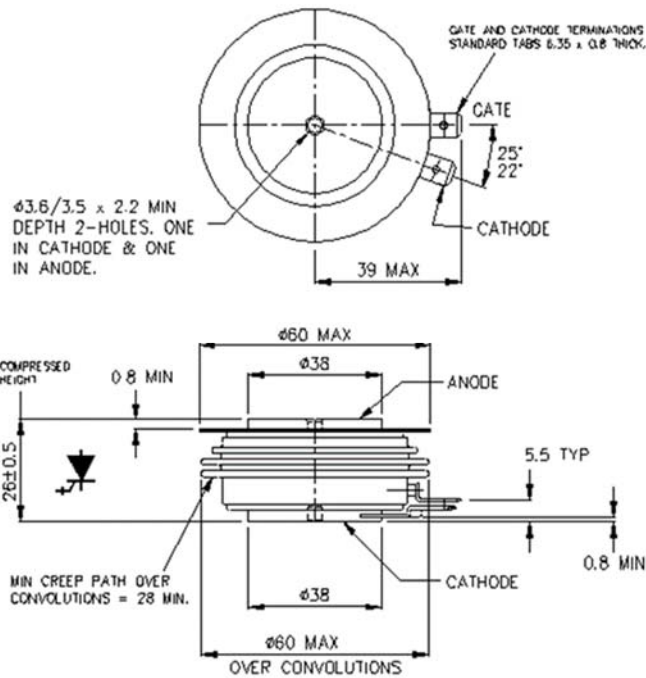
| Part No. | V _{DRM} | V _{RRM} | I _{TGQM} @ C _s | | I _{TAV} | I _{TSM} | I ² t | Typ. Switching | | V _T | T _{JM} | R _{thJK} | Fig. No. |
|------------|----------------------|------------------|------------------------------------|-----|----------------------|------------------------|------------------------|-----------------|-----------------|-----------------------------------|-----------------|-------------------|----------|
| | V _{GK} =-2V | | | | T _K =55°C | 10ms 1/2 sine | | Times | | I _T =I _{TGQM} | | 180° | |
| | | | | | | V _R = ≤ 10V | | t _{gt} | t _{gq} | | | Sine | |
| | V | V | A | μF | A | kA | kA ² s | μs | μs | V | °C | K/W | |
| S0300SR12Y | 1200 | 100 | 480 | 1.0 | 215 | 3.50 | 61.2 x 10 ³ | 3.5 | 9 | 2.4 | 125 | 0.1300 | W87 |
| S0500YC20Y | 2000 | 100 | 500 | 1.0 | 275 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0870 | W93 |
| S0500YC25Y | 2500 | 100 | 500 | 1.0 | 275 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0870 | W93 |
| S0500KC200 | 2000 | 2000 | 500 | 1.0 | 330 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0650 | W34 |
| S0500KC20Y | 2000 | 100 | 500 | 1.0 | 330 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0650 | W34 |
| S0500KC25D | 2500 | 2000 | 500 | 1.0 | 330 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0650 | W34 |
| S0500KC25Y | 2500 | 100 | 500 | 1.0 | 330 | 4.00 | 80 x 10 ³ | 3.5 | 10 | 2.5 | 125 | 0.0650 | W34 |
| S0700KC140 | 1400 | 1400 | 700 | 1.5 | 430 | 5.00 | 125 x 10 ³ | 3.0 | 10 | 2.2 | 125 | 0.0630 | W34 |
| S0700KC14Y | 1400 | 100 | 700 | 1.5 | 430 | 5.00 | 125 x 10 ³ | 3.0 | 10 | 2.2 | 125 | 0.0630 | W34 |
| S0700KC17D | 1700 | 1400 | 700 | 1.5 | 430 | 5.00 | 125 x 10 ³ | 3.0 | 10 | 2.2 | 125 | 0.0630 | W34 |
| S0700KC17Y | 1700 | 100 | 700 | 1.5 | 430 | 5.00 | 125 x 10 ³ | 3.0 | 10 | 2.2 | 125 | 0.0630 | W34 |
| S1000NC300 | 3000 | 3000 | 1000 | 2.0 | 600 | 10.00 | 500 x 10 ³ | 5.0 | 19 | 3.5 | 125 | 0.0270 | W36 |
| S1000NC30Y | 3000 | 100 | 1000 | 2.0 | 600 | 10.00 | 500 x 10 ³ | 5.0 | 19 | 3.5 | 125 | 0.0270 | W36 |
| S1000NC36D | 3600 | 2880 | 1000 | 2.0 | 600 | 10.00 | 500 x 10 ³ | 5.0 | 19 | 3.5 | 125 | 0.0270 | W36 |
| S1000NC36Y | 3600 | 100 | 1000 | 2.0 | 600 | 10.00 | 500 x 10 ³ | 5.0 | 19 | 3.5 | 125 | 0.0270 | W36 |
| S1200NC200 | 2000 | 2000 | 1200 | 3.0 | 790 | 13.00 | 840 x 10 ³ | 4.5 | 19 | 2.7 | 125 | 0.0270 | W36 |
| S1200NC20Y | 2000 | 100 | 1200 | 3.0 | 790 | 13.00 | 840 x 10 ³ | 4.5 | 19 | 2.7 | 125 | 0.0270 | W36 |
| S1200NC25D | 2500 | 2000 | 1200 | 3.0 | 790 | 13.00 | 840 x 10 ³ | 4.5 | 19 | 2.7 | 125 | 0.0270 | W36 |
| S1200NC25Y | 2500 | 100 | 1200 | 3.0 | 790 | 13.00 | 840 x 10 ³ | 4.5 | 19 | 2.7 | 125 | 0.0270 | W36 |



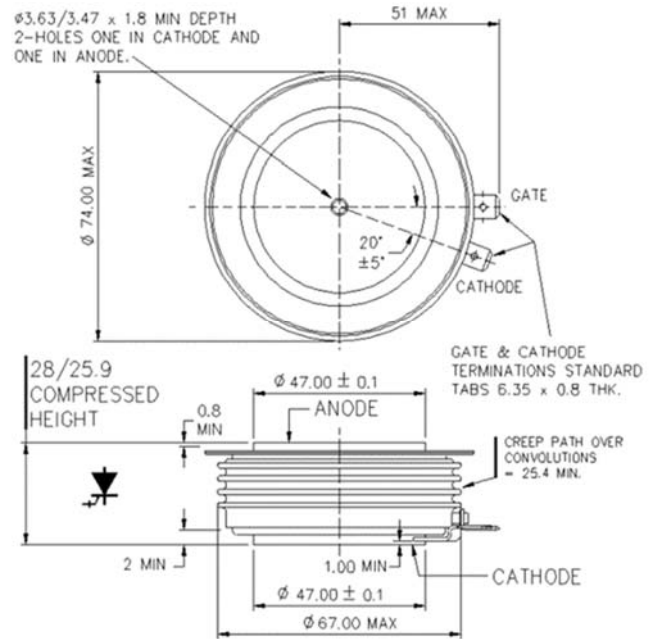
W93 – 101A404



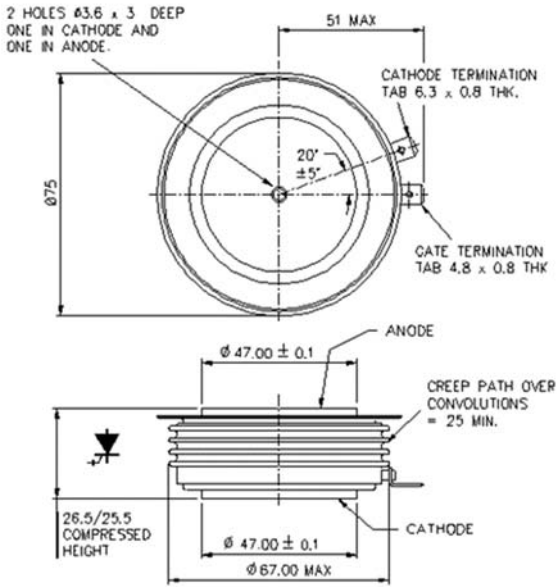
W34 – 101A287



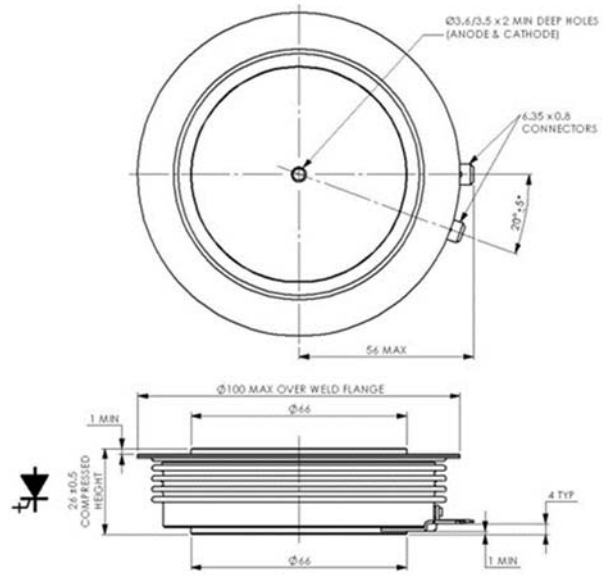
W35 – 101A358



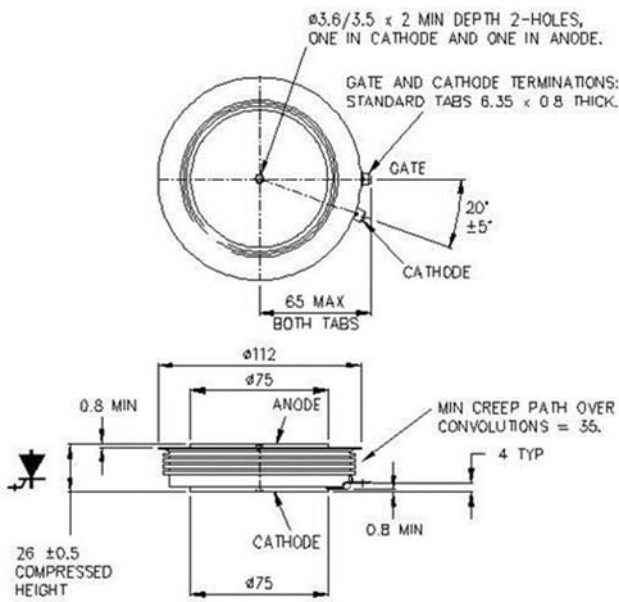
W36 – 101A288



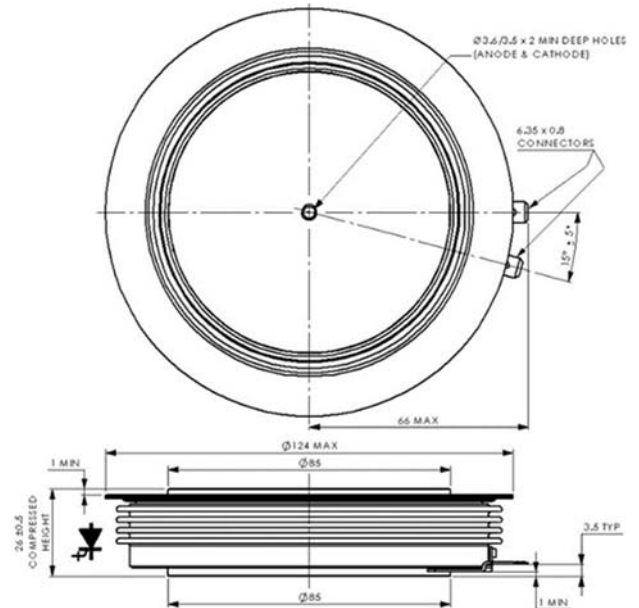
W30 – 101A343



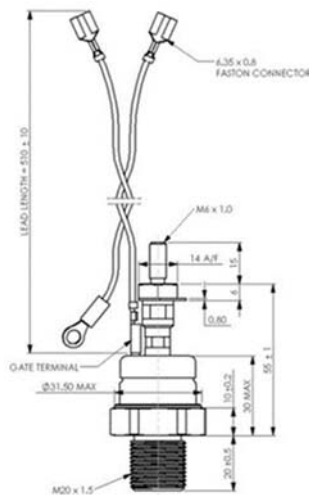
W85 – 101A388



W86 – 101A316



W104 – 101A408



W87 – 101A376



Cross reference of diodes[#] and capacitors suitable for most GTO applications

| GTO Thyristor | Anti-parallel Diode | Snubber Diode | Snubber Capacitor |
|---------------|---------------------|---------------|-------------------|
| G1000NC450 | M0588LC450 | M0371YH450 | E53.R11-202T2W |
| G1000QC250 | M0955LC250 | M0347WC250 | E53.H59-102T1W |
| G1000QC450 | M0955LC250 | M0371YH450 | E53.H59-102T1W |
| G2000HF250 | M1494NC250 | M0955LC250 | E53.R11-402T2W |
| G2000HF450 | M1163NC450 | M0659LC450 | E53.R11-402T2W |
| G2500HF250 | M1494NC250 | M0955LC250 | E53.Q59-602T2W |
| G3000TF250 | M1565VF450 | M0955LC250 | E53.Q59-502T2W |
| G3000TF450 | M1565VF450 | M1104NC500 | E53.Q59-602T2W |
| G4000EF450 | M1565VF450 | M1104NC500 | E53.Q59-602T2W |
| | | | |
| H0500KC200 | M0347WC200 | M0130RM200 | E53.H59-102T1W |
| H0500KC20Y | M0347WC200 | M0130RM200 | E53.H59-102T1W |
| H0500KC25D | M0347WC250 | M0130RM250 | E53.H59-102T1W |
| H0500KC25Y | M0347WC250 | M0130RM250 | E53.H59-102T1W |
| H0700KC140 | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| H0700KC14Y | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| H0700KC17D | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| H0700KC17Y | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| H1200NC200 | M0955LC200 | M0367WC220 | E53.R11-302T2W |
| H1200NC20Y | M0955LC200 | M0367WC220 | E53.R11-302T2W |
| H1200NC25D | M0955LC250 | M0367WC280 | E53.R11-302T2W |
| H1200NC25Y | M0955LC250 | M0367WC280 | E53.R11-302T2W |
| | | | |
| S0300SR12Y | M0367WC220 | M0367WC220 | E53.H59-102T1W |
| S0500YC20Y | M0347WC200 | M0347WC200 | E53.H59-102T1W |
| S0500YC25Y | M0347WC200 | M0347WC200 | E53.H59-102T1W |
| S0500KC200 | M0347WC200 | M0130RM200 | E53.H59-102T1W |
| S0500KC20Y | M0347WC200 | M0130RM200 | E53.H59-102T1W |
| S0500KC25D | M0347WC250 | M0130RM250 | E53.H59-102T1W |
| S0500KC25Y | M0347WC250 | M0130RM250 | E53.H59-102T1W |
| S0700KC140 | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| S0700KC14Y | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| S0700KC17D | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| S0700KC17Y | M0367WC220 | M0139RM180 | E53.H59-152T1W |
| S1000NC300 | M0659LC400 | M0371YH350 | E53.R11-202T2W |
| S1000NC30Y | M0659LC400 | M0371YH350 | E53.R11-202T2W |
| S1000NC36D | M0659LC400 | M0371YH450 | E53.R11-202T2W |
| S1000NC36Y | M0659LC400 | M0371YH450 | E53.R11-202T2W |
| S1200NC200 | M0955LC200 | M0367WC220 | E53.R11-302T2W |
| S1200NC20Y | M0955LC200 | M0367WC220 | E53.R11-302T2W |
| S1200NC25D | M0955LC250 | M0367WC250 | E53.R11-302T2W |
| S1200NC25Y | M0955LC250 | M0367WC250 | E53.R11-302T2W |

- Diode selection is influenced by the application. Consult factory for specific requirements

Anti-parallel and Snubber Diodes

Fast Recovery Diodes are an essential complement to any switching device and are more often than not the limiting factor in the design and performance of modern power converters. To address the needs of our customers, we have developed an unparalleled range of Fast Recovery Diodes. These diodes are available with blocking voltages up to 4.5kV and average current ratings to 2.4kA. The devices utilise compression bonding and fully hermetic packaging to deliver robust devices that you can rely on in demanding applications.

IXYS UK's range of fast recovery diodes include characteristics tailored to meet the requirements of snubber applications.

IXYS UK can also provide capacitors to suit our range of GTO thyristors.

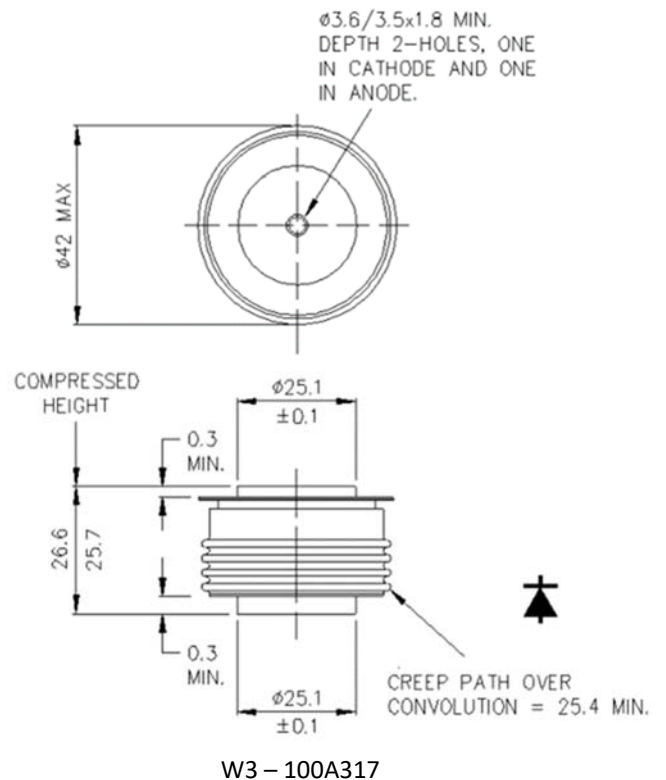
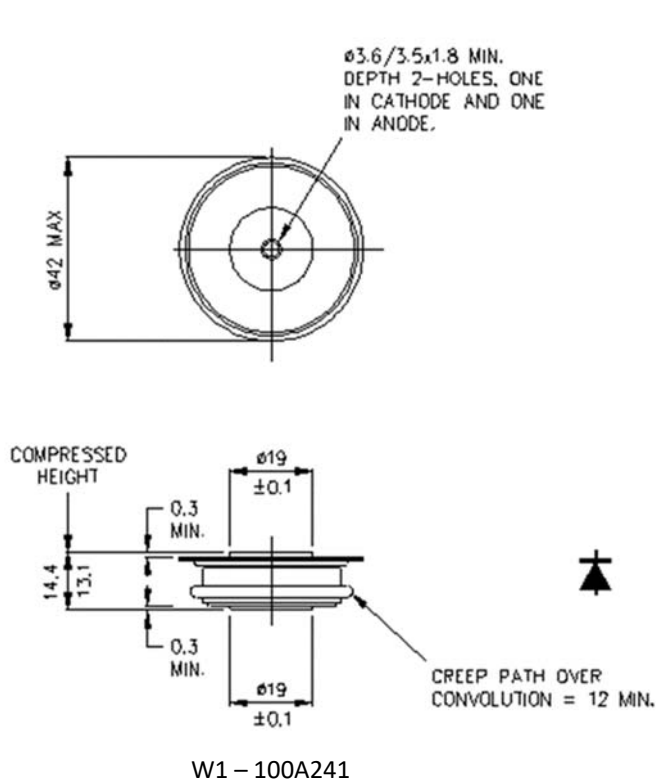
Snubber circuits are essential for reducing or eliminating voltage transients in inductive circuits where the sudden interruption of current flow can lead to a sharp rise in voltage across the device creating the interruption. The sharp rise in voltage is a transient, and can damage and lead to failure of the controlling device. The snubber attempts to prevent this undesired voltage by conducting transient current around the device. Snubber circuits usually consist of a network resistor, capacitor and diode, specially selected to cope with the demands of the circuit.

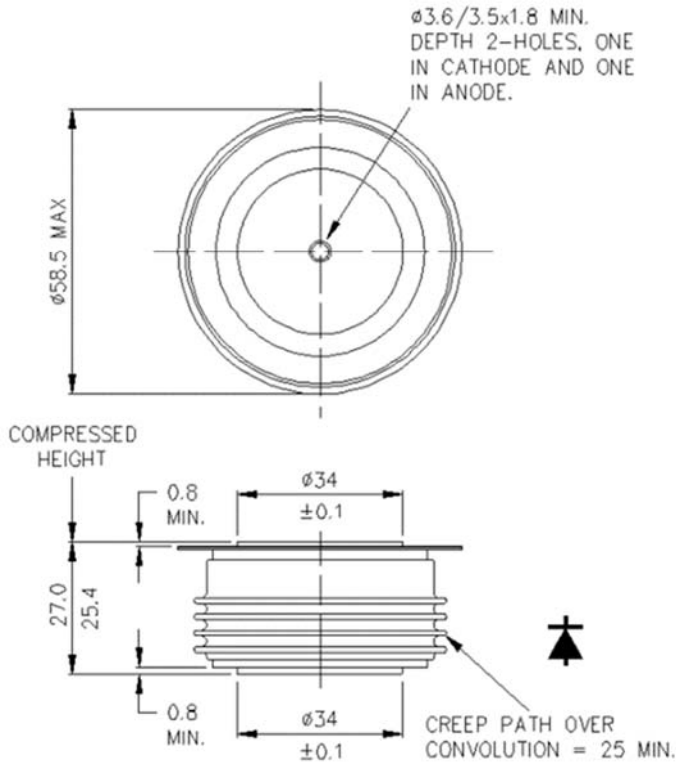
Features and benefits

- Stud and capsule housing options available to suit your application
- Capsule package sizes from 25mm to 73mm poleface
- V_{RRM} from 200V to 4500V available
- Current rating up to 2413A I_{FAV}
- Minimum recovery times down to 1 μ s (50% chord)

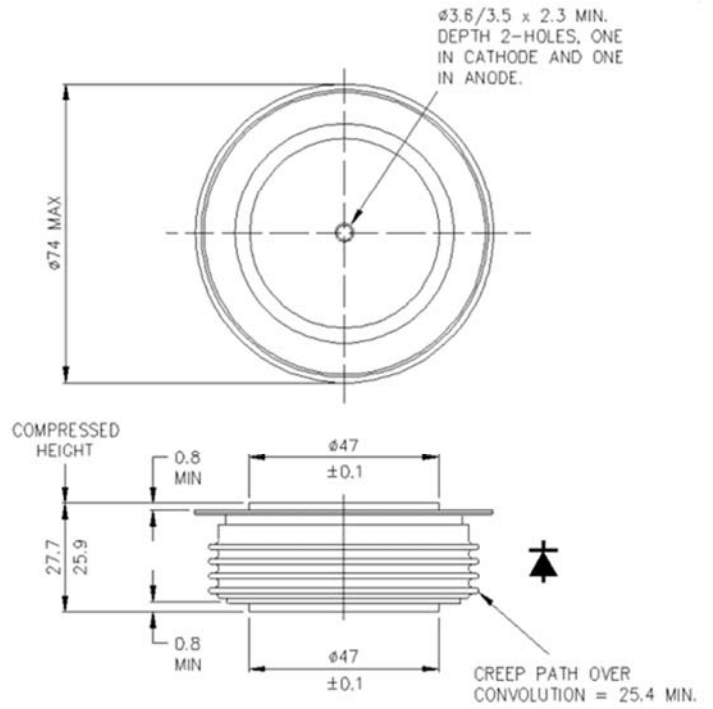


| Part No. | V _{RRM} | I _{FAV} | I _{FSM} | I ² t | Typ. Reverse Recovery Parameters | | | | V _{T0} | r _T | T _{JM} | R _{thJK} | Fig. No. | | | |
|------------|------------------|------------------|------------------|------------------------|----------------------------------|---|-----------------|-----------------|-----------------|----------------|-----------------|-------------------|----------|------------------|-----------------------|------------------|
| | | | | | T _k =55°C | 10ms 1/2 sine | | | | | | | | T _{JM} | | @T _{JM} |
| | | | | | | V _R - ≤ 60% V _{RRM} | t _{rr} | Q _{rr} | | | | | | @I _{FM} | @-di _F /dt | |
| | | | | | | | μs | μC | | | | | | A | A/μs | |
| M0130RM200 | 2000 | 130 | 2240 | 25.0 x 10 ³ | 2.60 | 430 | 1000 | 150 | 1.290 | 1.540 | 125 | 0.3000 | W21 | | | |
| M0130RM250 | 2500 | 130 | 2240 | 25.0 x 10 ³ | 2.60 | 430 | 1000 | 150 | 1.290 | 1.540 | 125 | 0.3000 | W21 | | | |
| M0139RM120 | 1200 | 139 | 2450 | 30.0 x 10 ³ | 1.00 | 125 | 1000 | 100 | 1.240 | 1.280 | 125 | 0.3000 | W21 | | | |
| M0139RM180 | 1800 | 139 | 2450 | 30.0 x 10 ³ | 1.00 | 125 | 1000 | 100 | 1.240 | 1.280 | 125 | 0.3000 | W21 | | | |
| M0347WC200 | 2000 | 347 | 4250 | 90.3 x 10 ³ | 2.80 | 210 | 550 | 40 | 1.210 | 1.200 | 125 | 0.0900 | W1 | | | |
| M0347WC250 | 2500 | 347 | 4250 | 90.3 x 10 ³ | 2.80 | 210 | 550 | 40 | 1.210 | 1.200 | 125 | 0.0900 | W1 | | | |
| M0367WC220 | 2200 | 367 | 4500 | 101 x 10 ³ | 3.30 | 300 | 550 | 40 | 1.280 | 0.920 | 125 | 0.0900 | W1 | | | |
| M0371YH350 | 3500 | 371 | 4900 | 120 x 10 ³ | 3.20 | 1260 | 1000 | 200 | 1.050 | 1.650 | 150 | 0.1000 | W3 | | | |
| M0371YH450 | 4500 | 371 | 4900 | 120 x 10 ³ | 3.20 | 1260 | 1000 | 200 | 1.050 | 1.650 | 150 | 0.1000 | W3 | | | |
| M0588LC450 | 4500 | 588 | 3955 | 78.2 x 10 ³ | 3.50 | 450 | 1000 | 60 | 2.320 | 1.770 | 150 | 0.0330 | W4 | | | |
| M0659LC450 | 4500 | 659 | 7620 | 290 x 10 ³ | 4.20 | 800 | 1000 | 60 | 1.710 | 0.925 | 125 | 0.0330 | W4 | | | |
| M0863LC300 | 3000 | 863 | 10000 | 500 x 10 ³ | 4.80 | 950 | 1000 | 60 | 1.308 | 0.538 | 125 | 0.0330 | W4 | | | |
| M0863LC360 | 3600 | 863 | 10000 | 500 x 10 ³ | 4.80 | 950 | 1000 | 60 | 1.308 | 0.538 | 125 | 0.0330 | W4 | | | |
| M0955LC200 | 2000 | 955 | 11700 | 684 x 10 ³ | 3.40 | 500 | 1000 | 60 | 1.440 | 0.330 | 125 | 0.0330 | W4 | | | |
| M0955LC250 | 2500 | 955 | 11700 | 684 x 10 ³ | 3.40 | 500 | 1000 | 60 | 1.440 | 0.330 | 125 | 0.0330 | W4 | | | |
| M1104NC450 | 4500 | 1104 | 13000 | 845 x 10 ³ | 6.00 | 2100 | 1000 | 60 | 1.370 | 0.553 | 125 | 0.0220 | W5 | | | |
| M1163NC450 | 4500 | 1163 | 10800 | 583 x 10 ³ | 6.40 | 1200 | 1000 | 60 | 1.500 | 0.770 | 150 | 0.0220 | W5 | | | |
| M1494NC250 | 2500 | 1494 | 19600 | 1.92 x 10 ⁶ | 3.90 | 815 | 1000 | 60 | 1.150 | 0.265 | 125 | 0.0220 | W5 | | | |
| M1565VF450 | 4500 | 1565 | 19700 | 1.94 x 10 ⁶ | 5.00 | 2800 | 1000 | 200 | 1.090 | 0.360 | 125 | 0.0180 | W43 | | | |
| M2413VF250 | 2500 | 2413 | 32000 | 5.12 x 10 ⁶ | 5.00 | 2500 | 1000 | 200 | 1.090 | 0.121 | 125 | 0.0160 | W43 | | | |

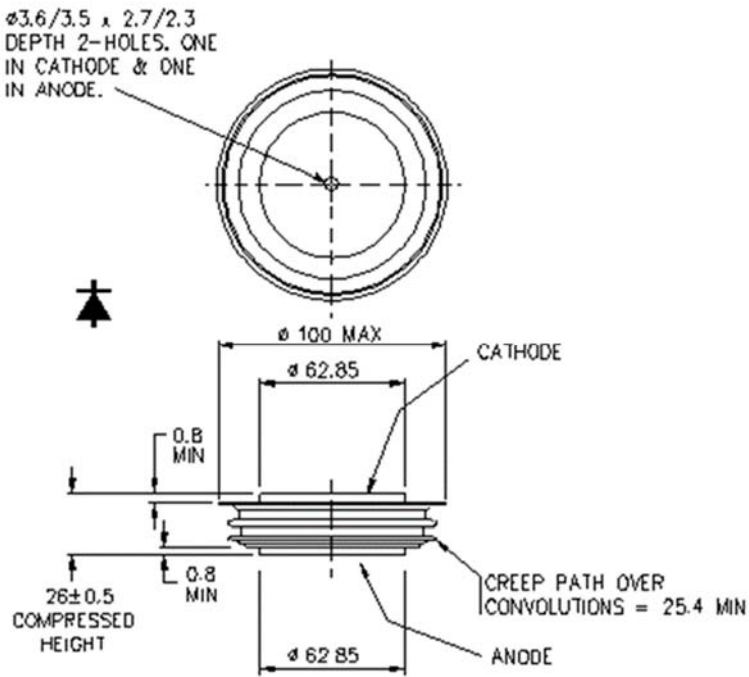




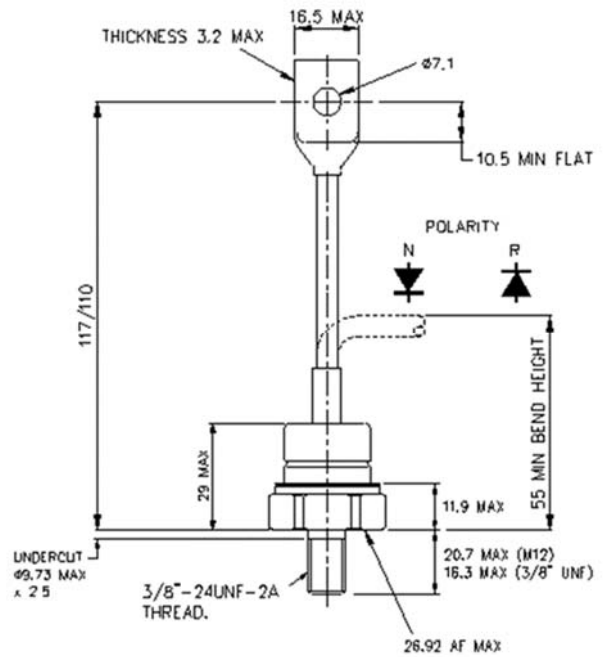
W4 - 100A243



W5 - 100A249



W43 - 100A320



W21 - 100A294

Snubber Capacitors

IXYS UK supply a broad range of capacitors suitable for GTO snubber circuits. These capacitors have a low series resistance and high pulse strength; they also have very good self-healing characteristics without loss of capacitance.

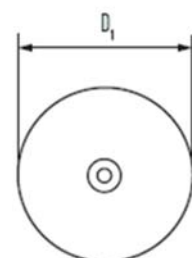
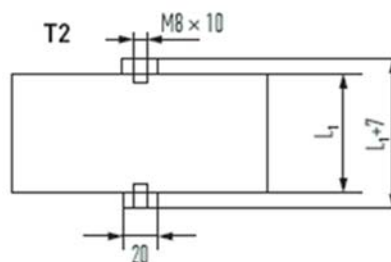
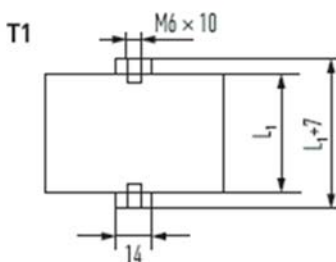
These capacitors consist of a flame retardant plastic can filled with solid resin to ensure reliable operation even under the most extreme environmental conditions.

Features and benefits

- Dry construction – can be mounted in any position
- Self-healing
- Low self-inductance
- Low series resistance
- High RMS current capability
- High surge current capability



| Part Number | Rated Capacitance C_N μF | Series Resistance R_s mW | Thermal Resistance R_{th} K/W | Maximum Current (RMS) I_{max} A | Maximum Current (Peak) \hat{I} kA | Peak Surge Current I_s kA | Rated Energy Content $\frac{W_N}{W_s}$ | Self Inductance L_e nH | Rated Voltage DC U_N (V) DC | Rated Voltage AC U_N (V) AC | rms at sinusoidal voltage U_{rms} (V) | Non-repetitive Surge voltage U_s (V) | Rated Can Diameter D_1 mm | Rated Can Length L_1 mm |
|-----------------|--|-------------------------------|------------------------------------|--------------------------------------|--|--------------------------------|---|-----------------------------|----------------------------------|----------------------------------|--|---|--------------------------------|------------------------------|
| E53.H56-102T1W | 1 | 1.6 | 8.1 | 40 | 0.35 | 1.8 | 5 | 15 | 3200 | 1050 | 750 | 4800 | 55 | 56 |
| E53.H56-152T1W | 1.5 | 2.4 | 8.1 | 32 | 0.27 | 1.35 | 6 | 15 | 2800 | 700 | 500 | 4200 | 55 | 56 |
| E53.R11-202T2W | 2 | 1.2 | 2.1 | 100 | 3 | 10 | 16 | 15 | | 4000 | 2800 | 6000 | 115 | 110 |
| E53.H56-252T1W | 2.5 | 1.8 | 8.1 | 40 | 0.37 | 1.1 | 6 | 15 | 2250 | 700 | 500 | 3375 | 55 | 56 |
| E53.M56-252T2W | 2.5 | 0.65 | 5.9 | 75 | 0.9 | 4.5 | 13 | 15 | 3200 | 1050 | 750 | 4800 | 75 | 56 |
| E53.R11-302T21W | 3 | 1.2 | 2.1 | 125 | 2.1 | 6.3 | 38 | 15 | 5000 | 2100 | 1500 | 7500 | 115 | 110 |
| E53.P56-402T2W | 4 | 0.5 | 4.7 | 80 | 1.5 | 7.5 | 20 | 15 | 3200 | 1050 | 750 | 4800 | 95 | 56 |
| E53.R11-402T21W | 4 | 1 | 2.1 | 125 | 2.5 | 7.5 | 50 | 15 | 5000 | 2100 | 1500 | 7500 | 115 | 110 |
| E53.Q56-502T2W | 5 | 0.32 | 4.2 | 100 | 1.8 | 9.0 | 26 | 15 | 3200 | 1050 | 750 | 4800 | 105 | 56 |
| E53.M56-602T2W | 6 | 0.75 | 5.9 | 70 | 0.88 | 2.6 | 15 | 15 | 2250 | 700 | 500 | 3375 | 75 | 56 |
| E53.Q56-602T2W | 6 | 0.28 | 4.2 | 100 | 2.2 | 11 | 31 | 15 | 3200 | 1050 | 750 | 4800 | 105 | 56 |



For larger capacitors suitable for energy efficient and asymmetric snubber

Bar clamps for GTO Thyristors

| Part number | Rod size & length | Insulator size and length | Fixing centres | Maximum electrode diameter | Clamp force range | Fig. No. |
|-----------------|-------------------|---------------------------|----------------|----------------------------|-------------------|----------|
| | mm | mm | mm | mm | kN | |
| XSK1500DA076038 | M8 × 90 | M8 × 60 | 89 | 32 | 10-20 | WC51 |
| XSK1500DA076076 | M8 × 130 | M8 × 95 | | | | |
| XSK1500DA076101 | M8 × 160 | M8 × 120 | | | | |
| XSK2000DA076038 | M8 × 95 | M8 × 60 | 89 | 38 | 13-20 | WC52 |
| XSK2000DA076076 | M8 × 130 | M8 × 95 | | | | |
| XSK2000DA076101 | M8 × 160 | M8 × 120 | | | | |
| XSK3000DA076038 | M8 × 100 | M8 × 65 | 89 | 50 | 25-31 | WC53 |
| XSK3000DA076076 | M8 × 130 | M8 × 100 | | | | |
| XSK3000DA076101 | M8 × 160 | M8 × 125 | | | | |
| XSK3400DA076038 | M8 × 100 | M8 × 65 | 78 | 50 | 27-34 | WC54 |
| XSK3400DA076076 | M8 × 140 | M8 × 105 | | | | |
| XSK3400DA076101 | M8 × 160 | M8 × 130 | | | | |
| XSK3800DA116076 | M10 × 150 | M12 × 100 | 132 | 66 | 32-38 | WC55 |
| XSK3800DA116101 | M10 × 180 | M12 × 125 | | | | |
| XSK4400DA116076 | M10 × 150 | M12 × 105 | 132 | 68 | 36-44 | WC56 |
| XSK4400DA116101 | M10 × 180 | M12 × 130 | | | | |
| XSK6000DA116076 | M10 × 150 | M12 × 105 | 132 | 75 | 50-60 | WC57 |
| XSK6000DA116101 | M10 × 180 | M12 × 130 | | | | |



WC51



WC52



WC53



WC54



WC55



WC56



WC57

Pulse Power Assemblies

As a pioneer in the development of solid state pulsed power components and systems, we are able to deliver anything from discrete components to fully integrate energy transfer switches.

With systems successfully delivering voltage ratings of over 50kV and pulsed currents to 140kA, we have a wealth of experience to put at your disposal.

Our modular design solutions based on pulse thyristor technology and integrating control and protection functions provide you with a flexible 'black box' approach to energy transfer problems.

We are involved with pulsed power on a global basis, working with prestigious research organisations such as CERN, Switzerland as well as medium volume manufacture for emerging commercial applications such as laser supplies, PUV and PEF sterilisation, magnetisation and metal forming.

We have a philosophy of working closely with our customers to ensure that we deliver the right solution in the right time and right price – First time and every time.



At IXYS UK, we have over 70 years of experience in power circuit design and manufacture, our dedicated team of design engineers can deliver custom solutions for a whole range of design problems ranging from simple crowbar applications to complicated multi-megawatt power converters. Utilising the latest 3D modelling techniques, we can reduce the cycle time from concept to manufacture and ensure successful system level integration into our customers' equipment.

IXYS UK Westcode Ltd are at the forefront of solid state pulsed power technology, offering custom solutions to complex pulsed power problems.

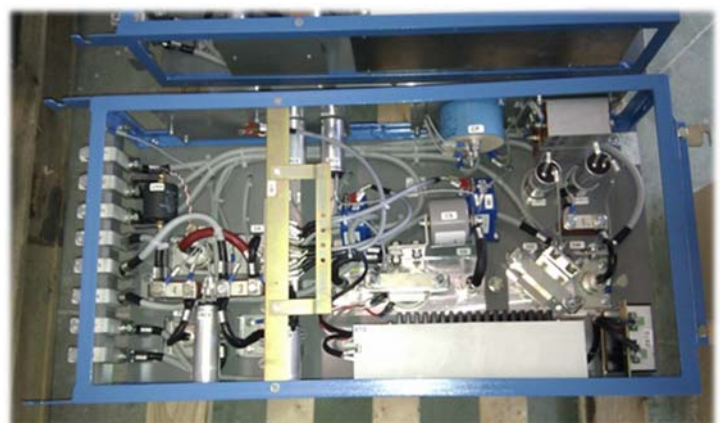
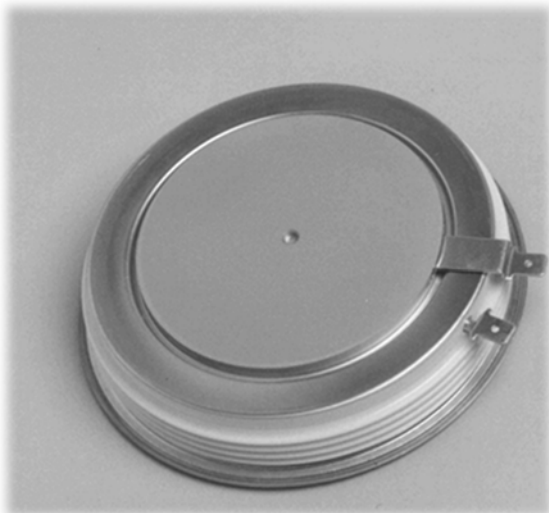
IXYS UK's range of pulse thyristors have voltage ratings of 2.5kV, pulsed currents to 50kA peak and di/dt capabilities to over 11kA/μs are available. Please consult factory for other requirements

| Part No. | V_{DRM} | V_{RRM} | V_{DC} | I_{PULSE} | di/dt_{cr} | V_{T0} | r_T | T_{JM} | R_{thJC} |
|------------|---------------|-----------|---------------|-------------|--------------|------------|-------|----------|------------|
| | $V_{GK} = 2V$ | | $V_{GK} = 2V$ | | | @ T_{JM} | | | 180° |
| | V | V | V | kA | kA/μs | V | mΩ | °C | K/W |
| Y200CKC250 | 2500 | 2000 | 1500 | 20 | 5 | 1.216 | 2.196 | 125 | 0.065 |
| Y500CNC250 | 2500 | 2000 | 1500 | 50 | 11 | 1.755 | 1.122 | 125 | 0.027 |

GTO thyristor product matrix

The following table highlight the current and future range of GTO thyristors available from IXYS UK Westcode Ltd, arranged by voltage rating, technology and package size

| Voltage | | | | | | | | | | | |
|------------|-------------|---------------------|-------------|------------------|------------|-------------|------------------|------------|---------------|------------|----------------|
| 1200V | S0300 | | | | | | | | | | |
| 1800V | | Future introduction | S0700 | H0700 | | | | | | | |
| 2500V | | S0500 (New) | S0500 | H0500 | G1000 | S1200 | H1200 | | G2000 & G2500 | G3000 | |
| 3600V | | | | | | S1000 | | | | | |
| 4500V | | | | | G1000 | | | G1000 | G2000 | G3000 | In development |
| Technology | Symmetrical | Symmetrical | Symmetrical | Fast Symmetrical | Asymmetric | Symmetrical | Fast Symmetrical | Asymmetric | Asymmetric | Asymmetric | Asymmetric |
| Package | | | | | | | | | | | |
| Stud | SR | | | | | | | | | | |
| 15mm | | YC | KC | KC | | | | | | | |
| 26mm | | | | | QL | NC | NC | NC | HF | TF | EF |
| Silicon | | | | | | | | | | | |
| Die size | 25mm | 30mm | 32mm | 32mm | 43mm | 50mm | 50mm | 53mm | 68mm | 87mm | 91mm |



GTO Chopper circuit



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.