

FEATURES

- Double Side Cooling
- High Surge Capability

KEY PARAMETERS

| | |
|--------------------------|---------------|
| V_{RRM} | 2200V |
| I_{F(AV)} | 2360A |
| I_{FSM} | 29800A |

VOLTAGE RATINGS

| Part and Ordering Number | Repetitive Peak Voltages V _{RRM} (V) | Conditions |
|--------------------------|---|--|
| DRD2360X22 | 2200 | V _{RSM} = V _{RRM} + 100V |
| DRD2360X20 | 2000 | |
| DRD2360X18 | 1800 | |
| DRD2360X16 | 1600 | |

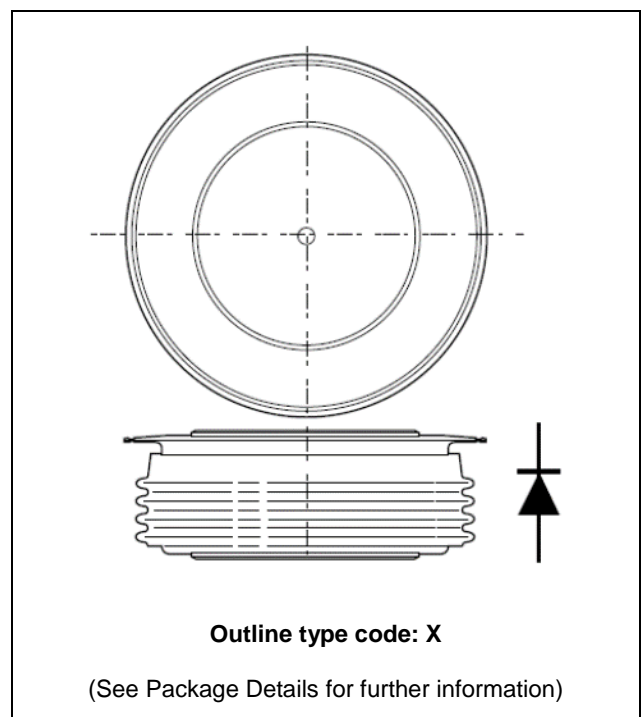


Fig. 1 Package outline

ORDERING INFORMATION

When ordering, select the required part number shown in the Voltage Ratings selection table.

For example:

DRD2360X22 for a 2200V device

Note: Please use the complete part number when ordering and quote this number in any future correspondence relating to your order.

CURRENT RATINGS

T_{case} = 75°C unless stated otherwise

| Symbol | Parameter | Test Conditions | Max. | Units |
|---------------------------|-------------------------------------|--------------------------|------|-------|
| Double Side Cooled | | | | |
| I _{F(AV)} | Mean forward current | Half wave resistive load | 2860 | A |
| I _{F(RMS)} | RMS value | - | 4490 | A |
| I _F | Continuous (direct) forward current | - | 4040 | A |

T_{case} = 100°C unless stated otherwise

| Symbol | Parameter | Test Conditions | Max. | Units |
|---------------------------|-------------------------------------|--------------------------|------|-------|
| Double Side Cooled | | | | |
| I _{F(AV)} | Mean forward current | Half wave resistive load | 2360 | A |
| I _{F(RMS)} | RMS value | - | 3710 | A |
| I _F | Continuous (direct) forward current | - | 3340 | A |

SURGE RATINGS

| Symbol | Parameter | Test Conditions | Max. | Units |
|------------------|--|---|------|-------------------|
| I _{FSM} | Surge (non-repetitive) forward current | 10ms half sine, T _{case} = 175°C V _R = 0 | 29.8 | kA |
| I ² t | I ² t for fusing | | 4.44 | MA ² s |
| I _{FSM} | Surge (non-repetitive) forward current | 8.33ms half sine, T _{case} = 175°C V _R = 0 | 32.7 | kA |
| I ² t | I ² t for fusing | | 4.45 | MA ² s |

THERMAL AND MECHANICAL RATINGS

| Symbol | Parameter | Test Conditions | | Min. | Max. | Units |
|---------------|---------------------------------------|--------------------|----|------|------|-------|
| $R_{th(j-c)}$ | Thermal resistance - junction to case | Double side cooled | DC | - | 18.0 | °C/kW |
| $R_{th(c-h)}$ | Thermal resistance - case to heatsink | Double side cooled | DC | - | 5.0 | °C/kW |
| T_{vj} | Virtual junction temperature | Blocking | | -40 | 175 | °C |
| T_{stg} | Storage temperature range | | | -40 | 175 | °C |
| F_m | Clamping force | | | 26 | 34 | kN |

CHARACTERISTICS

| Symbol | Parameter | Test Conditions | Min. | Max. | Units |
|----------|----------------------|--|------|-------|-----------|
| V_{FM} | Forward voltage | At 3000A peak, $T_{case} = 25^{\circ}C$ | - | 1.35 | V |
| I_{RM} | Peak reverse current | At V_{RRM} , $T_{case} = 175^{\circ}C$ | - | 150 | mA |
| Q_s | Total stored charge | $I_F = 2000A$, $dI_{RR}/dt = 10A/\mu s$ $T_{case} = 175^{\circ}C$, $V_R = 100V$ | - | 4000 | μC |
| V_{To} | Threshold voltage | At $T_{vj} = 175^{\circ}C$ | - | 0.81 | V |
| r_T | Slope resistance | At $T_{vj} = 175^{\circ}C$ | - | 0.125 | $m\Omega$ |

CURVES

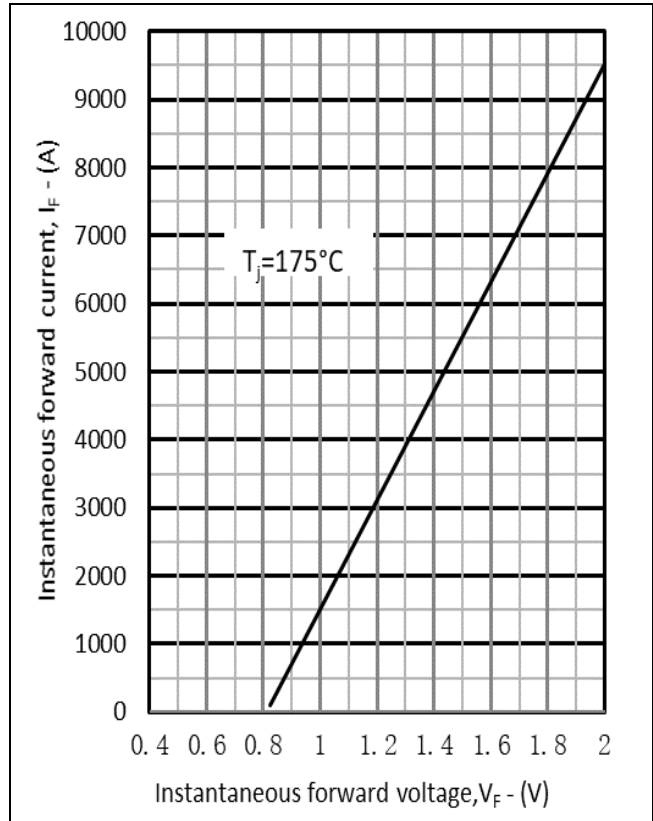


Fig. 2 Maximum forward characteristics

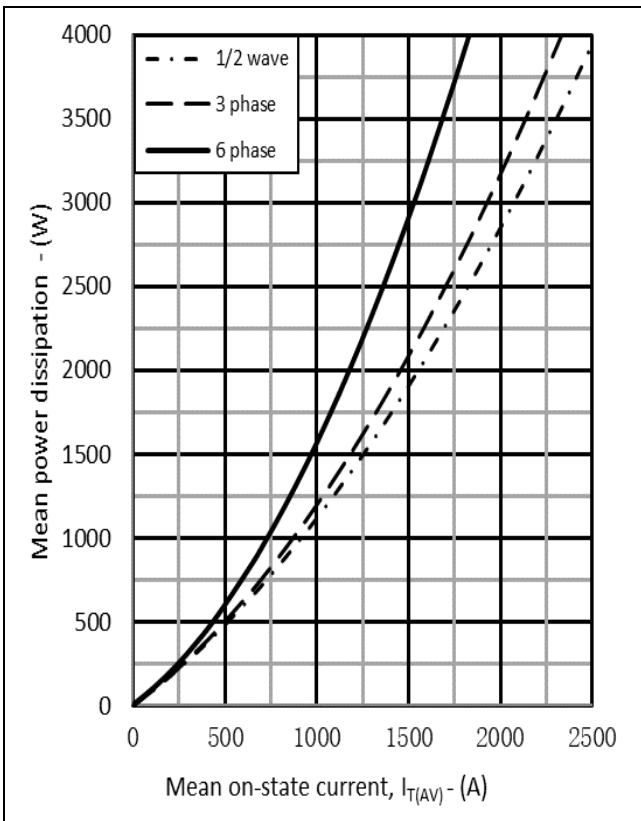


Fig. 3 Dissipation curves

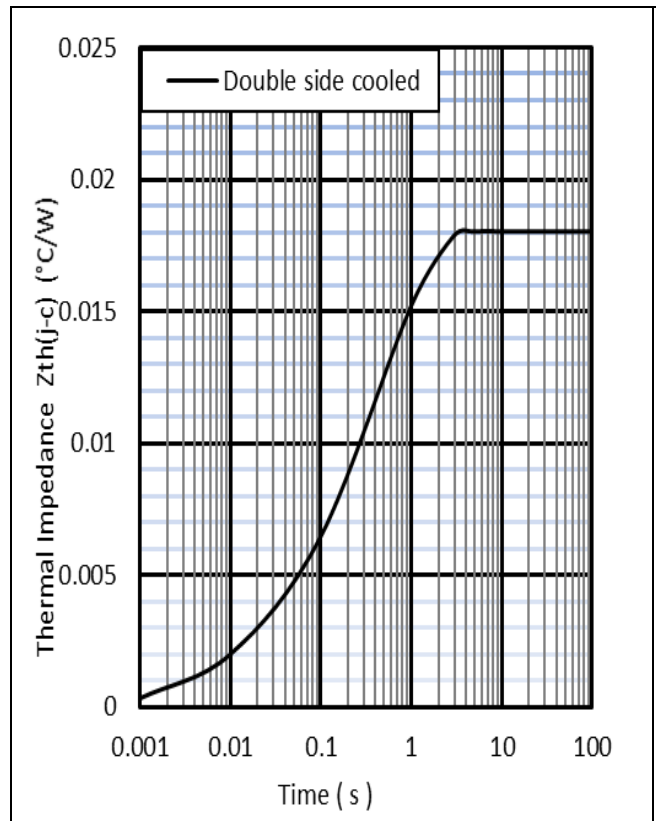


Fig. 4 Maximum (limit) transient thermal impedance - junction to case

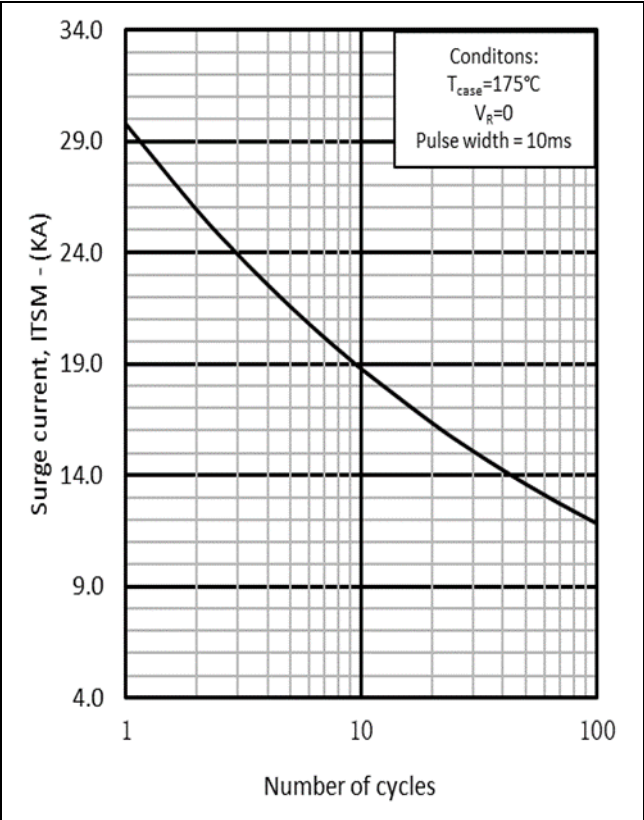


Fig. 5 Surge (non-repetitive) forward current vs time - 50Hz

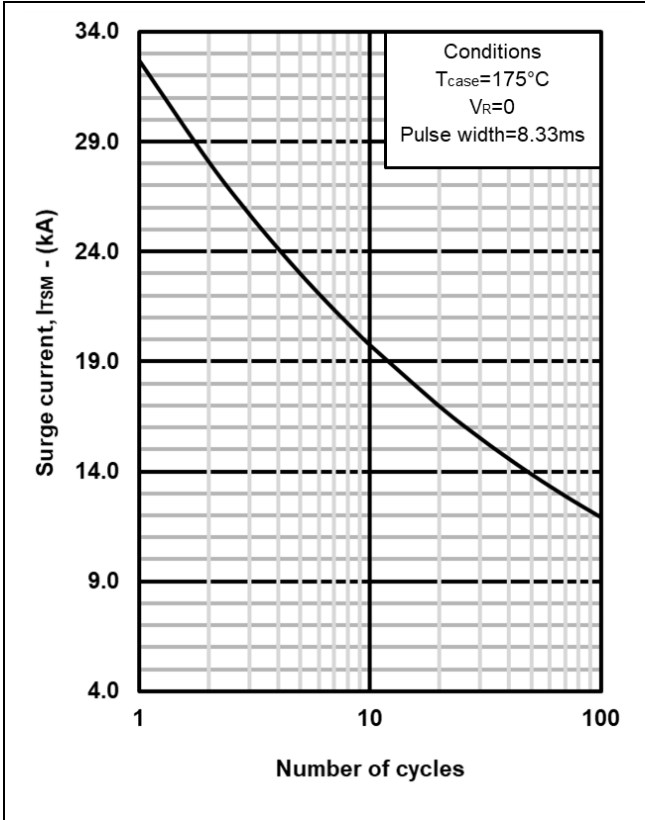


Fig. 6 Surge (non-repetitive) forward current vs time - 60Hz

PACKAGE DETAILS

For further package information, please contact Customer services.

All dimensions in mm, unless stated otherwise.

DO NOT SCALE

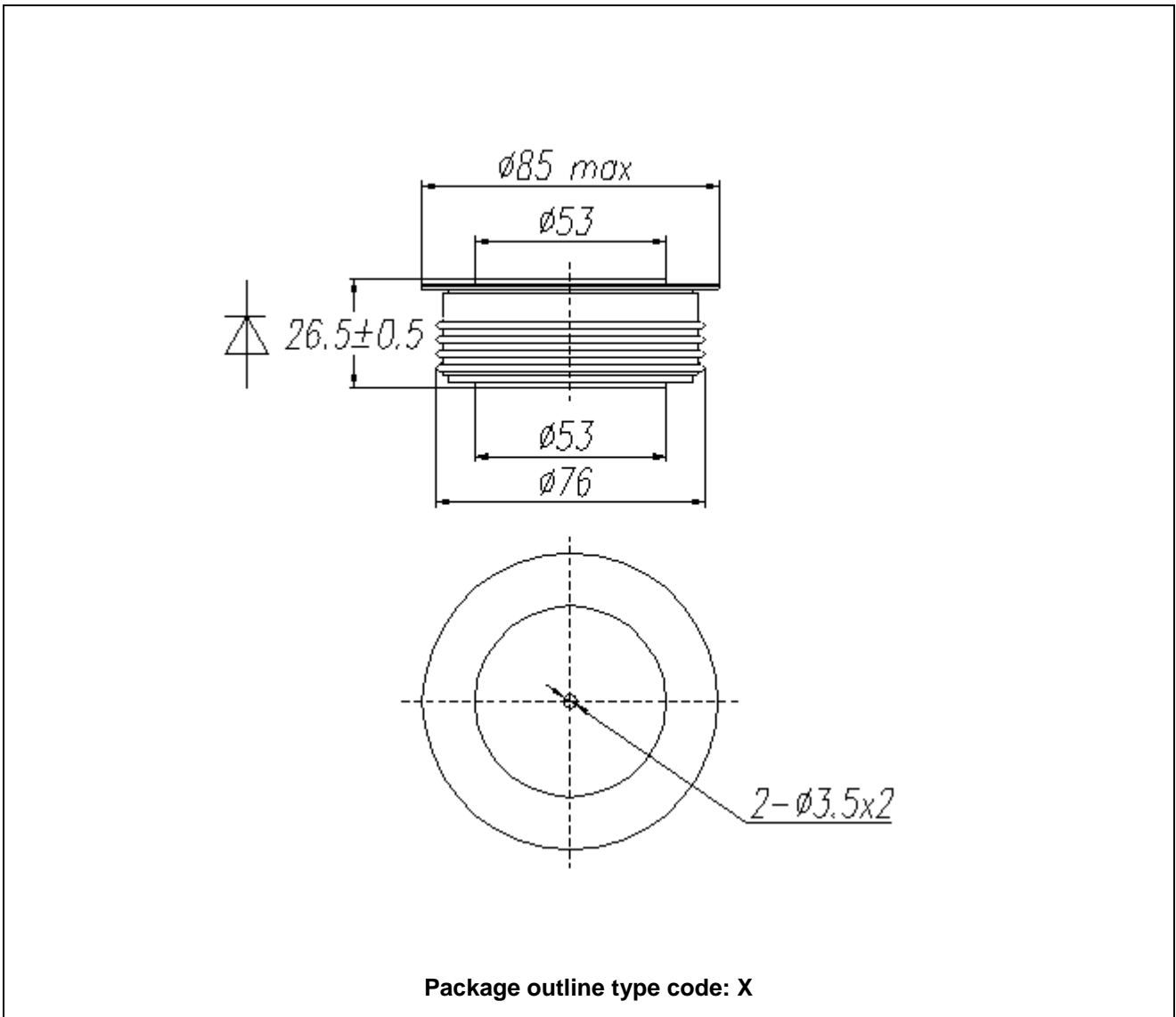


Fig. 7 Package outline

Note:

Some packages may be supplied with gate and/or tags.

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| | |
|---------------------------------|---|
| Target Information: | This is the most tentative form of information and represents a very preliminary specification. No actual design work on the product has been started. |
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