

Diodes type D52 are of modern design with internal spring loaded contacts and pressure welded glass-to-metal seal. Designed for use in power electronic circuits and equipment under normal operating conditions.

KEY PARAMETERS

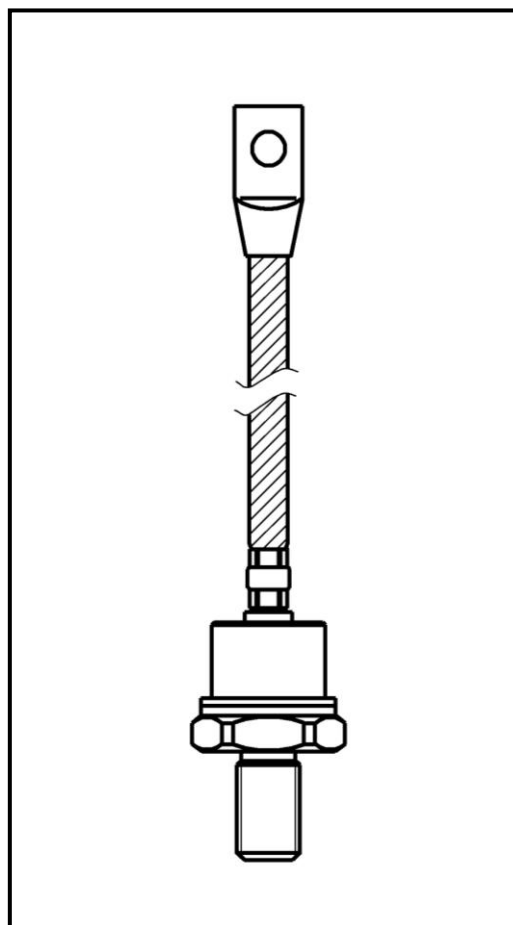
| | |
|-------------|--------------|
| U_{RRM} | up to 1600 V |
| $I_{F(AV)}$ | 100 A |
| I_{FSM} | 2100 A |

FEATURES

- all diffused design
- high current capabilities
- high surge current capabilities
- high rates voltages
- low thermal impedance
- tested according to IEC standards
- compact size and small weight

APPLICATION

- High Voltage Power Supplies
- Motor Control
- Battery Chargers
- Free Wheeling Diode
- Resistance Welding



Outline type code: JEDEC DO-205AC

See package details for further information

Designed for use in high power industrial and commercial rectifying circuits where high currents are encountered and high reliability is essential.

D52-100

Diode

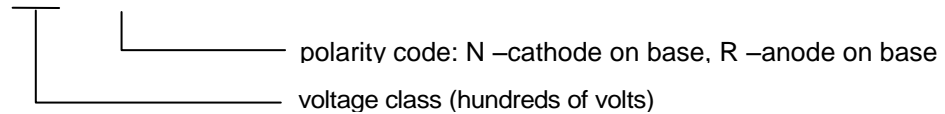


KKD52100, October 2006 version

ORDERING INFORMATION

When ordering please refer to device code builder presented below.
Please use the complete part number when ordering, quote or in any future correspondence relating to your order.

D52-100-□□-□0



ELECTRICAL PARAMETERS

Voltage ratings

| Voltage class | U_{RRM} | U_{RSM} | I_{RRM} |
|---------------|-----------|-----------|-----------|
| | V | V | mA |
| 04 | 400 | 500 | 20 |
| 06 | 600 | 700 | |
| 08 | 800 | 900 | |
| 10 | 1000 | 1100 | |
| 12 | 1200 | 1300 | |
| 14 | 1400 | 1500 | |
| 16 | 1600 | 1700 | |

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D52-100

Diode



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LAMINA S.A.

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Electrical properties

| Parameter | | Unit | Test conditions | Value | | | |
|---|--------------|-------------------|---|---|----------------------|-----|-------------------|
| Average forward current @ case temperature | $I_{F(AV)}$ | A | | 100 | | | |
| | T_C | °C | | <table border="1"> <tr> <td>$U_{RRM} \leq 1200V$</td> <td>140</td> </tr> <tr> <td>$U_{RRM} > 1200V$</td> <td>125</td> </tr> </table> | $U_{RRM} \leq 1200V$ | 140 | $U_{RRM} > 1200V$ |
| $U_{RRM} \leq 1200V$ | 140 | | | | | | |
| $U_{RRM} > 1200V$ | 125 | | | | | | |
| RMS forward current | $I_{F(RMS)}$ | A | | 157 | | | |
| Surge current | I_{FSM} | A | $T_j = T_{jmax}$, $U_R = 0,8U_{RRM}$, $t_p = 10ms$ | 2100 | | | |
| I^2t – value | I^2t | kA ² s | | 22 | | | |
| Forward voltage drop max. | U_{FM} | V | $T_j = 25^\circ C$, $I_{FM} = 470A$ | 2,20 | | | |
| Threshold voltage | $U_{F(T0)}$ | V | | 1,20 | | | |
| Slope resistance | r_F | mΩ | | 2,37 | | | |

Thermal properties

| Parameter | | Unit | Test conditions | Value | | | | |
|--------------------------------------|---------------------------|------|-----------------|---|----------------------|------------|-------------------|------------|
| Thermal resistance, junction to case | R_{thJC} | °C/W | DC | 0,25 | | | | |
| Thermal resistance, case to heatsink | R_{thCS} | °C/W | | 0,12 | | | | |
| Operating junction temperature | $T_{jmin} \dots T_{jmax}$ | °C | | <table border="1"> <tr> <td>$U_{RRM} \leq 1200V$</td> <td>-40...+190</td> </tr> <tr> <td>$U_{RRM} > 1200V$</td> <td>-40...+175</td> </tr> </table> | $U_{RRM} \leq 1200V$ | -40...+190 | $U_{RRM} > 1200V$ | -40...+175 |
| $U_{RRM} \leq 1200V$ | -40...+190 | | | | | | | |
| $U_{RRM} > 1200V$ | -40...+175 | | | | | | | |
| Storage temperature | T_{stg} | °C | | -40...+190 | | | | |

Mechanical properties

| Parameter | | Unit | Value |
|-----------------|---|------|-----------|
| Mounting torque | M | Nm | 14 ... 17 |
| Weight | m | g | 130 |

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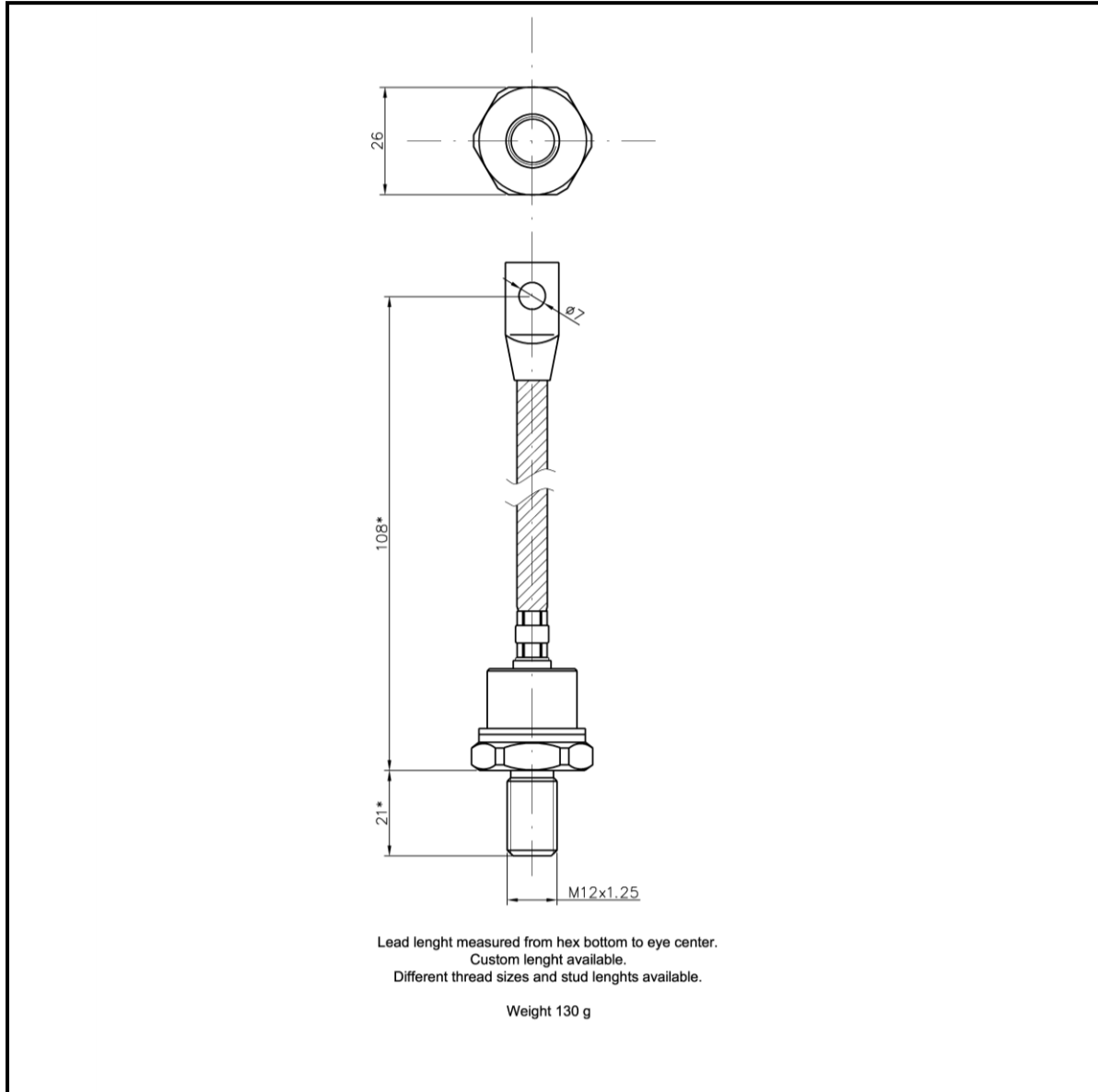
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Diode

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Package details



For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.
Do not scale.

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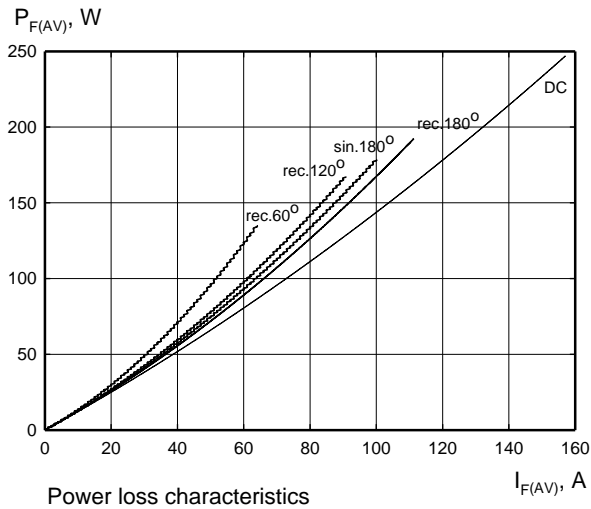
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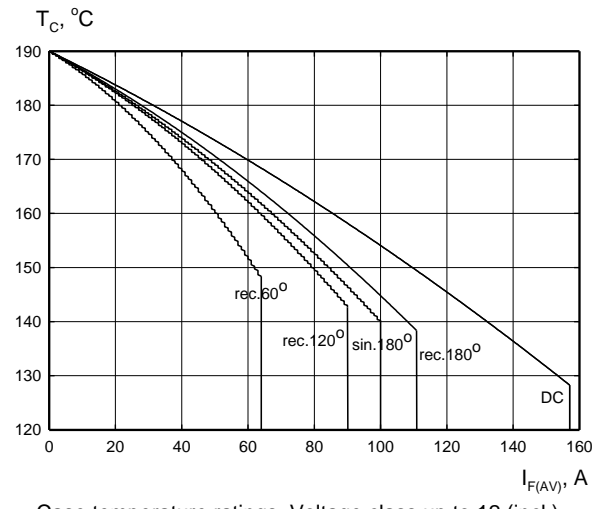
Diode

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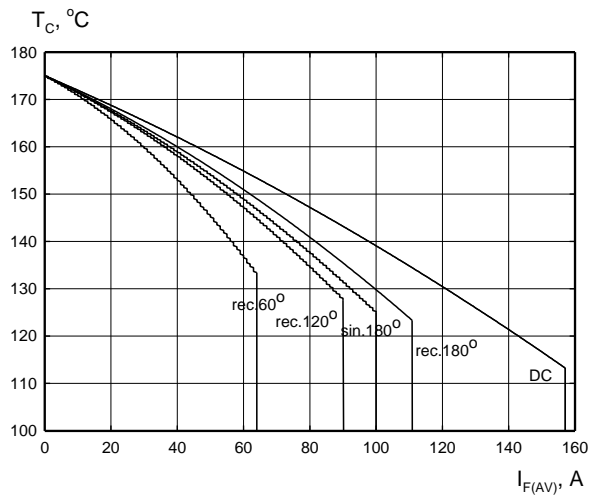
CHARACTERISTICS



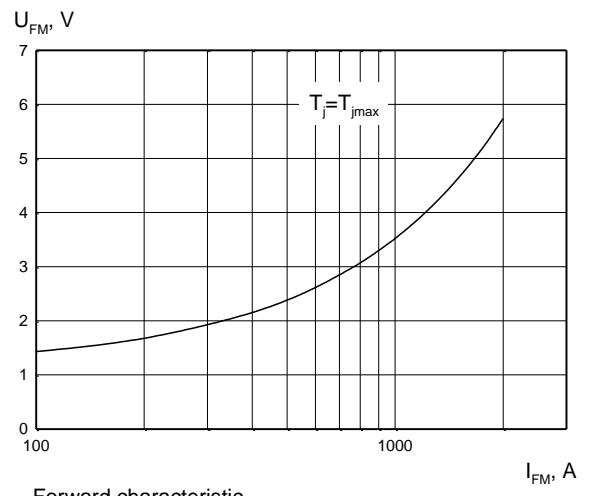
Power loss characteristics



Case temperature ratings. Voltage class up to 12 (incl.)



Case temperature ratings. Voltage class > 12

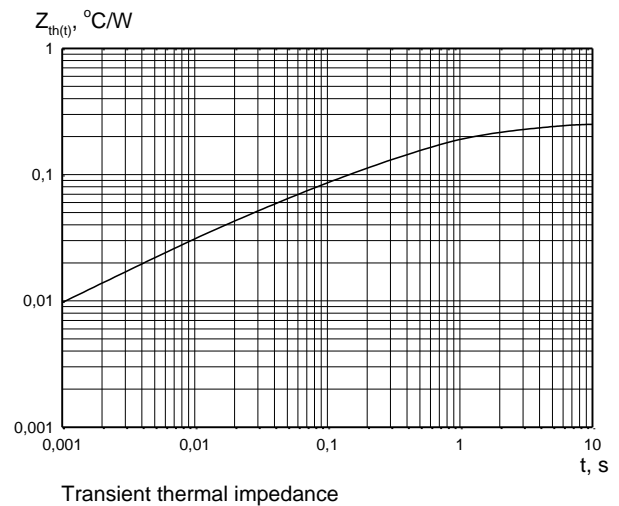
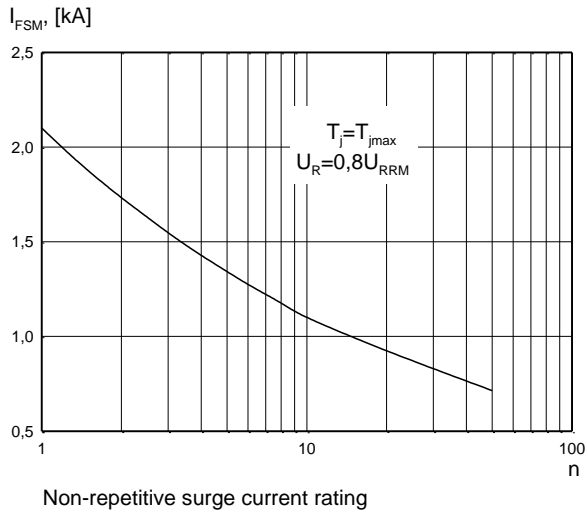


Forward characteristic

D52-100

Diode

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HEATSINKS

LAMINA S.I. has its own proprietary range of extruded aluminium heatsinks designed to optimise the performance of our semiconductors with natural and forced air flow.

POWER ASSEMBLY CAPABILITY

LAMINA S.I. provides a support for those customers requiring more than a basic semiconductor and offers precisely assembled Power Blocks according to factory or customer standards.