



**Diode, Wechselrichter / Diode, Inverter**

**Höchstzulässige Werte / Maximum Rated Values**

|   |  |               |              |  |
|---|--|---------------|--------------|--|
| Periodische Spitzensperrspannung<br>Repetitive peak reverse voltage | $T_{vj} = 25^{\circ}\text{C}$  | $V_{RRM}$     | 1700         | V  |
| Dauergleichstrom<br>Continuous DC forward current                   |  | $I_F$         | 3600         | A  |
| Periodischer Spitzenstrom<br>Repetitive peak forward current        | $t_P = 1\text{ ms}$  | $I_{FRM}$     | 7200         | A  |
| Grenzlastintegral<br>$I^2t$ - value                                 | $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$<br>$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$ | $I^2t$        | 2100<br>2000 | $\text{kA}^2\text{s}$<br>$\text{kA}^2\text{s}$ |
| Spitzenverlustleistung<br>Maximum power dissipation                 | $T_{vj} = 125^{\circ}\text{C}$   | $P_{RQM}$     | 4900         | kW   |
| Mindesteinschaltdauer<br>Minimum turn-on time                       |  | $t_{on\ min}$ | 10,0         | $\mu\text{s}$                                  |

**Charakteristische Werte / Characteristic Values**

|   |  |   | min.         | typ.                 | max. |   |
|---|--|---|--------------|----------------------|------|---|
| Durchlassspannung<br>Forward voltage  | $I_F = 3600\text{ A}, V_{GE} = 0\text{ V}$<br>$I_F = 3600\text{ A}, V_{GE} = 0\text{ V}$<br>$I_F = 3600\text{ A}, V_{GE} = 0\text{ V}$       | $T_{vj} = 25^{\circ}\text{C}$<br>$T_{vj} = 125^{\circ}\text{C}$<br>$T_{vj} = 150^{\circ}\text{C}$ | $V_F$        | 1,65<br>1,65<br>1,65 | 2,10 | V<br>V<br>V                                     |
| Rückstromspitze<br>Peak reverse recovery current                                | $I_F = 3600\text{ A}, -di_F/dt = 12000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$<br>$V_R = 900\text{ V}$<br>$V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$<br>$T_{vj} = 125^{\circ}\text{C}$<br>$T_{vj} = 150^{\circ}\text{C}$ | $I_{RM}$     | 2900<br>3400<br>3650 |      | A<br>A<br>A                                     |
| Sperrverzögerungsladung<br>Recovered charge                                     | $I_F = 3600\text{ A}, -di_F/dt = 12000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$<br>$V_R = 900\text{ V}$<br>$V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$<br>$T_{vj} = 125^{\circ}\text{C}$<br>$T_{vj} = 150^{\circ}\text{C}$ | $Q_r$        | 850<br>1550<br>1750  |      | $\mu\text{C}$<br>$\mu\text{C}$<br>$\mu\text{C}$ |
| Abschaltenergie pro Puls<br>Reverse recovery energy                             | $I_F = 3600\text{ A}, -di_F/dt = 12000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$<br>$V_R = 900\text{ V}$<br>$V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$<br>$T_{vj} = 125^{\circ}\text{C}$<br>$T_{vj} = 150^{\circ}\text{C}$ | $E_{rec}$    | 550<br>1050<br>1250  |      | mJ<br>mJ<br>mJ                                  |
| Wärmewiderstand, Chip bis Gehäuse<br>Thermal resistance, junction to case       | pro Diode / per diode  |   | $R_{thJC}$   |                      | 8,06 | K/kW  |
| Wärmewiderstand, Gehäuse bis Kühlkörper<br>Thermal resistance, case to heatsink | pro Diode / per diode<br>$\lambda_{Paste} = 1\text{ W}/(\text{m}\cdot\text{K})$ / $\lambda_{grease} = 1\text{ W}/(\text{m}\cdot\text{K})$    |   | $R_{thCH}$   |                      | 10,5 | K/kW  |
| Temperatur im Schaltbetrieb<br>Temperature under switching conditions           |  |   | $T_{vj\ op}$ | -40                  | 150  | $^{\circ}\text{C}$                              |

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**Modul / Module**

|  |  |                     |              |       |         |
|--|--|---------------------|--------------|-------|---------|
| Isolations-Prüfspannung<br>Isolation test voltage                                      | RMS, f = 50 Hz, t = 1 min.   | V <sub>ISOL</sub>   | 4,0          |       | kV      |
| Material Modulgrundplatte<br>Material of module baseplate                              |  |                     | AlSiC        |       |         |
| Kriechstrecke<br>Creepage distance   | Kontakt - Kühlkörper / terminal to heatsink<br>Kontakt - Kontakt / terminal to terminal                            |                     | 32,2<br>32,2 |       | mm      |
| Luftstrecke<br>Clearance   | Kontakt - Kühlkörper / terminal to heatsink<br>Kontakt - Kontakt / terminal to terminal                            |                     | 19,1<br>19,1 |       | mm      |
| Vergleichszahl der Kriechwegbildung<br>Comperative tracking index                      |  | CTI                 | > 400        |       |         |
|  |  |                     | min.         | typ.  | max.    |
| Modulstreuinduktivität<br>Stray inductance module                                      |  | L <sub>SCE</sub>    |              | 6,0   | nH      |
| Modulleitungswiderstand, Anschlüsse - Chip<br>Module lead resistance, terminals - chip | T <sub>c</sub> = 25°C, pro Schalter / per switch   | R <sub>CC+EE'</sub> |              | 0,085 | mΩ      |
| Lagertemperatur<br>Storage temperature   |  | T <sub>stg</sub>    | -40          |       | 150 °C  |
| Anzugsdrehmoment f. Modulmontage<br>Mounting torque for modul mounting                 | Schraube M6 - Montage gem. gültiger Applikationsschrift<br>Screw M6 - Mounting according to valid application note | M                   | 4,25         |       | 5,75 Nm |
| Anzugsdrehmoment f. elektr. Anschlüsse<br>Terminal connection torque                   | Schraube M4 - Montage gem. gültiger Applikationsschrift<br>Screw M4 - Mounting according to valid application note | M                   | 1,8          | -     | 2,1 Nm  |
|  | Schraube M8 - Montage gem. gültiger Applikationsschrift<br>Screw M8 - Mounting according to valid application note |                     | 8,0          | -     | 10 Nm   |
| Gewicht<br>Weight  |  | G                   |              | 1200  | g       |

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