

| Transistor | | Transistor | |
|---------------------------|--------------------------|-----------------------|---|
| Elektrische Eigenschaften | | Electrical properties | |
| Höchstzulässige Werte | | Maximum rated values | |
| V_{CES} | | 1200 | V |
| I_C | | 200 | A |
| I_{CRM} | $t_p = 1 \text{ ms}$ | 400 | A |
| P_{tot} | $t_C = 25^\circ\text{C}$ | 1400 | W |
| V_{GE} | | 20 | V |
| V_{EG} | | 20 | V |

| Charakteristische Werte | | Characteristic values | |
|-------------------------|--|-----------------------|--------------------|
| $V_{CE \text{ sat}}$ | $i_{CM} = 200 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 3 V |
| | $i_{CM} = 200 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$ | max. | 4 V |
| $V_{GE} \text{ (th)}$ | $V_{CE} = 5 \text{ V}, I_C = 200 \text{ mA}, t_{vj} = 25^\circ\text{C}$ | min. | 3 V |
| | $V_{CE} = 5 \text{ V}, I_C = 200 \text{ mA}, t_{vj} = 25^\circ\text{C}$ | max. | 6 V |
| C_{ies} | $V_{CE} = 10 \text{ V}, V_{GE} = 0 \text{ V}, f_o = 1 \text{ MHz}, t_{vj} = 25^\circ\text{C}$ | typ. | 24 nF |
| | $V_{CE} = 1200 \text{ V}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 1 mA |
| i_{CES} | $V_{CE} = 1200 \text{ V}, V_{GE} = 0 \text{ V}, t_{vj} = 125^\circ\text{C}$ | typ. | 6 mA |
| | $V_{CE} = 1200 \text{ V}, V_{GE} = 0 \text{ V}, t_{vj} = 125^\circ\text{C}$ | typ. | 2 μA |
| i_{GES} | $V_{GE} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 2 μA |
| | $V_{GE} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$ | max. | 20 μA |
| i_{EGS} | $V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 2 μA |
| | $V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$ | max. | 20 μA |
| t_{on} | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 25^\circ\text{C}$ | typ. | 0,4 μs |
| | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 125^\circ\text{C}$ | typ. | 0,6 μs |
| t_s | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 25^\circ\text{C}$ | typ. | 0,6 μs |
| | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 125^\circ\text{C}$ | typ. | 0,8 μs |
| t_f | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 25^\circ\text{C}$ | typ. | 0,2 μs |
| | $i_{CM} = 200 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 4,7 \Omega, t_{vj} = 125^\circ\text{C}$ | typ. | 0,25 μs |

| Bedingungen für den Kurzschlußschutz | Conditions for protection against short circuits |
|--------------------------------------|--|
| $t_{ig} = 10 \mu\text{s}$ | $V_{CC} = 750 \text{ V}$ |
| $V_{LF} = V_{LR} = 15 \text{ V}$ | $V_{CEM} = 1000 \text{ V}$ |
| $R_G = 4,7 \Omega$ | $i_{CMK 1} \approx 2400 \text{ A}$ |
| $t_{vj} = 125^\circ\text{C}$ | $i_{CMK 2} \approx 1600 \text{ A}$ |

| Thermische Eigenschaften | | Thermal properties | |
|--------------------------|-------------------------------|--------------------|--------------------|
| R_{thJC} | DC, pro Baustein / per module | 0,089 | $^\circ\text{C/W}$ |
| R_{thCK} | pro Baustein / per module | 0,04 | $^\circ\text{C/W}$ |
| $t_{vj \text{ max}}$ | | 150 | $^\circ\text{C}$ |
| $t_{vj \text{ op}}$ | | - 40 / + 150 | $^\circ\text{C}$ |
| t_{stg} | | - 40 / + 125 | $^\circ\text{C}$ |

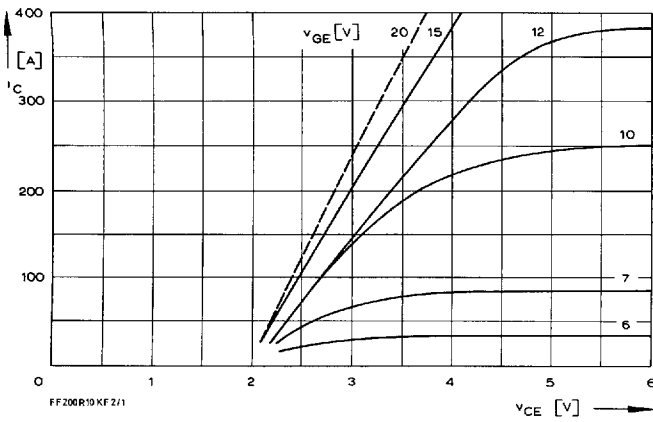
| Inversdiode | | Inverse diode | |
|---------------------------|----------------------|-----------------------|---|
| Elektrische Eigenschaften | | Electrical properties | |
| Höchstzulässige Werte | | Maximum rated values | |
| $I_{F(\text{max})}$ | | 200 | A |
| I_{FRM} | $t_p = 1 \text{ ms}$ | 400 | A |

| Charakteristische Werte | | Characteristic values | |
|-------------------------|---|-----------------------|-------------------|
| V_F | $i_F = 200 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 1,8 V |
| | $i_F = 200 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$ | max. | 3 V |
| I_{RM} | $i_{FM} = 200 \text{ A}, -di_F/dt = 300 \text{ A}/\mu\text{s}, V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 23 A |
| | $i_{FM} = 200 \text{ A}, -di_F/dt = 300 \text{ A}/\mu\text{s}, V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$ | typ. | 45 A |
| Q_r | $i_{FM} = 200 \text{ A}, -di_F/dt = 300 \text{ A}/\mu\text{s}, V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$ | typ. | 3 μAs |
| | $i_{FM} = 200 \text{ A}, -di_F/dt = 300 \text{ A}/\mu\text{s}, V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$ | typ. | 10 μAs |

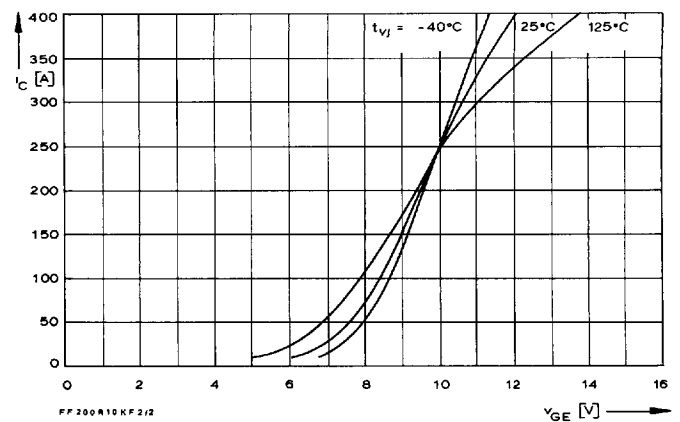
| Thermische Eigenschaften | | Thermal properties | |
|--------------------------|-------------------------------|--------------------|--------------------|
| R_{thJC} | DC, pro Baustein / per module | 0,25 | $^\circ\text{C/W}$ |
| R_{thCK} | pro Baustein / per module | 0,04 | $^\circ\text{C/W}$ |
| $t_{vj \text{ max}}$ | | 125 | $^\circ\text{C}$ |
| $t_{vj \text{ op}}$ | | - 40 / + 125 | $^\circ\text{C}$ |
| t_{stg} | | - 40 / + 125 | $^\circ\text{C}$ |

| Innere Isolation | Internal insulation |
|-----------------------------------|---------------------------|
| Isoliermaterial: Al N | Insulating material: Al N |
| V_{ISOL} RMS (f=50 Hz, t=1 min) | 2,5 kV |

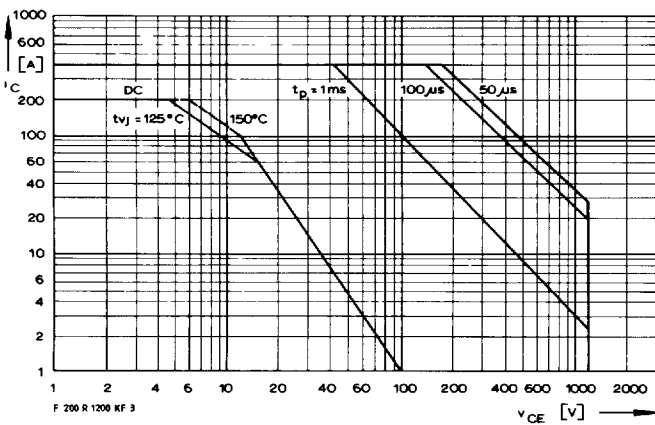
| Mechanische Eigenschaften | | Mechanical properties | |
|---------------------------|--------------------------|-----------------------|-----------------|
| G | | 465 | g |
| M 1 | | 3 | Nm |
| M 2 | terminals M 4 / M 6 | 2 Nm / 3 | Nm |
| | Maßbild Seite 183, Nr. 5 | outline | page 183, no. 5 |



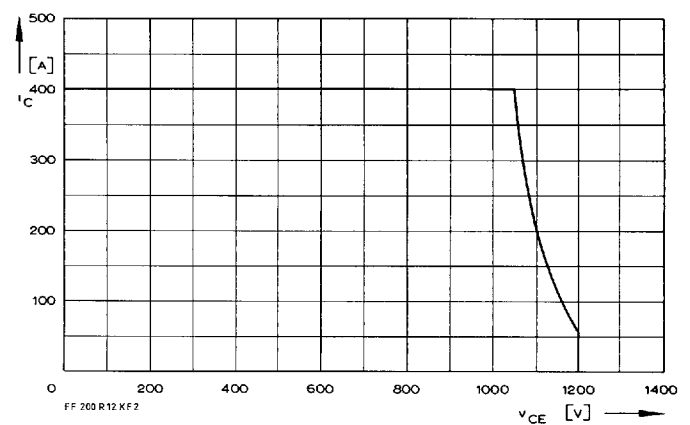
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$



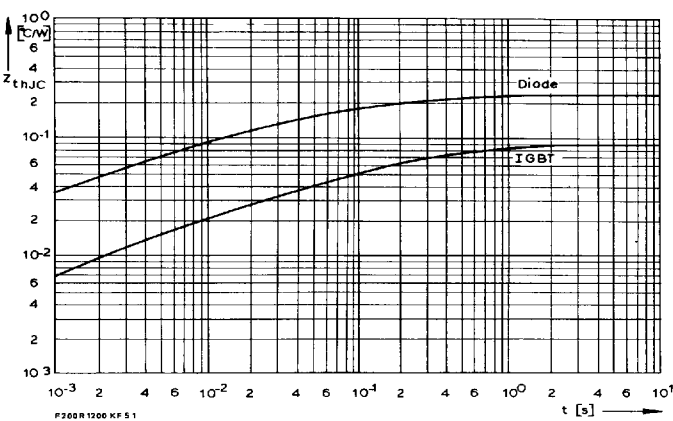
2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $v_{CE} = 5\text{ V}$



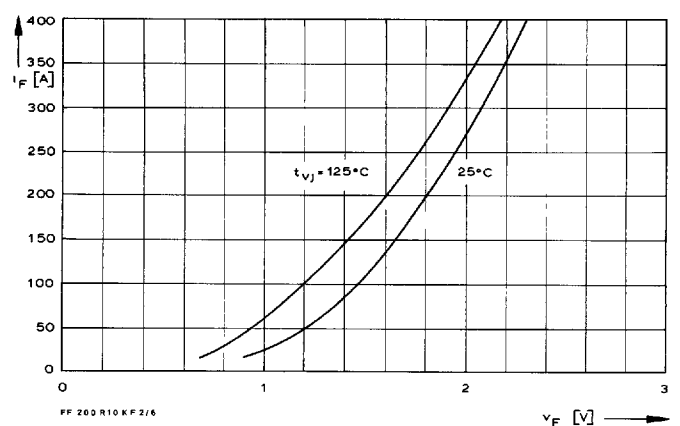
3 Vorwärts-Arbeitsbereich FBSOA (Einzelimpuls, nicht periodisch).
Forward biased safe operating area (single pulse, non repetitive).
 $t_c = 25^\circ\text{C}$



4 Rückwärts-Arbeitsbereich RBSOA.
Reverse biased safe operating area.
 $t_{vj} = 125^\circ\text{C}$, $v_{LF} = v_{LR} = 15\text{ V}$, $R_G = 4,7\ \Omega$



5 Transienter innerer Warmewiderstand je Zweig (DC).
Transient thermal impedance per arm (DC).



6 Durchlaßkennlinie der Inversdiode (typisch).
Forward characteristic of the inverse diode (typical).
 $v_{GE} = 0\text{ V}$

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