

IGBT, Wechselrichter / IGBT, Inverter

Höchstzulässige Werte / Maximum Rated Values

| | | | | |
|--|--|----------------------------|----------|--------|
| Kollektor-Emitter-Sperrspannung Collector-emitter voltage | $T_{vj} = 25^{\circ}\text{C}$ | V_{CES} | 1200 | V |
| Kollektor-Dauergleichstrom Continuous DC collector current | $T_C = 80^{\circ}\text{C}, T_{vj\max} = 150^{\circ}\text{C}$ $T_C = 25^{\circ}\text{C}, T_{vj\max} = 150^{\circ}\text{C}$ | $I_{C\text{nom}}$ I_C | 50 75 | A A |
| Periodischer Kollektor-Spitzenstrom Repetitive peak collector current | $t_P = 1\text{ ms}$ | I_{CRM} | 100 | A |
| Gesamt-Verlustleistung Total power dissipation | $T_C = 25^{\circ}\text{C}, T_{vj\max} = 150$ | P_{tot} | 280 | W |
| Gate-Emitter-Spitzenspannung Gate-emitter peak voltage | | V_{GES} | +/-20 | V |

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|---|--|---|--------------------|--------------|------|--------------------------------|
| Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage | $I_C = 50\text{ A}, V_{GE} = 15\text{ V}$ $I_C = 50\text{ A}, V_{GE} = 15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $V_{CE\text{sat}}$ | 1,70 2,00 | 2,15 | V V |
| Gate-Schwellenspannung Gate threshold voltage | $I_C = 2,00\text{ mA}, V_{CE} = V_{GE}, T_{vj} = 25^{\circ}\text{C}$ | | $V_{G\text{eth}}$ | 5,0 | 5,8 | 6,5 V |
| Gateladung Gate charge | $V_{GE} = -15\text{ V} \dots +15\text{ V}$ | | Q_G | 0,47 | | μC |
| Interner Gatewiderstand Internal gate resistor | $T_{vj} = 25^{\circ}\text{C}$ | | $R_{G\text{int}}$ | 4,0 | | Ω |
| Eingangskapazität Input capacitance | $f = 1\text{ MHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$ | | C_{ies} | 3,50 | | nF |
| Rückwirkungskapazität Reverse transfer capacitance | $f = 1\text{ MHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$ | | C_{res} | 0,13 | | nF |
| Kollektor-Emitter-Reststrom Collector-emitter cut-off current | $V_{CE} = 1200\text{ V}, V_{GE} = 0\text{ V}, T_{vj} = 25^{\circ}\text{C}$ | | I_{CES} | | 5,0 | mA |
| Gate-Emitter-Reststrom Gate-emitter leakage current | $V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}, T_{vj} = 25^{\circ}\text{C}$ | | I_{GES} | | 400 | nA |
| Einschaltverzögerungszeit, induktive Last Turn-on delay time, inductive load | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{on}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $t_{d\text{on}}$ | 0,09 0,09 | | μs μs |
| Anstiegszeit, induktive Last Rise time, inductive load | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{on}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | t_r | 0,03 0,05 | | μs μs |
| Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{off}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $t_{d\text{off}}$ | 0,42 0,52 | | μs μs |
| Fallzeit, induktive Last Fall time, inductive load | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{off}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | t_f | 0,07 0,09 | | μs μs |
| Einschaltverlustenergie pro Puls Turn-on energy loss per pulse | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}, L_S = 45\text{ nH}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{on}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{on} | 4,90 6,60 | | mJ mJ |
| Abschaltverlustenergie pro Puls Turn-off energy loss per pulse | $I_C = 50\text{ A}, V_{CE} = 600\text{ V}, L_S = 45\text{ nH}$ $V_{GE} = \pm 15\text{ V}$ $R_{G\text{off}} = 18\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{off} | 4,00 5,80 | | mJ mJ |
| Kurzschlußverhalten SC data | $V_{GE} \leq 15\text{ V}, V_{CC} = 900\text{ V}$ $V_{CE\text{max}} = V_{CES} - L_{SCE} \cdot di/dt$ | $t_P \leq 10\ \mu\text{s}, T_{vj} = 125^{\circ}\text{C}$ | I_{SC} | 200 | | A |
| Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case | pro IGBT / per IGBT | | R_{thJC} | | 0,45 | K/W |
| Temperatur im Schaltbetrieb Temperature under switching conditions | | | $T_{vj\text{op}}$ | -40 | 125 | $^{\circ}\text{C}$ |

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Diode, Wechselrichter / Diode, Inverter

Höchstzulässige Werte / Maximum Rated Values

| | | | | |
|---|--|-----------|------|----------------------|
| Periodische Spitzensperrspannung Repetitive peak reverse voltage | $T_{vj} = 25^{\circ}\text{C}$ | V_{RRM} | 1200 | V |
| Dauergleichstrom Continuous DC forward current | | I_F | 50 | A |
| Periodischer Spitzenstrom Repetitive peak forward current | $t_P = 1\text{ ms}$ | I_{FRM} | 100 | A |
| Grenzlastintegral I^2t - value | $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ | I^2t | 690 | A^2s |

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|---|---|---|--------------------|--------------|------|--------------------------------|
| Durchlassspannung Forward voltage | $I_F = 50\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 50\text{ A}, V_{GE} = 0\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | V_F | 1,65 1,65 | 2,15 | V V |
| Rückstromspitze Peak reverse recovery current | $I_F = 50\text{ A}, -di_F/dt = 1200\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | I_{RM} | 51,0 50,0 | | A A |
| Sperrverzögerungsladung Recovered charge | $I_F = 50\text{ A}, -di_F/dt = 1200\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | Q_r | 6,20 12,0 | | μC μC |
| Abschaltenergie pro Puls Reverse recovery energy | $I_F = 50\text{ A}, -di_F/dt = 1200\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{rec} | 2,10 4,40 | | mJ mJ |
| Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case | pro Diode / per diode | | R_{thJC} | | 0,75 | K/W |
| Temperatur im Schaltbetrieb Temperature under switching conditions | | | $T_{vj\text{ op}}$ | -40 | 125 | $^{\circ}\text{C}$ |

Diode, Gleichrichter / Diode, Rectifier

Höchstzulässige Werte / Maximum Rated Values

| | | | | |
|---|---|-------------|-------------|--|
| Periodische Spitzensperrspannung Repetitive peak reverse voltage | $T_{vj} = 25^{\circ}\text{C}$ | V_{RRM} | 1600 | V |
| Durchlassstrom Grenzeffektivwert pro Chip Maximum RMS forward current per chip | $T_C = 80^{\circ}\text{C}$ | I_{FRMSM} | 80 | A |
| Gleichrichter Ausgang Grenzeffektivstrom Maximum RMS current at rectifier output | $T_C = 80^{\circ}\text{C}$ | I_{RMSM} | 115 | A |
| Stoßstrom Grenzwert Surge forward current | $t_P = 10\text{ ms}, T_{vj} = 25^{\circ}\text{C}$ $t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$ | I_{FSM} | 500 400 | A A |
| Grenzlastintegral I^2t - value | $t_P = 10\text{ ms}, T_{vj} = 25^{\circ}\text{C}$ $t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$ | I^2t | 1250 800 | A^2s A^2s |

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|---|---|--------------------|------|------|------|--------------------|
| Durchlassspannung Forward voltage | $T_{vj} = 150^{\circ}\text{C}, I_F = 50\text{ A}$ | V_F | | 1,00 | | V |
| Schleusenspannung Threshold voltage | $T_{vj} = 150^{\circ}\text{C}$ | V_{TO} | | 0,80 | | V |
| Ersatzwiderstand Slope resistance | $T_{vj} = 150^{\circ}\text{C}$ | r_T | | 6,00 | | $\text{m}\Omega$ |
| Sperrstrom Reverse current | $T_{vj} = 150^{\circ}\text{C}, V_R = 1600\text{ V}$ | I_R | | 3,00 | | mA |
| Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case | pro Diode / per diode | R_{thJC} | | | 0,65 | K/W |
| Temperatur im Schaltbetrieb Temperature under switching conditions | | $T_{vj\text{ op}}$ | | | | $^{\circ}\text{C}$ |

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IGBT, Brems-Chopper / IGBT, Brake-Chopper
Höchstzulässige Werte / Maximum Rated Values

| | | | | |
|--|--|----------------------------|----------|--------|
| Kollektor-Emitter-Sperrspannung Collector-emitter voltage | $T_{vj} = 25^{\circ}\text{C}$ | V_{CES} | 1200 | V |
| Kollektor-Dauergleichstrom Continuous DC collector current | $T_C = 80^{\circ}\text{C}, T_{vj\text{max}} = 150^{\circ}\text{C}$ $T_C = 25^{\circ}\text{C}, T_{vj\text{max}} = 150^{\circ}\text{C}$ | $I_{C\text{nom}}$ I_C | 40 55 | A A |
| Periodischer Kollektor-Spitzenstrom Repetitive peak collector current | $t_P = 1\text{ ms}$ | I_{CRM} | 80 | A |
| Gesamt-Verlustleistung Total power dissipation | $T_C = 25^{\circ}\text{C}, T_{vj\text{max}} = 150$ | P_{tot} | 210 | W |
| Gate-Emitter-Spitzenspannung Gate-emitter peak voltage | | V_{GES} | +/-20 | V |

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|---|---|---|--------------------|--------------|------|--------------------------------|
| Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage | $I_C = 40\text{ A}, V_{GE} = 15\text{ V}$ $I_C = 40\text{ A}, V_{GE} = 15\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $V_{CE\text{sat}}$ | 1,80 2,15 | 2,30 | V V |
| Gate-Schwellenspannung Gate threshold voltage | $I_C = 1,50\text{ mA}, V_{CE} = V_{GE}, T_{vj} = 25^{\circ}\text{C}$ | | $V_{G\text{Eth}}$ | 5,0 | 5,8 | 6,5 V |
| Gateladung Gate charge | $V_{GE} = -15\text{ V} \dots +15\text{ V}$ | | Q_G | 0,33 | | μC |
| Interner Gatewiderstand Internal gate resistor | $T_{vj} = 25^{\circ}\text{C}$ | | $R_{G\text{int}}$ | 6,0 | | Ω |
| Eingangskapazität Input capacitance | $f = 1\text{ MHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$ | | C_{ies} | 2,50 | | nF |
| Rückwirkungskapazität Reverse transfer capacitance | $f = 1\text{ MHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$ | | C_{res} | 0,09 | | nF |
| Kollektor-Emitter-Reststrom Collector-emitter cut-off current | $V_{CE} = 1200\text{ V}, V_{GE} = 0\text{ V}, T_{vj} = 25^{\circ}\text{C}$ | | I_{CES} | | 5,0 | mA |
| Gate-Emitter-Reststrom Gate-emitter leakage current | $V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}, T_{vj} = 25^{\circ}\text{C}$ | | I_{GES} | | 400 | nA |
| Einschaltverzögerungszeit, induktive Last Turn-on delay time, inductive load | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{Gon} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $t_{d\text{on}}$ | 0,09 0,09 | | μs μs |
| Anstiegszeit, induktive Last Rise time, inductive load | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{Gon} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | t_r | 0,03 0,05 | | μs μs |
| Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{Goff} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | $t_{d\text{off}}$ | 0,42 0,52 | | μs μs |
| Fallzeit, induktive Last Fall time, inductive load | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_{Goff} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | t_f | 0,07 0,09 | | μs μs |
| Einschaltverlustenergie pro Puls Turn-on energy loss per pulse | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}, L_S = \text{t.b.d. nH}$ $V_{GE} = \pm 15\text{ V}$ $R_{Gon} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{on} | 4,10 6,00 | | mJ mJ |
| Abschaltverlustenergie pro Puls Turn-off energy loss per pulse | $I_C = 40\text{ A}, V_{CE} = 600\text{ V}, L_S = \text{t.b.d. nH}$ $V_{GE} = \pm 15\text{ V}$ $R_{Goff} = 27\ \Omega$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{off} | 3,10 4,20 | | mJ mJ |
| Kurzschlußverhalten SC data | $V_{GE} \leq 15\text{ V}, V_{CC} = 900\text{ V}$ $V_{CE\text{max}} = V_{CES} - L_{SCE} \cdot di/dt$ | $t_P \leq 10\ \mu\text{s}, T_{vj} = 125^{\circ}\text{C}$ | I_{SC} | 160 | | A |
| Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case | pro IGBT / per IGBT | | R_{thJC} | | 0,60 | K/W |
| Temperatur im Schaltbetrieb Temperature under switching conditions | | | $T_{vj\text{op}}$ | -40 | 125 | $^{\circ}\text{C}$ |

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Diode, Brems-Chopper / Diode, Brake-Chopper
Höchstzulässige Werte / Maximum Rated Values

| | | | | |
|---|--|-----------|------|----------------------|
| Periodische Spitzensperrspannung Repetitive peak reverse voltage | $T_{vj} = 25^{\circ}\text{C}$ | V_{RRM} | 1200 | V |
| Dauergleichstrom Continuous DC forward current | | I_F | 15 | A |
| Periodischer Spitzenstrom Repetitive peak forward current | $t_P = 1\text{ ms}$ | I_{FRM} | 30 | A |
| Grenzlastintegral I^2t - value | $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ | I^2t | 60,0 | A^2s |

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|---|---|---|--------------------|--------------|------|--------------------------------|
| Durchlassspannung Forward voltage | $I_F = 15\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 15\text{ A}, V_{GE} = 0\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | V_F | 1,65 1,65 | 2,15 | V V |
| Rückstromspitze Peak reverse recovery current | $I_F = 15\text{ A}, -di_F/dt = 400\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | I_{RM} | 16,0 15,0 | | A A |
| Sperrverzögerungsladung Recovered charge | $I_F = 15\text{ A}, -di_F/dt = 400\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | Q_r | 1,80 3,00 | | μC μC |
| Abschaltenergie pro Puls Reverse recovery energy | $I_F = 15\text{ A}, -di_F/dt = 400\text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 600\text{ V}$ | $T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ | E_{rec} | 0,55 1,10 | | mJ mJ |
| Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case | pro Diode / per diode | | R_{thJC} | | 1,50 | K/W |
| Temperatur im Schaltbetrieb Temperature under switching conditions | | | $T_{vj\text{ op}}$ | -40 | 125 | $^{\circ}\text{C}$ |

NTC-Widerstand / NTC-Thermistor

Charakteristische Werte / Characteristic Values

| | | | min. | typ. | max. | |
|--|---|--|--------------|--------|------|------------|
| Nennwiderstand Rated resistance | $T_C = 25^{\circ}\text{C}$ | | R_{25} | 5,00 | | k Ω |
| Abweichung von R100 Deviation of R100 | $T_C = 100^{\circ}\text{C}, R_{100} = 493\ \Omega$ | | $\Delta R/R$ | -5 | 5 | % |
| Verlustleistung Power dissipation | $T_C = 25^{\circ}\text{C}$ | | P_{25} | | 20,0 | mW |
| B-Wert B-value | $R_2 = R_{25} \exp [B_{25/50}(1/T_2 - 1/(298,15\text{ K}))]$ | | $B_{25/50}$ | 3375 | | K |
| B-Wert B-value | $R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298,15\text{ K}))]$ | | $B_{25/80}$ | t.b.d. | | K |
| B-Wert B-value | $R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298,15\text{ K}))]$ | | $B_{25/100}$ | t.b.d. | | K |

Angaben gemäß gültiger Application Note.
Specification according to the valid application note.

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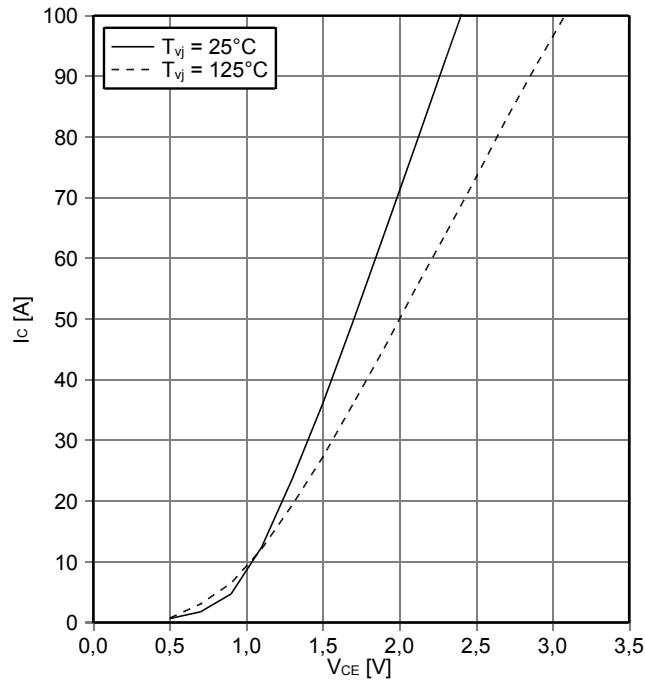
Modul / Module

| | | | | | |
|--|--|--|--------------------------------|-----|---------|
| Isolations-Prüfspannung Isolation test voltage | RMS, f = 50 Hz, t = 1 min | V _{ISOL} | 2,5 | | kV |
| Material Modulgrundplatte Material of module baseplate | | | Cu | | |
| Innere Isolation Internal isolation | Basisisolation (Schutzklasse 1, EN61140) basic insulation (class 1, IEC 61140) | | Al ₂ O ₃ | | |
| Kriechstrecke Creepage distance | Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal | | 10,0 | | mm |
| Luftstrecke Clearance | Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal | | 7,5 | | mm |
| Vergleichszahl der Kriechwegbildung Comperative tracking index | | CTI | > 225 | | |
| | | | min. typ. max. | | |
| Wärmewiderstand, Gehäuse bis Kühlkörper Thermal resistance, case to heatsink | pro Modul / per module $\lambda_{\text{Paste}} = 1 \text{ W/(m}\cdot\text{K)} / \lambda_{\text{grease}} = 1 \text{ W/(m}\cdot\text{K)}$ | R _{thCH} | 0,009 | | K/W |
| Modulstreuinduktivität Stray inductance module | | L _{sCE} | 60 | | nH |
| Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip | T _c = 25°C, pro Schalter / per switch | R _{CC'+EE'} R _{AA'+CC'} | 4,00 2,00 | | mΩ |
| Lagertemperatur Storage temperature | | T _{stg} | -40 | 125 | °C |
| Anzugsdrehmoment f. Modulmontage Mounting torque for modul mounting | Schraube M5 - Montage gem. gültiger Applikationsschrift Screw M5 - Mounting according to valid application note | M | 3,00 | - | 6,00 Nm |
| Gewicht Weight | | G | 300 | | g |

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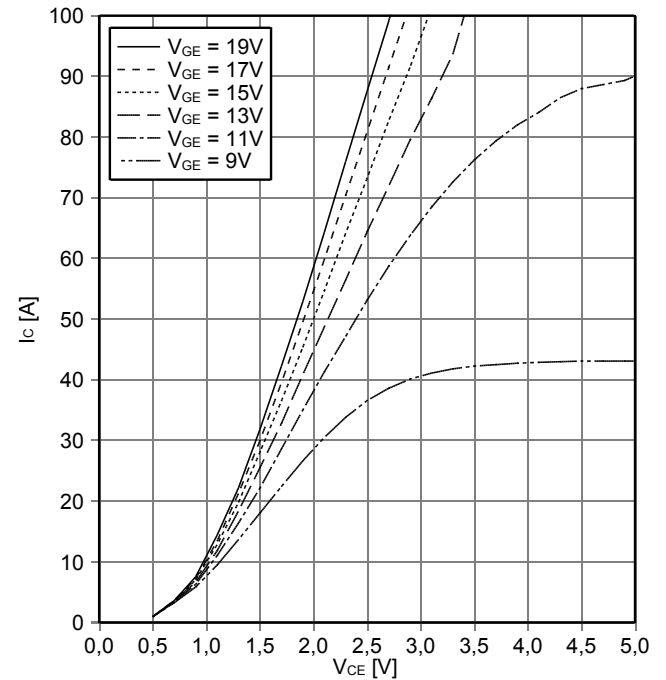
Ausgangskennlinie IGBT, Wechselrichter (typisch)
output characteristic IGBT, Inverter (typical)

$I_C = f(V_{CE})$
 $V_{GE} = 15\text{ V}$



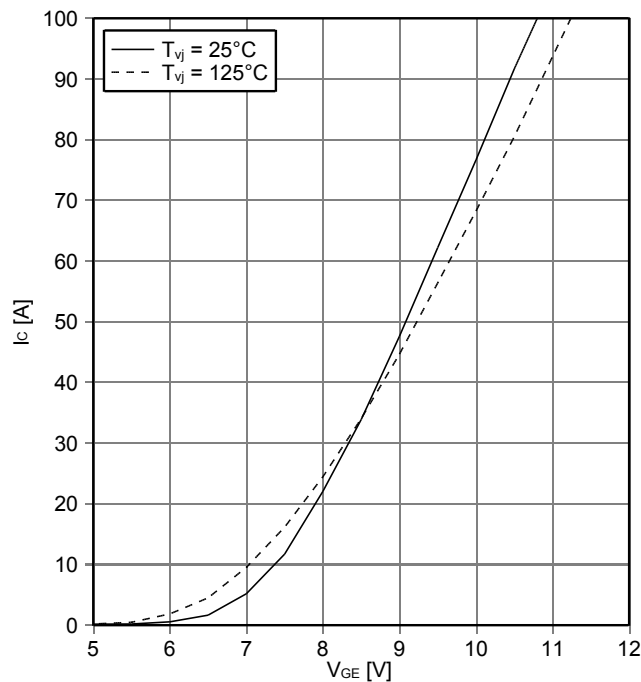
Ausgangskennlinienfeld IGBT, Wechselrichter (typisch)
output characteristic IGBT, Inverter (typical)

$I_C = f(V_{CE})$
 $T_{vj} = 125^\circ\text{C}$



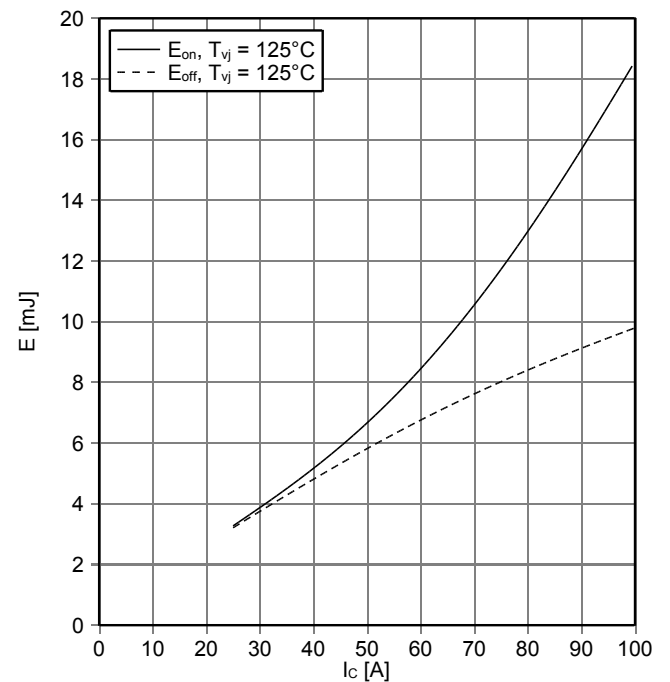
Übertragungscharakteristik IGBT, Wechselrichter (typisch)
transfer characteristic IGBT, Inverter (typical)

$I_C = f(V_{GE})$
 $V_{CE} = 20\text{ V}$



Schaltverluste IGBT, Wechselrichter (typisch)
switching losses IGBT, Inverter (typical)

$E_{on} = f(I_C), E_{off} = f(I_C)$
 $V_{GE} = \pm 15\text{ V}, R_{Gon} = 18\ \Omega, R_{Goff} = 18\ \Omega, V_{CE} = 600\text{ V}$

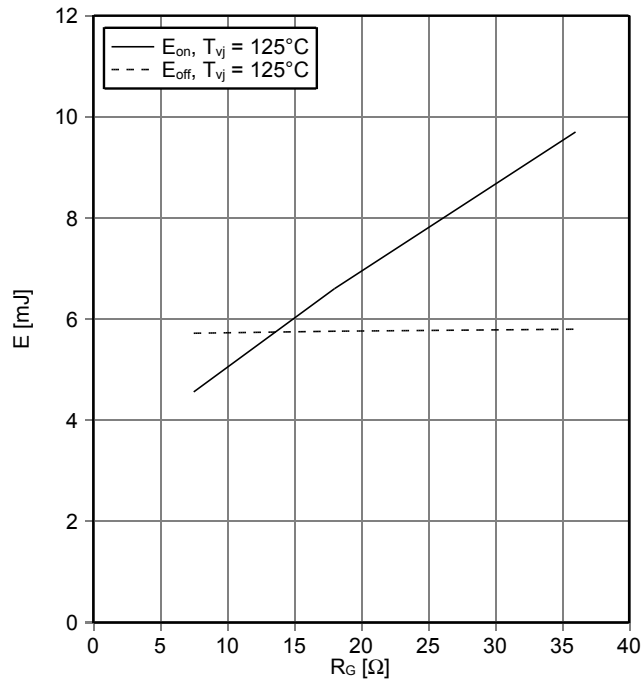


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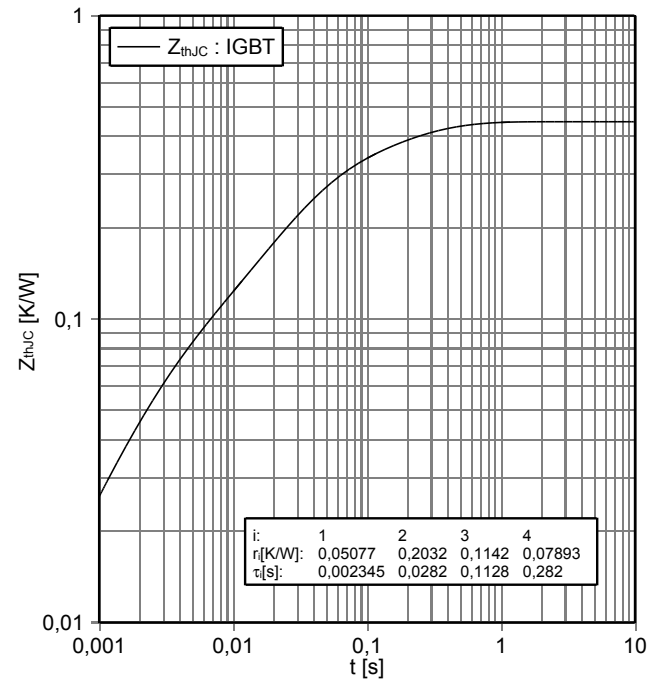
Schaltverluste IGBT, Wechselrichter (typisch)
switching losses IGBT, Inverter (typical)

$E_{on} = f(R_G), E_{off} = f(R_G)$
 $V_{GE} = \pm 15 V, I_C = 50 A, V_{CE} = 600 V$



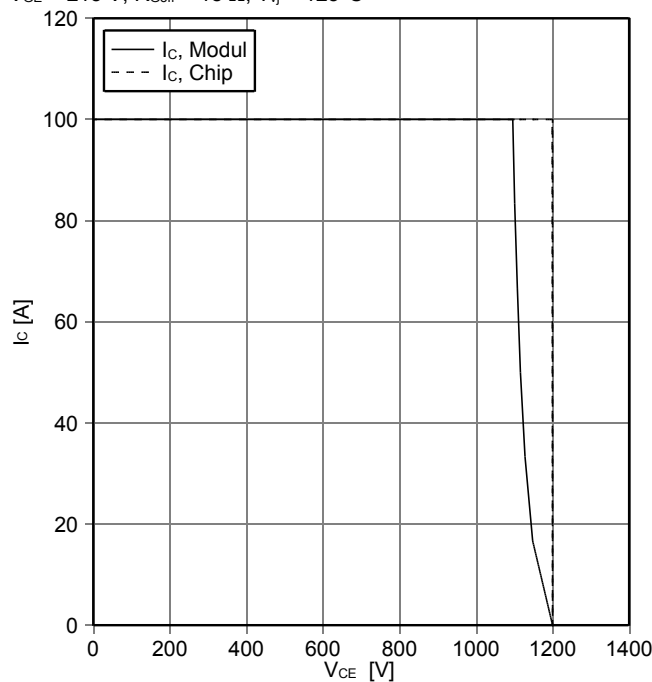
Transienter Wärmewiderstand IGBT, Wechselrichter
transient thermal impedance IGBT, Inverter

$Z_{thJC} = f(t)$



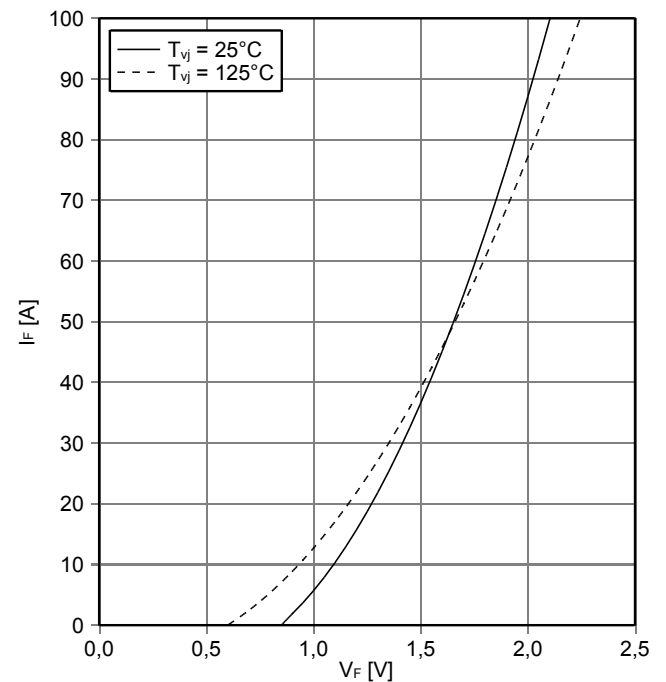
Sicherer Rückwärts-Arbeitsbereich IGBT, Wechselrichter (RBSOA)
reverse bias safe operating area IGBT, Inverter (RBSOA)

$I_C = f(V_{CE})$
 $V_{GE} = \pm 15 V, R_{Goff} = 18 \Omega, T_{vj} = 125^\circ C$



Durchlasskennlinie der Diode, Wechselrichter (typisch)
forward characteristic of Diode, Inverter (typical)

$I_F = f(V_F)$

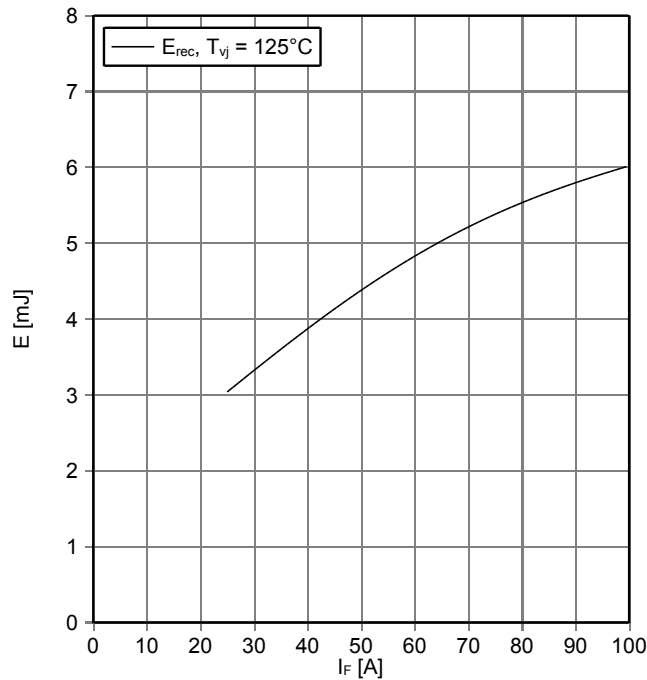


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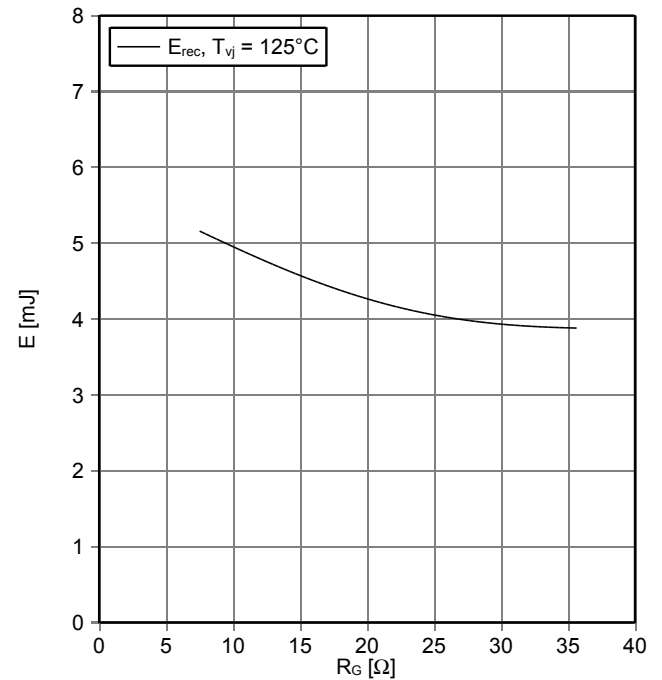
Schaltverluste Diode, Wechselrichter (typisch)
switching losses Diode, Inverter (typical)

$E_{rec} = f(I_F)$
 $R_{Gon} = 18 \Omega, V_{CE} = 600 V$



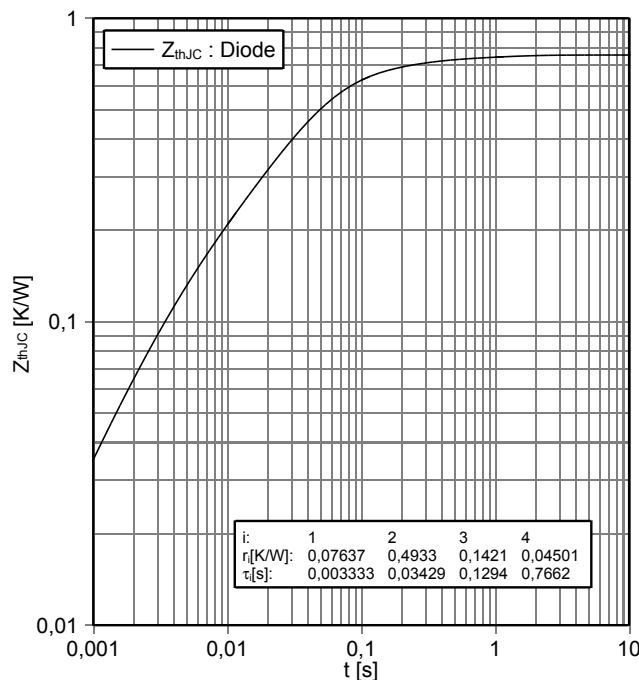
Schaltverluste Diode, Wechselrichter (typisch)
switching losses Diode, Inverter (typical)

$E_{rec} = f(R_G)$
 $I_F = 50 A, V_{CE} = 600 V$



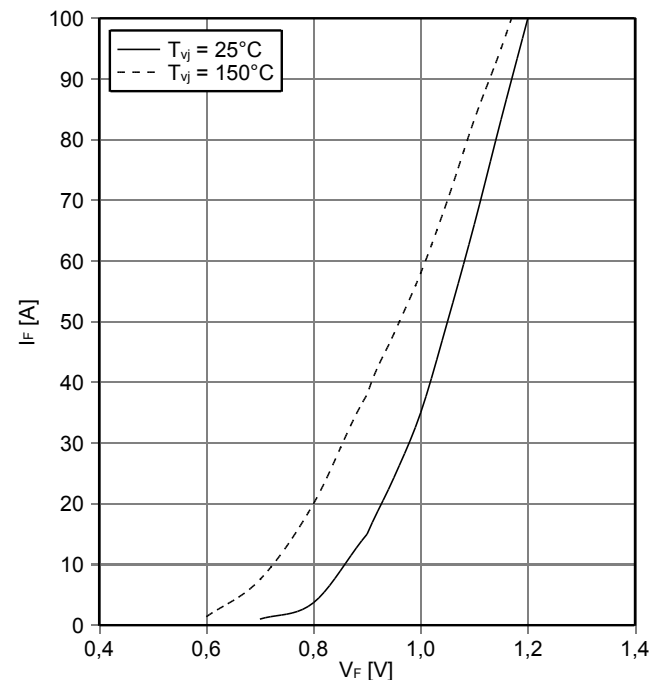
Transienter Wärmewiderstand Diode, Wechselrichter
transient thermal impedance Diode, Inverter

$Z_{thJC} = f(t)$



Durchlasskennlinie der Diode, Gleichrichter (typisch)
forward characteristic of Diode, Rectifier (typical)

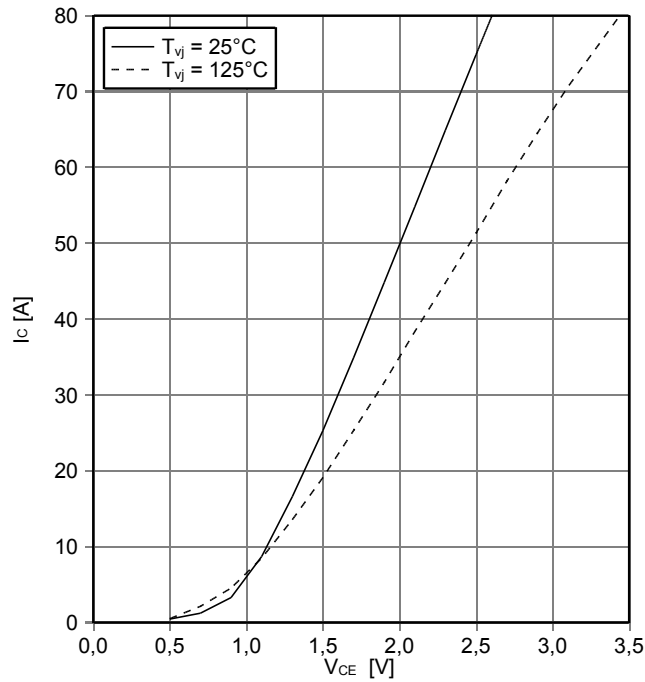
$I_F = f(V_F)$



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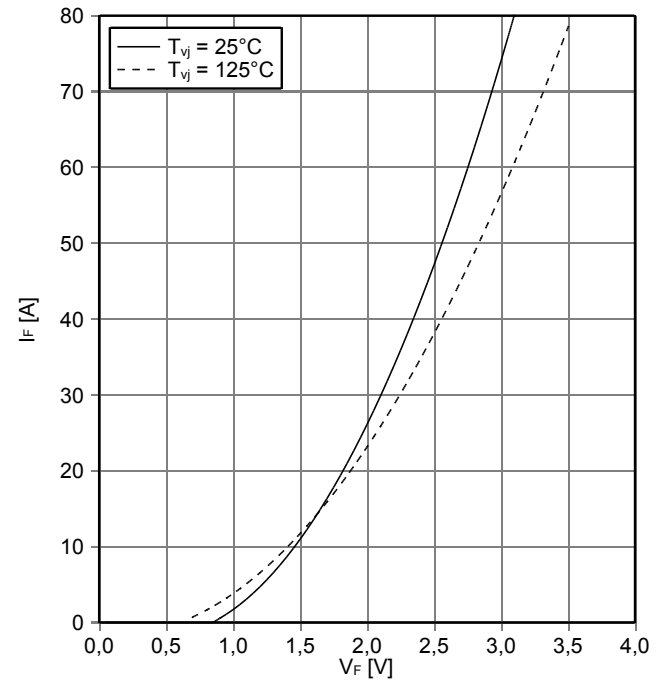
Ausgangskennlinie IGBT, Brems-Chopper (typisch)
output characteristic IGBT, Brake-Chopper (typical)

$I_C = f(V_{CE})$
 $V_{GE} = 15\text{ V}$



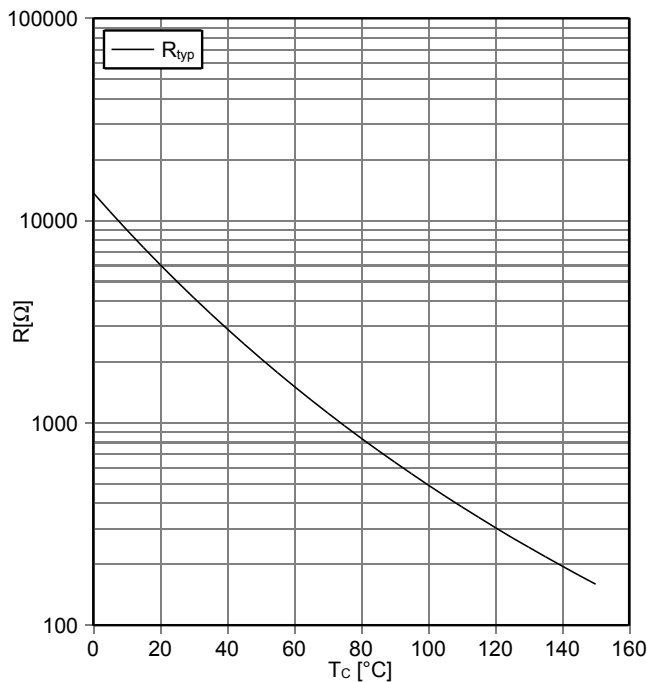
Durchlasskennlinie der Diode, Brems-Chopper (typisch)
forward characteristic of Diode, Brake-Chopper (typical)

$I_F = f(V_F)$



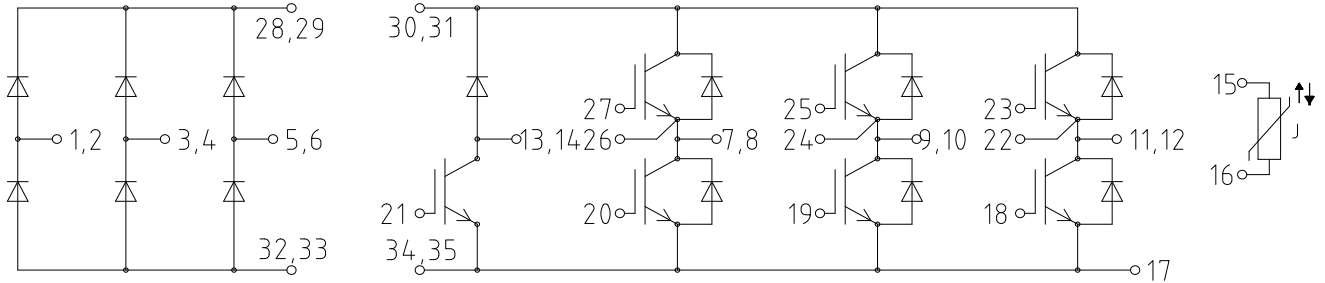
NTC-Widerstand-Temperaturkennlinie (typisch)
NTC-Thermistor-temperature characteristic (typical)

$R = f(T)$

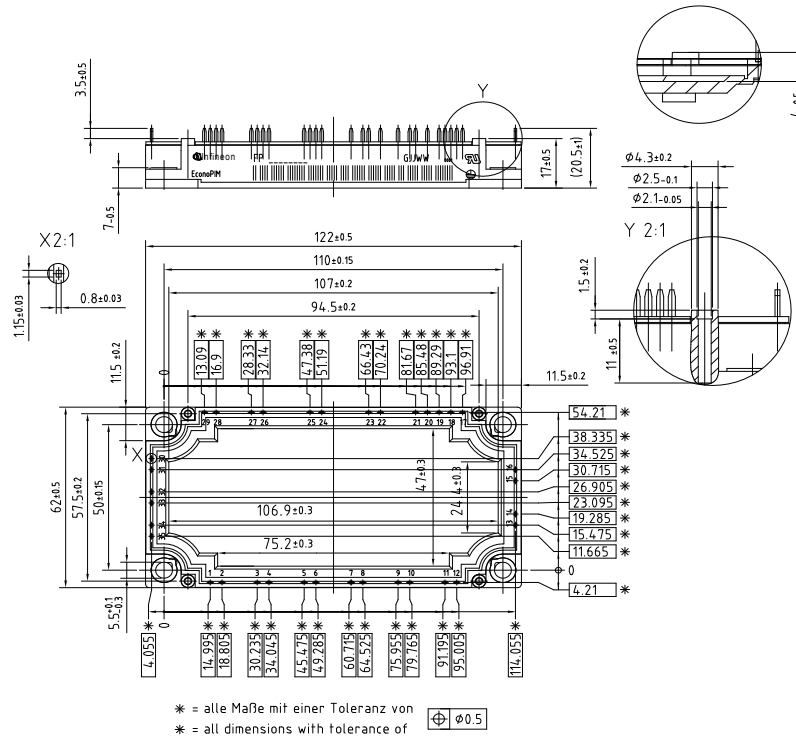


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Schaltplan / circuit_diagram_headline



Gehäuseabmessungen / package outlines



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