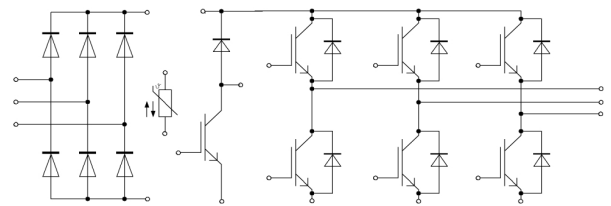
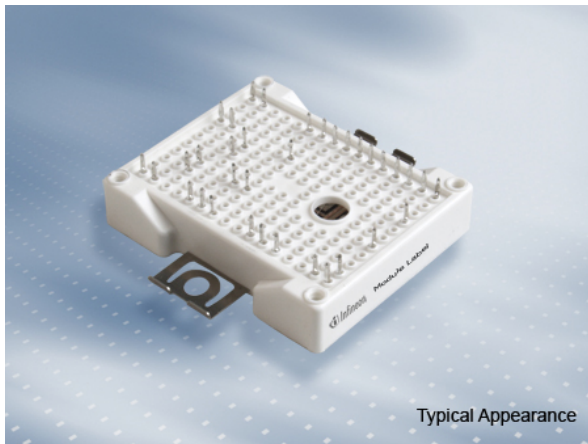


EasyPIM™ Modul mit TRENCHSTOP™ IGBT7 und Emitter Controlled 7 Diode und PressFIT / NTC
 EasyPIM™ module with TRENCHSTOP™ IGBT7 and Emitter Controlled 7 diode and PressFIT / NTC

Vorläufige Daten / Preliminary Data



$V_{CES} = 1200V$
 $I_{C\ nom} = 25A / I_{CRM} = 50A$

Potentielle Anwendungen

- Hilfsumrichter
- Klimaanlage
- Motorantriebe

Potential Applications

- Auxiliary inverters
- Air conditioning
- Motor drives

Elektrische Eigenschaften

- Niedriges V_{CEsat}
- Trenchstop™ IGBT7
- Überlastbetrieb bis zu 175°C

Electrical Features

- Low V_{CEsat}
- Trenchstop™ IGBT7
- Overload operation up to 175°C

Mechanische Eigenschaften

- 2,5 kV AC 1min Isolationsfestigkeit
- Al_2O_3 Substrat mit kleinem thermischen Widerstand
- Hohe Leistungsdichte
- Kompaktes Design
- PressFIT Verbindungstechnik

Mechanical Features

- 2.5 kV AC 1min insulation
- Al_2O_3 substrate with low thermal resistance
- High power density
- Compact design
- PressFIT contact technology

Module Label Code

Barcode Code 128



DMX - Code



Content of the Code

Content of the Code	Digit
Module Serial Number	1 - 5
Module Material Number	6 - 11
Production Order Number	12 - 19
Datecode (Production Year)	20 - 21
Datecode (Production Week)	22 - 23

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	$T_H = 105^{\circ}\text{C}, T_{vj\max} = 175^{\circ}\text{C}$	I_{CDC}	25	A
Periodischer Kollektor-Spitzenstrom Repetitive peak collector current	$t_P = 1\text{ ms}$	I_{CRM}	50	A
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	$I_C = 25\text{ A}$ $V_{GE} = 15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	$V_{CE\text{ sat}}$	1,60 1,74 1,82	t.b.d. V V V
Gate-Schwellenspannung Gate threshold voltage	$I_C = 0,525\text{ mA}, V_{CE} = V_{GE}, T_{vj} = 25^{\circ}\text{C}$		V_{GEth}	5,15 5,80 6,45	V
Gateladung Gate charge	$V_{GE} = -15 / 15\text{ V}, V_{CE} = 600\text{ V}$		Q_G	0,395	μC
Interner Gatewiderstand Internal gate resistor	$T_{vj} = 25^{\circ}\text{C}$		R_{Gint}	0,0	Ω
Eingangskapazität Input capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$		C_{ies}	4,77	nF
Rückwirkungskapazität Reverse transfer capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$		C_{res}	0,017	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}		0,0056 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}		100 nA
Einschaltverzögerungszeit, induktive Last Turn-on delay time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{don}	0,035 0,036 0,043	μs μs μs
Anstiegszeit, induktive Last Rise time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_r	0,021 0,026 0,031	μs μs μs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{doff}	0,19 0,26 0,38	μs μs μs
Fallzeit, induktive Last Fall time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_f	0,19 0,27 0,29	μs μs μs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}, L\sigma = 35\text{ nH}$ $di/dt = 650\text{ A}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{on}	1,78 2,57 3,18	mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}, L\sigma = 35\text{ nH}$ $du/dt = 3000\text{ V}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{off}	1,68 2,67 3,20	mJ mJ mJ
Kurzschlußverhalten SC data	$V_{GE} \leq 15\text{ V}, V_{CC} = 800\text{ V}$ $V_{CEmax} = V_{CES} - L_{SCE} \cdot di/dt$	$t_P \leq 8\ \mu\text{s}, T_{vj} = 150^{\circ}\text{C}$ $t_P \leq 7\ \mu\text{s}, T_{vj} = 175^{\circ}\text{C}$	I_{SC}	80 75	A A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT		R_{thJH}	1,25	K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\text{ op}}$	-40 175	$^{\circ}\text{C}$

Vorläufige Daten Preliminary Data

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	25	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_p = 1\text{ ms}$	I_{FRM}	50	A
Grenzlastintegral I^2t - value	$V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 175^{\circ}\text{C}$	I^2t	72,5 63,0	A^2s A^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 25\text{ A}, V_{GE} = 0\text{ V}$		1,83	t.b.d.	V
	$I_F = 25\text{ A}, V_{GE} = 0\text{ V}$		1,70		V
	$I_F = 25\text{ A}, V_{GE} = 0\text{ V}$		1,63		V
Rückstromspitze Peak reverse recovery current	$I_F = 25\text{ A}, -di_F/dt = 650\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$		20,5		A
	$V_R = 600\text{ V}$		26,4		A
	$V_{GE} = -15\text{ V}$		30,2		A
Sperrverzögerungsladung Recovered charge	$I_F = 25\text{ A}, -di_F/dt = 650\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$		2,47		μC
	$V_R = 600\text{ V}$		4,31		μC
	$V_{GE} = -15\text{ V}$		5,62		μC
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 25\text{ A}, -di_F/dt = 650\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$		0,94		mJ
	$V_R = 600\text{ V}$		1,48		mJ
	$V_{GE} = -15\text{ V}$		1,85		mJ
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro Diode / per diode	R_{thJH}	1,73		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\text{ op}}$	-40	175	$^{\circ}\text{C}$

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	$T_H = 100^{\circ}\text{C}$	I_{FRMSM}	45	A
Gleichrichter Ausgang Grenzeffektivstrom Maximum RMS current at rectifier output	$T_H = 100^{\circ}\text{C}$	I_{RMSM}	50	A
Stoßstrom Grenzwert Surge forward current	$t_p = 10\text{ ms}, T_{vj} = 25^{\circ}\text{C}$	I_{FSM}	450	A
	$t_p = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$		370	A
Grenzlastintegral I^2t - value	$t_p = 10\text{ ms}, T_{vj} = 25^{\circ}\text{C}$	I^2t	1010	A^2s
	$t_p = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$		685	A^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$T_{vj} = 150^{\circ}\text{C}, I_F = 25\text{ A}$	V_F	0,88		V
Sperrstrom Reverse current	$T_{vj} = 150^{\circ}\text{C}, V_R = 1600\text{ V}$	I_R	1,00		mA
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro Diode / per diode	R_{thJH}	1,36		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\text{ op}}$	-40	150	$^{\circ}\text{C}$

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	$T_H = 105^{\circ}\text{C}, T_{vj\max} = 175^{\circ}\text{C}$	I_{CDC}	25	A
Periodischer Kollektor-Spitzenstrom Repetitive peak collector current	$t_P = 1\text{ ms}$	I_{CRM}	50	A
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	$I_C = 25\text{ A}$ $V_{GE} = 15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	$V_{CE\text{ sat}}$	1,60 1,74 1,82	t.b.d. V V V	
Gate-Schwellenspannung Gate threshold voltage	$I_C = 0,525\text{ mA}, V_{CE} = V_{GE}, T_{vj} = 25^{\circ}\text{C}$	V_{GEth}	5,15	5,80	6,45	V
Gateladung Gate charge	$V_{GE} = -15 / 15\text{ V}, V_{CE} = 600\text{ V}$	Q_G		0,395		μC
Interner Gatewiderstand Internal gate resistor	$T_{vj} = 25^{\circ}\text{C}$	R_{Gint}		0,0		Ω
Eingangskapazität Input capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$	C_{ies}		4,77		nF
Rückwirkungskapazität Reverse transfer capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$	C_{res}		0,017		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}		0,0056	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}		100	nA
Einschaltverzögerungszeit, induktive Last Turn-on delay time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{don}	0,034 0,035 0,041		μs μs μs
Anstiegszeit, induktive Last Rise time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_r	0,022 0,026 0,033		μs μs μs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{doff}	0,19 0,25 0,37		μs μs μs
Fallzeit, induktive Last Fall time, inductive load	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_f	0,17 0,27 0,29		μs μs μs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}, L\sigma = 35\text{ nH}$ $di/dt = 650\text{ A}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Gon} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{on}	1,66 2,32 2,94		mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	$I_C = 25\text{ A}, V_{CE} = 600\text{ V}, L\sigma = 35\text{ nH}$ $du/dt = 3000\text{ V}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Goff} = 6,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{off}	1,73 2,68 3,32		mJ mJ mJ
Kurzschlußverhalten SC data	$V_{GE} \leq 15\text{ V}, V_{CC} = 800\text{ V}$ $V_{CEmax} = V_{CES} - L_{SCE} \cdot di/dt$	$t_P \leq 8\ \mu\text{s}, T_{vj} = 150^{\circ}\text{C}$ $t_P \leq 7\ \mu\text{s}, T_{vj} = 175^{\circ}\text{C}$	I_{SC}	80 75		A A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT		R_{thJH}	1,25		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\text{ op}}$	-40	175	$^{\circ}\text{C}$

Vorläufige Daten Preliminary Data

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

Periodische Spitzenspernung Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	1200	V
Dauergleichstrom Continuous DC forward current		I_F	10	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_p = 1\text{ ms}$	I_{FRM}	20	A
Grenzlastintegral I^2t - value	$V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 175^{\circ}\text{C}$	I^2t	27,5 24,0	A^2s A^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 10\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 25^{\circ}\text{C}$		1,72	t.b.d.	V
	$I_F = 10\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$	V_F	1,59		V
	$I_F = 10\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 175^{\circ}\text{C}$		1,52		V
Rückstromspitze Peak reverse recovery current	$I_F = 10\text{ A}, -di_F/dt = 500\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		9,81		A
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$	I_{RM}	14,7		A
	$V_{GE} = -15\text{ V}$ $T_{vj} = 175^{\circ}\text{C}$		16,1		A
Sperrverzögerungsladung Recovered charge	$I_F = 10\text{ A}, -di_F/dt = 500\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		0,93		μC
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$	Q_r	1,66		μC
	$V_{GE} = -15\text{ V}$ $T_{vj} = 175^{\circ}\text{C}$		2,12		μC
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 10\text{ A}, -di_F/dt = 500\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		0,25		mJ
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$	E_{rec}	0,51		mJ
	$V_{GE} = -15\text{ V}$ $T_{vj} = 175^{\circ}\text{C}$		0,72		mJ
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro Diode / per diode	R_{thJH}	2,44		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\text{ op}}$	-40	175	$^{\circ}\text{C}$

NTC-Widerstand / NTC-Thermistor

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Nennwiderstand Rated resistance	$T_{NTC} = 25^{\circ}\text{C}$	R_{25}	5,00		$\text{k}\Omega$
Abweichung von R100 Deviation of R100	$T_{NTC} = 100^{\circ}\text{C}, R_{100} = 493\ \Omega$	$\Delta R/R$	-5	5	%
Verlustleistung Power dissipation	$T_{NTC} = 25^{\circ}\text{C}$	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	$R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298,15\text{ K}))]$	$B_{25/80}$	3411		K
B-Wert B-value	$R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298,15\text{ K}))]$	$B_{25/100}$	3433		K

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

Vorläufige Daten Preliminary Data

Modul / Module

Isolations-Prüfspannung Isolation test voltage	RMS, f = 50 Hz, t = 1 min	V _{ISOL}	2,5			kV
Innere Isolation Internal isolation	Basisisolierung (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		11,5 6,3			mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		10,0 5,0			mm
Vergleichszahl der Kriechwegbildung Comperative tracking index		CTI	> 200			
Relativer Temperaturindex (elektr.) RTI Elec.	Gehäuse housing	RTI	140			°C
			min.	typ.	max.	
Modulstreuinduktivität Stray inductance module		L _{sCE}		30		nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T _H = 25°C, pro Schalter / per switch	R _{CC'+EE'} R _{AA'+CC'}		5,00 6,00		mΩ
Lagertemperatur Storage temperature		T _{stg}	-40		125	°C
Anpresskraft für mech. Bef. pro Feder mounting force per clamp		F	40	-	80	N
Gewicht Weight		G		39		g

Der Strom im Dauerbetrieb ist auf 25A effektiv pro Anschlusspin begrenzt.

The current under continuous operation is limited to 25A rms per connector pin.

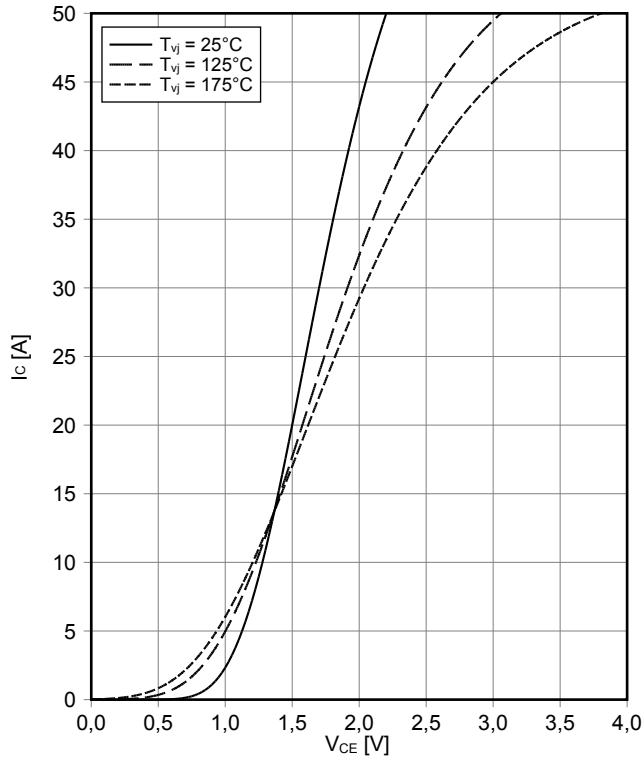
T_{vj op} > 150°C ist im Überlastbetrieb zulässig. Detaillierte Angaben sind AN 2018-14 zu entnehmen

T_{vj op} > 150°C is allowed for operation at overload conditions. For detailed specifications, please refer to AN 2018-14.

Vorläufige Daten Preliminary Data

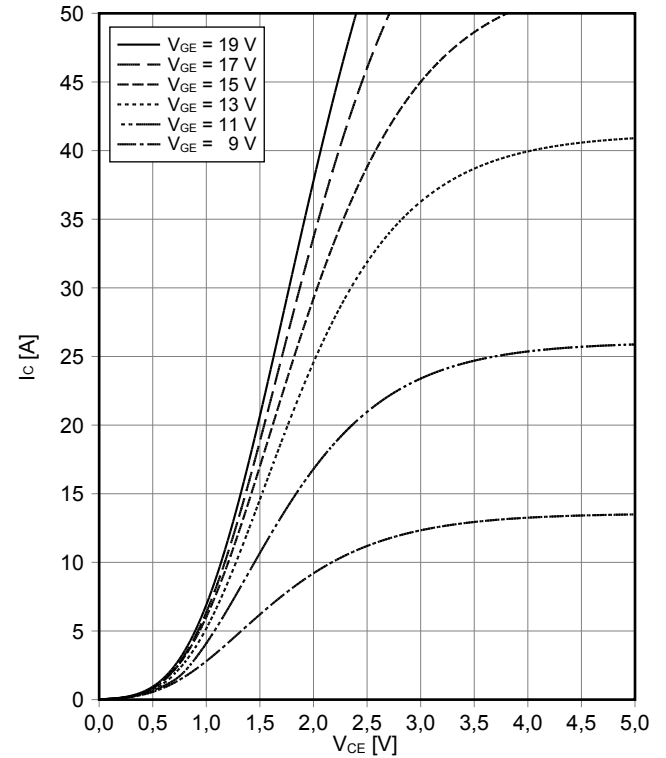
Ausgangskennlinie IGBT, Wechselrichter (typisch)
output characteristic IGBT, Inverter (typical)

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



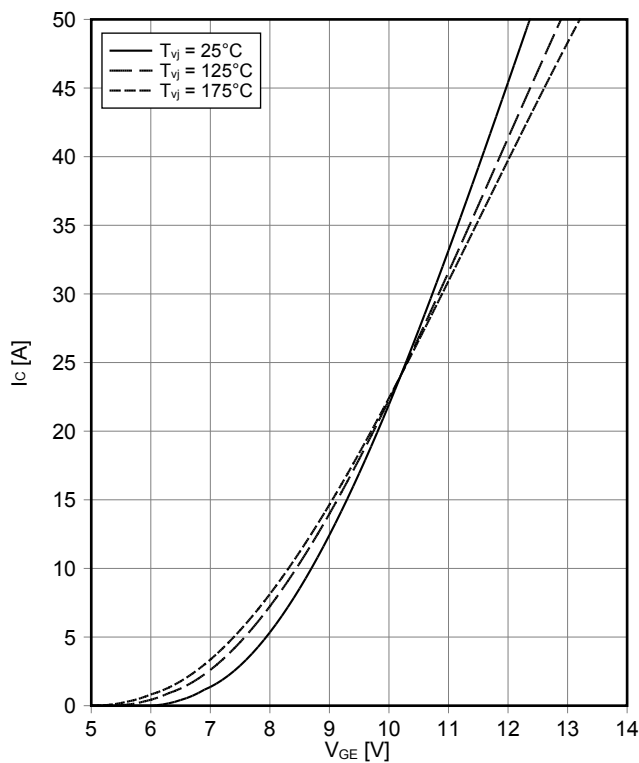
Ausgangskennlinienfeld IGBT, Wechselrichter (typisch)
output characteristic IGBT, Inverter (typical)

$I_C = f(V_{CE})$
 $T_{vj} = 175^\circ\text{C}$



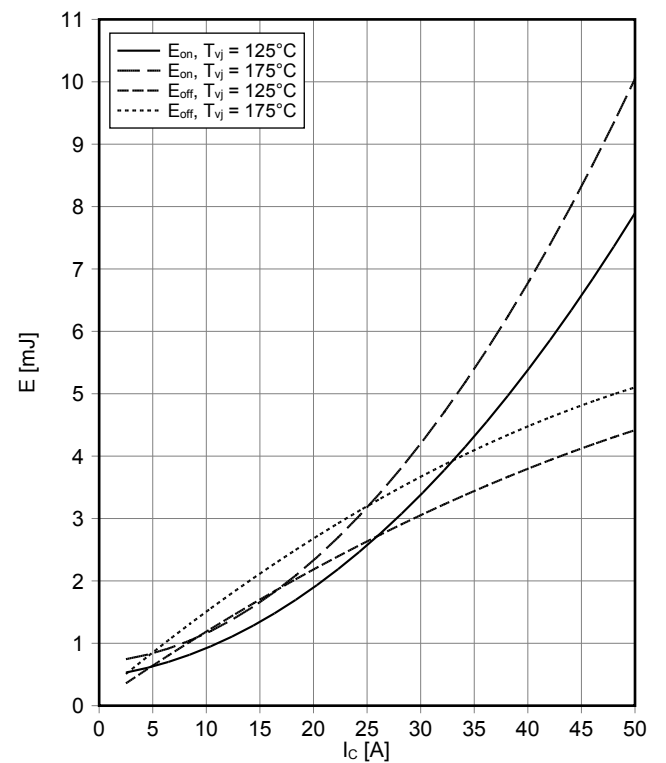
Übertragungscharakteristik IGBT, Wechselrichter (typisch)
transfer characteristic IGBT, Inverter (typical)

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



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

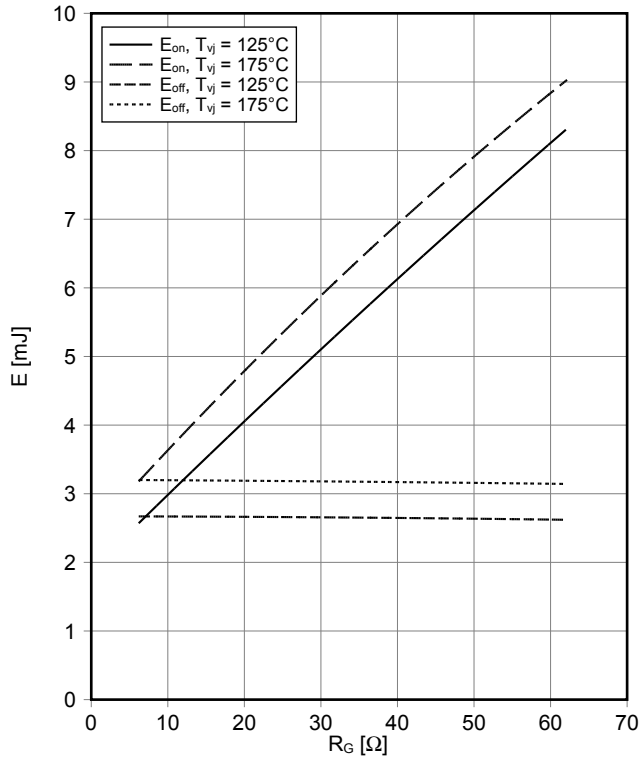
$E_{on} = f(I_C)$, $E_{off} = f(I_C)$
 $V_{GE} = \pm 15\text{ V}$, $R_{Gon} = 6.2\ \Omega$, $R_{Goff} = 6.2\ \Omega$, $V_{CE} = 600\text{ V}$



Vorläufige Daten Preliminary Data

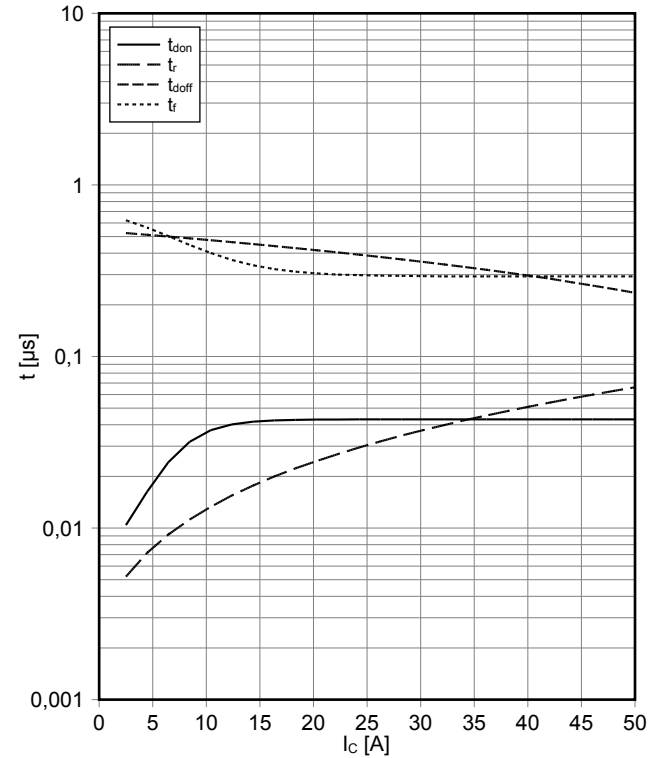
Schaltverluste IGBT, Wechselrichter (typisch) switching losses IGBT, Inverter (typical)

$E_{on} = f(R_G), E_{off} = f(R_G)$
 $V_{GE} = \pm 15\text{ V}, I_C = 25\text{ A}, V_{CE} = 600\text{ V}$



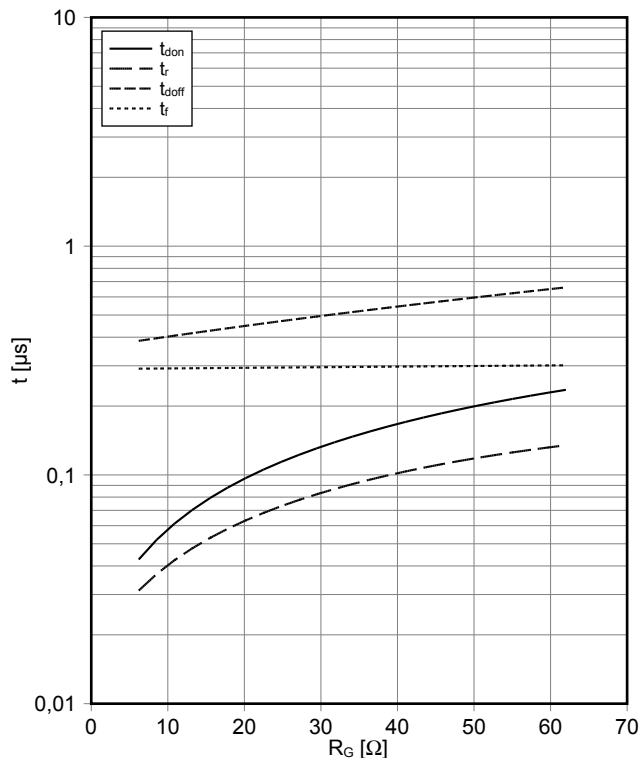
Schaltzeiten IGBT, Wechselrichter (typisch) switching times IGBT, Inverter (typical)

$t_{don} = f(I_C), t_r = f(I_C), t_{doff} = f(I_C), t_f = f(I_C)$
 $V_{GE} = \pm 15\text{ V}, R_{Gon} = 6.2\ \Omega, R_{Goff} = 6.2\ \Omega, V_{CE} = 600\text{ V}, T_{vj} = 175^\circ\text{C}$



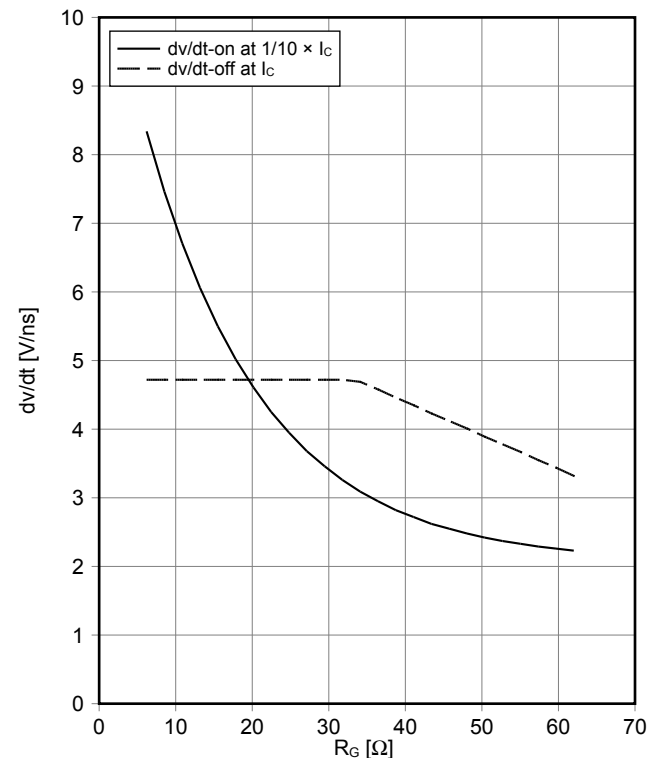
Schaltzeiten IGBT, Wechselrichter (typisch) switching times IGBT, Inverter (typical)

$t_{don} = f(R_G), t_r = f(R_G), t_{doff} = f(R_G), t_f = f(R_G)$
 $V_{GE} = \pm 15\text{ V}, I_C = 25\text{ A}, V_{CE} = 600\text{ V}, T_{vj} = 175^\circ\text{C}$



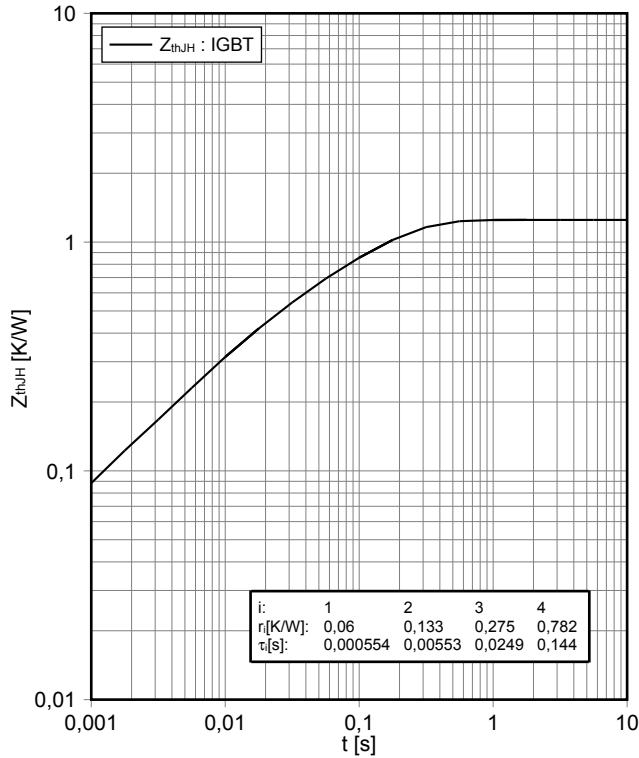
dv/dt IGBT, Wechselrichter (typisch) dv/dt IGBT, Inverter (typical)

$dv/dt = f(R_G)$
 $V_{GE} = \pm 15\text{ V}, I_C = 25\text{ A}, V_{CE} = 600\text{ V}, T_{vj} = 25^\circ\text{C}$

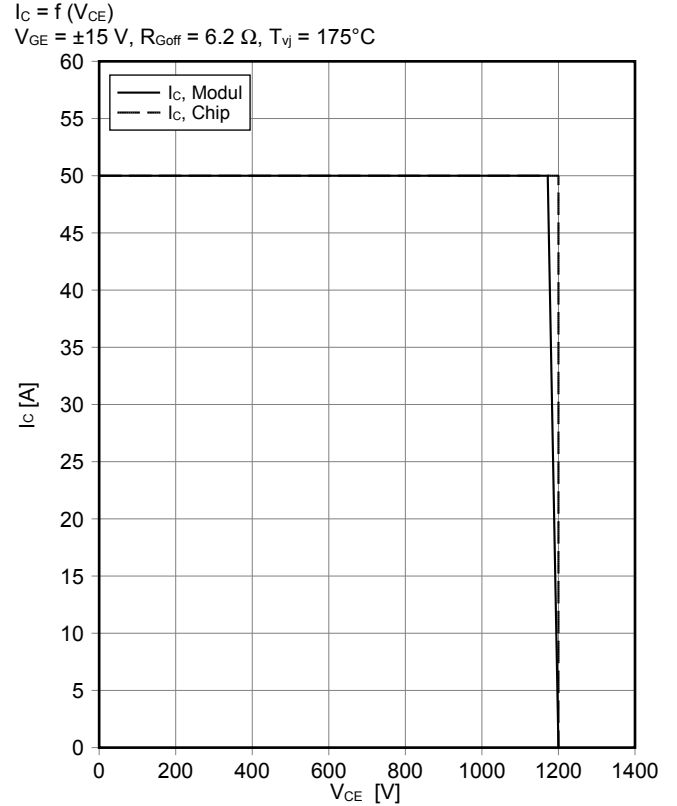


Vorläufige Daten Preliminary Data

Transienter Wärmewiderstand IGBT, Wechselrichter
transient thermal impedance IGBT, Inverter
 $Z_{thJH} = f(t)$

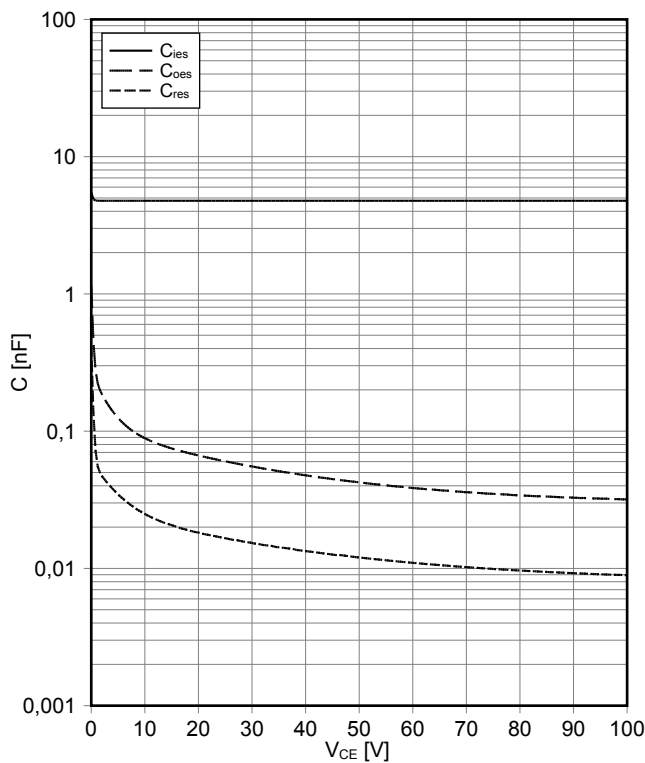


Sicherer Rückwärts-Arbeitsbereich IGBT, Wechselrichter (RBSOA)
reverse bias safe operating area IGBT, Inverter (RBSOA)
 $I_C = f(V_{CE})$
 $V_{GE} = \pm 15\text{ V}$, $R_{Goff} = 6.2\ \Omega$, $T_{vj} = 175^\circ\text{C}$



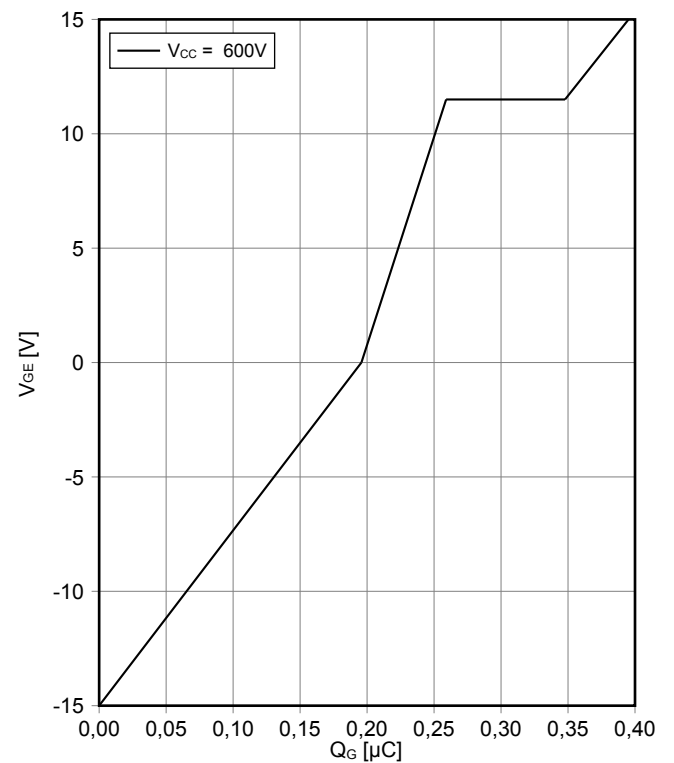
Kapazitäts Charakteristik IGBT, Wechselrichter (typisch)
capacity characteristic IGBT, Inverter (typical)
 $C = f(V_{CE})$

$V_{GE} = 0\text{ V}$, $T_{vj} = 25^\circ\text{C}$, $f = 100\text{kHz}$



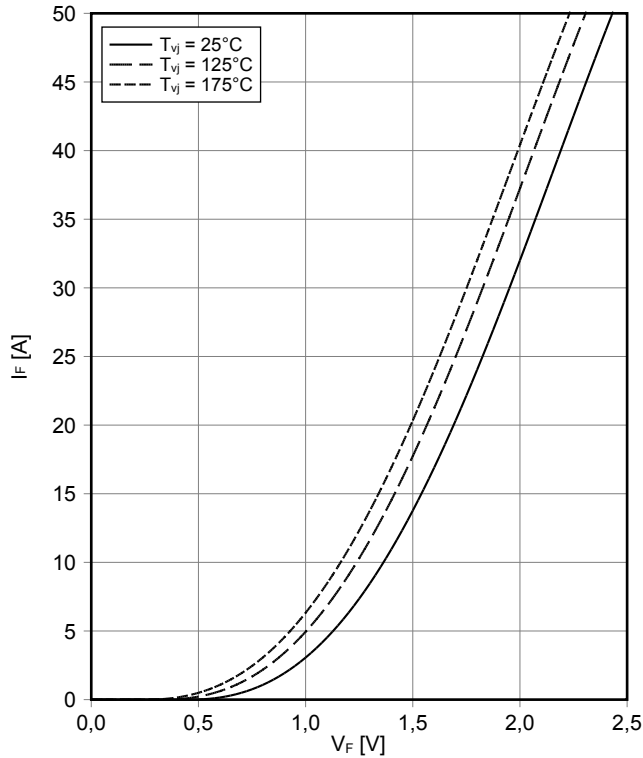
Gateladungs Charakteristik IGBT, Wechselrichter (typisch)
gate charge characteristic IGBT, Inverter (typical)
 $V_{GE} = f(Q_G)$

$I_C = 25\text{ A}$, $T_{vj} = 25^\circ\text{C}$

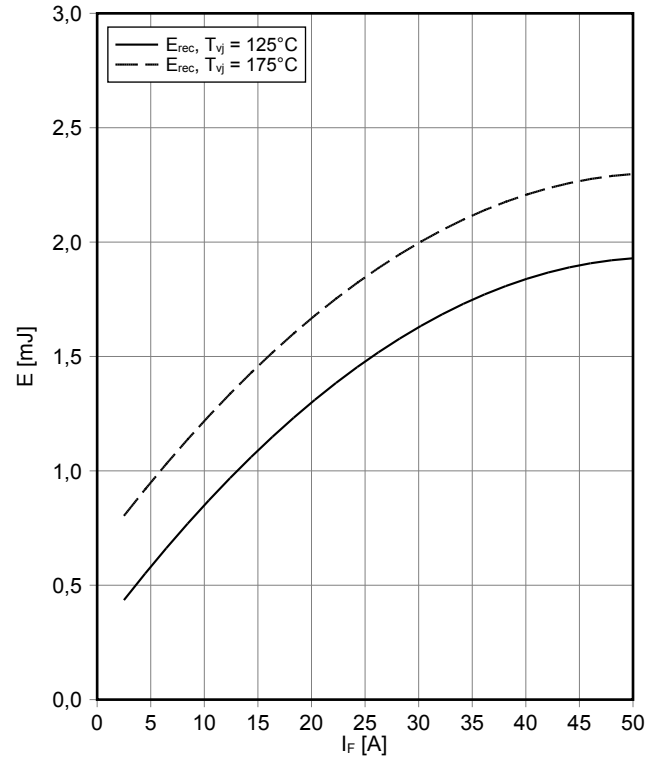


Vorläufige Daten Preliminary Data

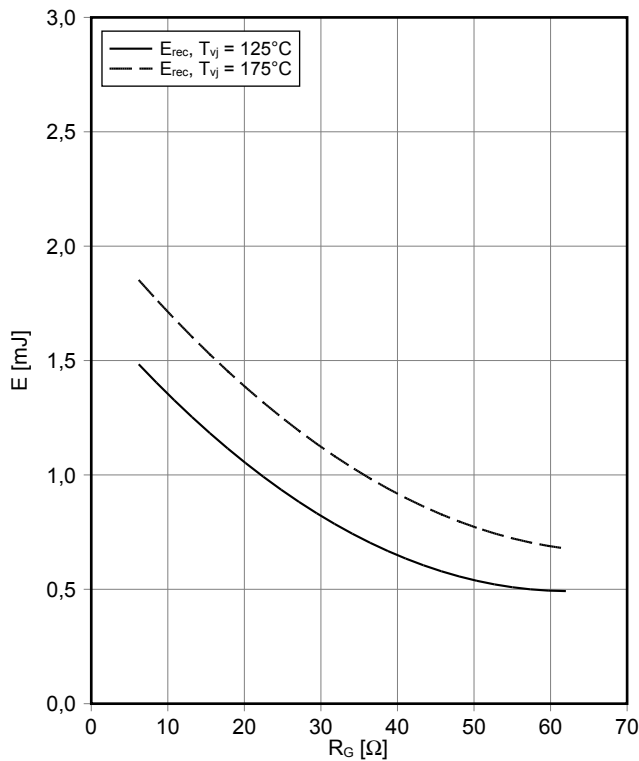
Durchlasskennlinie der Diode, Wechselrichter (typisch)
forward characteristic of Diode, Inverter (typical)
 $I_F = f(V_F)$



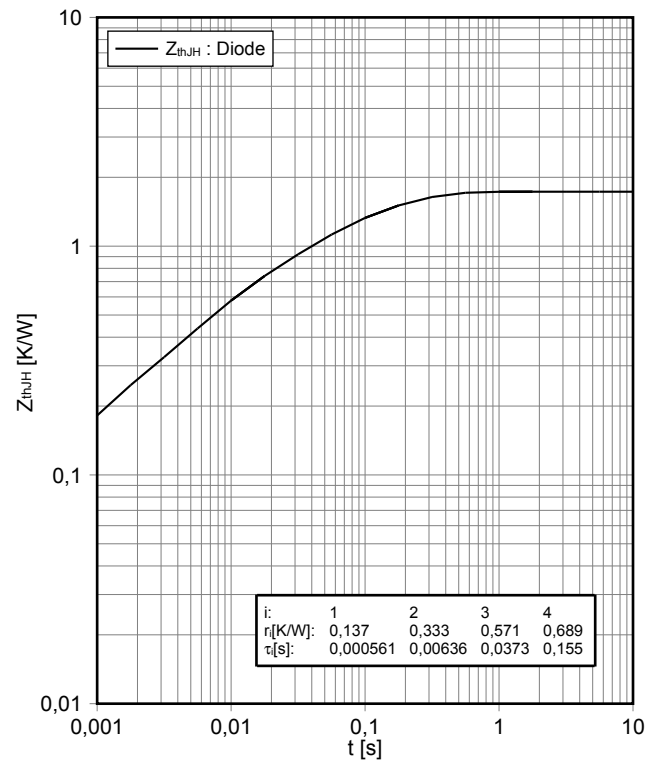
Schaltverluste Diode, Wechselrichter (typisch)
switching losses Diode, Inverter (typical)
 $E_{rec} = f(I_F)$
 $R_{Gon} = 6.2 \Omega, V_{CE} = 600 \text{ V}$



Schaltverluste Diode, Wechselrichter (typisch)
switching losses Diode, Inverter (typical)
 $E_{rec} = f(R_G)$
 $I_F = 25 \text{ A}, V_{CE} = 600 \text{ V}$

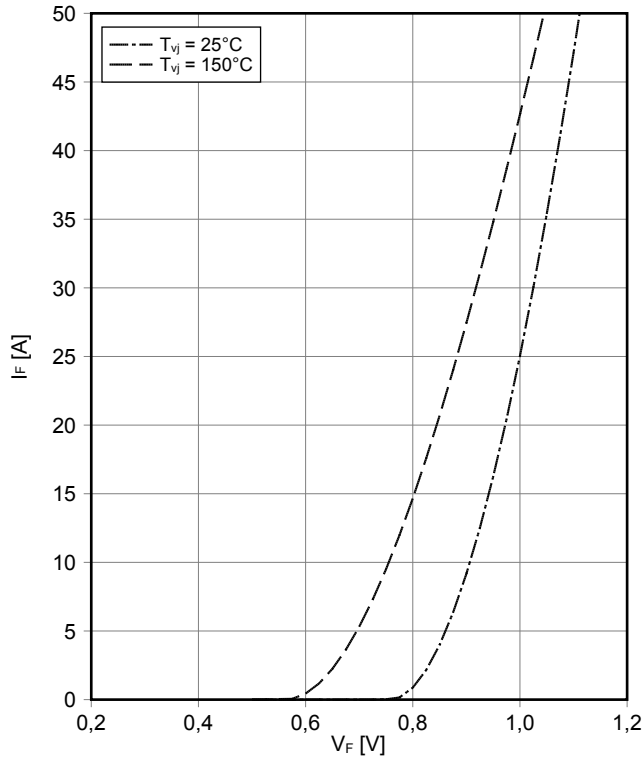


Transienter Wärmewiderstand Diode, Wechselrichter
transient thermal impedance Diode, Inverter
 $Z_{thJH} = f(t)$

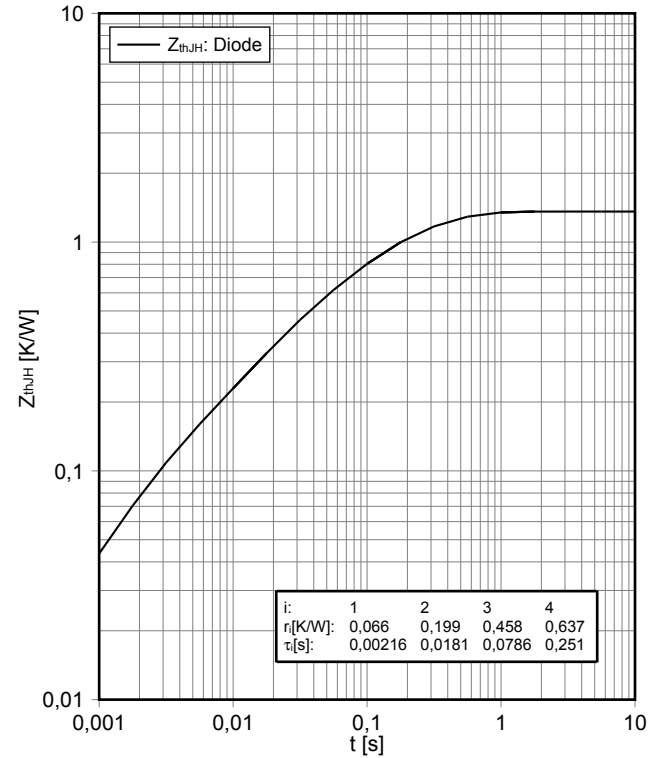


Vorläufige Daten Preliminary Data

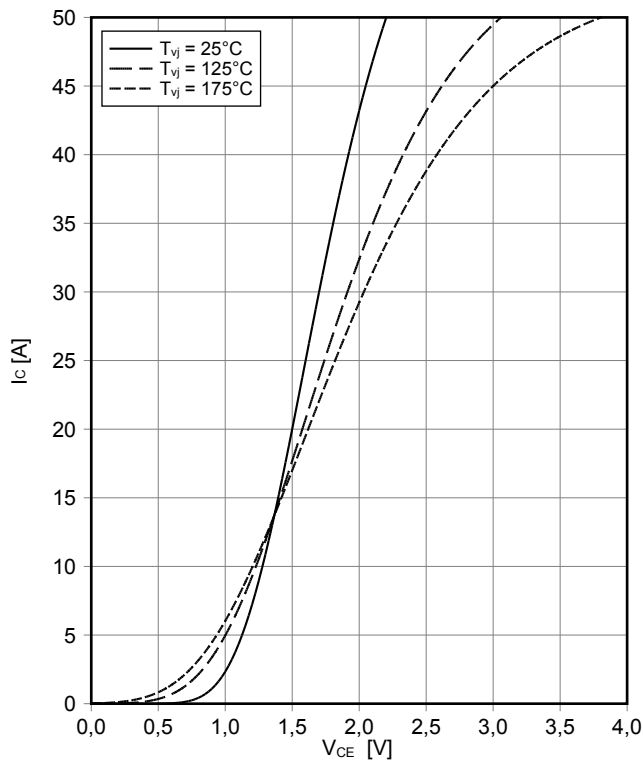
Durchlasskennlinie der Diode, Gleichrichter (typisch)
forward characteristic of Diode, Rectifier (typical)
 $I_F = f(V_F)$



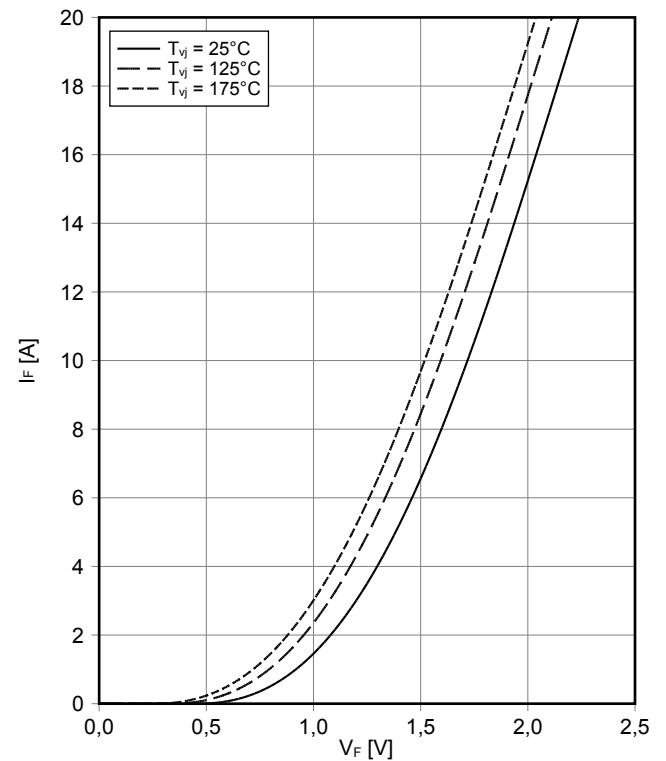
Transienter Wärmewiderstand Diode, Gleichrichter
transient thermal impedance Diode, Rectifier
 $Z_{thJH} = f(t)$



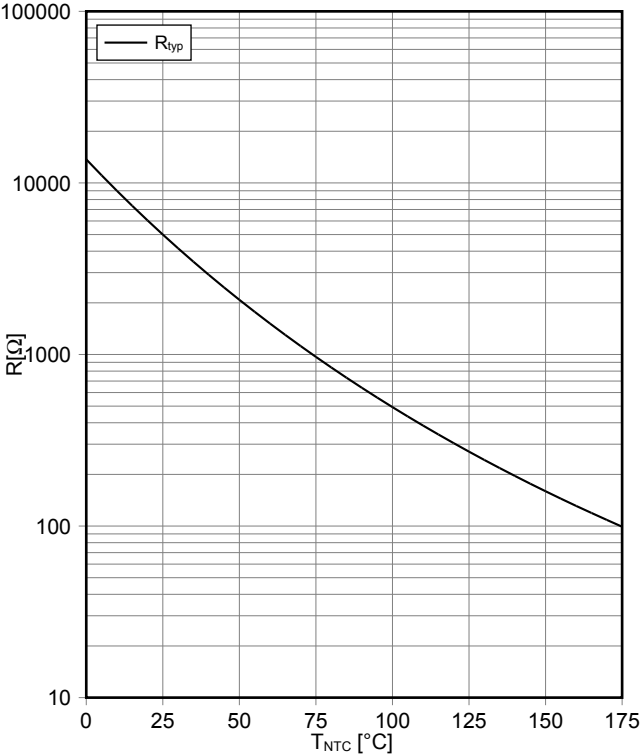
Ausgangskennlinie IGBT, Brems-Chopper (typisch)
output characteristic IGBT, Brake-Chopper (typical)
 $I_C = f(V_{CE})$
 $V_{GE} = 15\text{ V}$



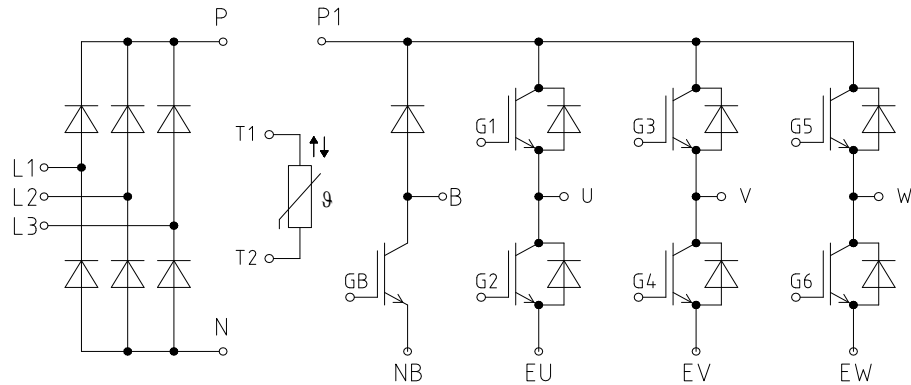
Durchlasskennlinie der Diode, Brems-Chopper (typisch)
forward characteristic of Diode, Brake-Chopper (typical)
 $I_F = f(V_F)$



NTC-Widerstand-Temperaturkennlinie (typisch)
NTC-Thermistor-temperature characteristic (typical)
 $R = f(T_{NTC})$



Schaltplan / Circuit diagram



Gehäuseabmessungen / Package outlines

