

Transistor	Transistor
Elektrische Eigenschaften	Electrical properties
<u>Höchstzulässige Werte</u>	<u>Maximum rated values</u>
V _{CES}	1700 V
I _C	180 A
I _{CRM} t _p = 1 ms	360 A
P _{tot} t _C = 25°C	1800 W
V _{GE}	20 V
V _{EG}	20 V

Charakteristische Werte	Characteristic values
V _{CE sat}	i _{CM} = 180 A, V _{GE} = 15 V, t _{vj} = 25°C typ. 3,2 V
	i _{CM} = 180 A, V _{GE} = 15 V, t _{vj} = 25°C max. 4,5 V
V _{GE (th)}	V _{CE} = 5 V, i _C = 180 mA, t _{vj} = 25°C min. 4 V
	V _{CE} = 5 V, i _C = 180 mA, t _{vj} = 25°C max. 8 V
C _{ies}	V _{CE} = 10 V, V _{GE} = 0 V, f _o = 1 MHz, t _{vj} = 25°C typ. 25 nF
i _{CES}	V _{CE} = 1700 V, V _{GE} = 0 V, t _{vj} = 25°C typ. 1,5 mA
	V _{CE} = 1700 V, V _{GE} = 0 V, t _{vj} = 125°C typ. 15 mA
i _{GES}	V _{GE} = 20 V, t _{vj} = 25°C, typ. 15 nA
	V _{GE} = 20 V, t _{vj} = 25°C, max. 150 nA
i _{EGS}	V _{EG} = 20 V, t _{vj} = 25°C, typ. 15 nA
	V _{EG} = 20 V, t _{vj} = 25°C, max. 150 nA
t _{on}	i _{CM} = 180 A, V _{CE} = 900 V, V _{LF} = 15 V, R _G = 2,7 Ω, t _{vj} = 25°C typ. 0,5 μs
	i _{CM} = 180 A, V _{CE} = 900 V, V _{LF} = 15 V, R _G = 2,7 Ω, t _{vj} = 125°C typ. 0,6 μs
t _s	i _{CM} = 180 A, V _{CE} = 900 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 2,7 Ω, t _{vj} = 25°C typ. 0,4 μs
	i _{CM} = 180 A, V _{CE} = 900 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 2,7 Ω, t _{vj} = 125°C typ. 0,6 μs
t _f	i _{CM} = 180 A, V _{CE} = 900 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 2,7 Ω, t _{vj} = 25°C typ. 0,6 μs

Bedingungen für den Kurzschlußschutz	Conditions for protection against short circuits
t _{fg} = 10 μs,	V _{CC} = 1200 V,
V _{LF} = V _{LR} = 15 V,	V _{CEM} = 1500 V,
R _G = 2,7 Ω,	i _{CMK 1} ≈ 1800 A,
t _{vj} = 125°C,	i _{CMK 2} ≈ 1200 A.

Thermische Eigenschaften	Thermal properties
R _{thJC}	DC, pro Baustein / per module 0,0345°C/W
	DC, pro Zweig / per arm 0,0690°C/W
R _{thCK}	pro Baustein / per module 0,03 °C/W
	pro Zweig / per arm 0,06 °C/W
t _{vj max}	150 °C
t _{vj op}	- 40 / + 150 °C
t _{stg}	- 40 / + 125 °C

Inversdiode	Inverse diode
Elektrische Eigenschaften	Electrical properties
<u>Höchstzulässige Werte</u>	<u>Maximum rated values</u>
I _{F(max)}	180 A
I _{FRM} t _p = 1 ms	360 A

Charakteristische Werte	Characteristic values
V _F	i _F = 180 A, V _{GE} = 0 V, t _{vj} = 25°C typ. 3,7 V
	i _F = 180 A, V _{GE} = 0 V, t _{vj} = 25°C max. 5,0 V
I _{RM}	i _{FM} = 180 A, -di _F /dt = 1 kA/μs V _{EG} = 10 V, t _{vj} = 25°C typ. 70 A
	i _{FM} = 180 A, -di _F /dt = 1 kA/μs V _{EG} = 10 V, t _{vj} = 125°C typ. 130 A
Q _r	i _{FM} = 180 A, -di _F /dt = 1 kA/μs V _{EG} = 10 V, t _{vj} = 25°C typ. 12 μAs
	i _{FM} = 180 A, -di _F /dt = 1 kA/μs V _{EG} = 10 V, t _{vj} = 125°C typ. 40 μAs

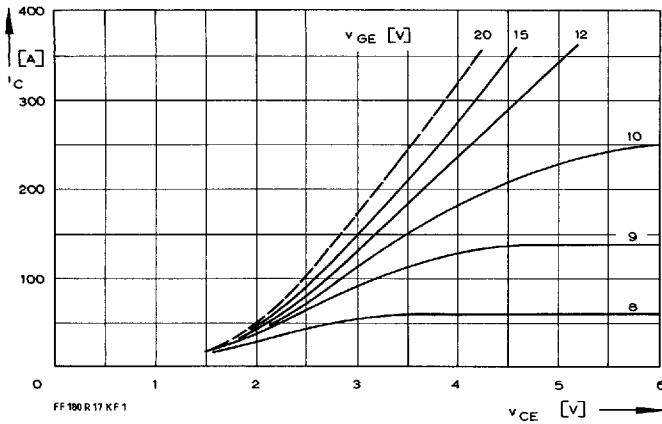
Thermische Eigenschaften	Thermal properties
R _{thJC}	DC, pro Baustein / per module 0,125 °C/W
	DC, pro Zweig / per arm 0,250 °C/W
R _{thCK}	pro Baustein / per module 0,03 °C/W
	pro Zweig / per arm 0,06 °C/W
t _{vj max}	125 °C
t _{vj op}	- 40 / + 125 °C
t _{stg}	- 40 / + 125 °C

Innere Isolation	Internal insulation
Isoliermaterial: Al N	Insulating material: Al N
V _{ISOL} RMS (f=50 Hz, t=1 min)	3,6 kV

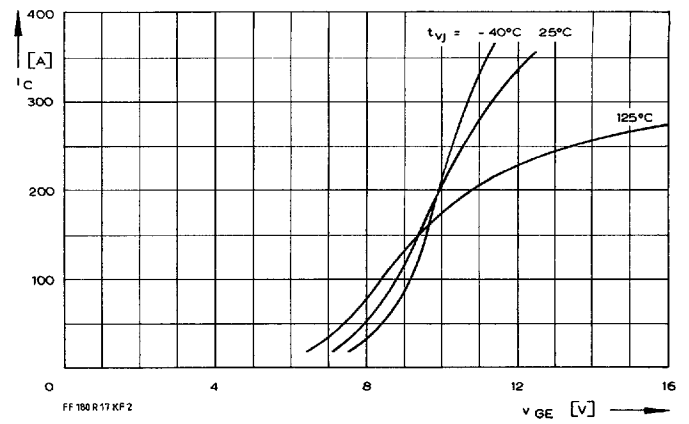
Mechanische Eigenschaften	Mechanical properties
G	540 g
M 1	3 Nm
M 2	3 Nm

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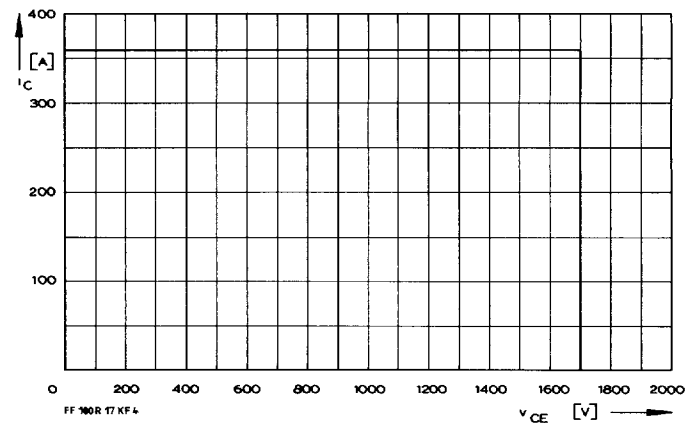
outline
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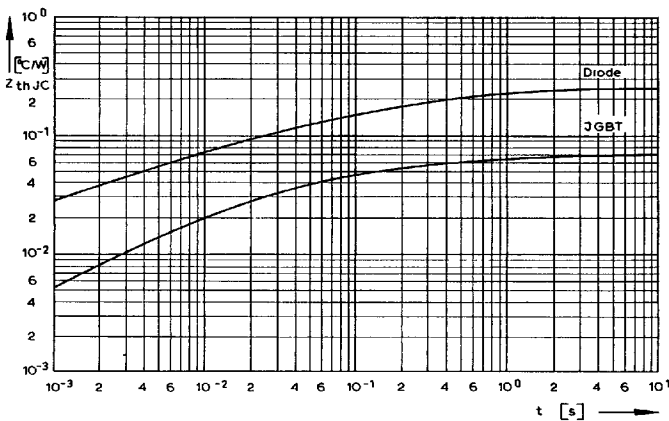
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$



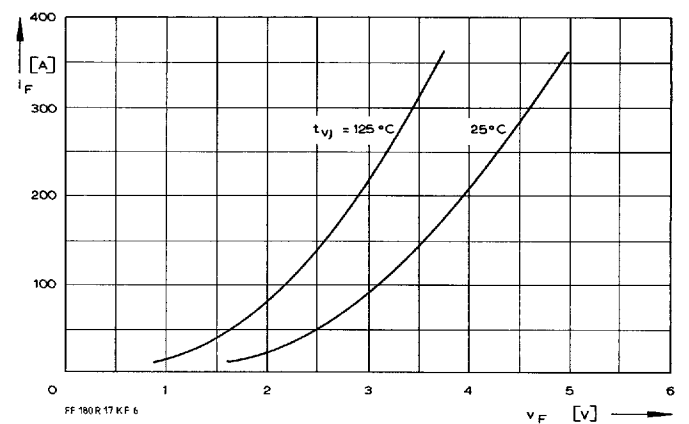
2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $V_{CE} = 5\text{ V}$



4 Rückwärts-Arbeitsbereich RBSOA.
Reverse biased safe operating area.
 $t_{vj} = 125^\circ\text{C}$, $V_{LF} = V_{LR} = 15\text{ V}$, $R_G = 2,7\ \Omega$



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



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