

Transistor		Transistor	
Elektrische Eigenschaften		Electrical properties	
<u>Höchstzulässige Werte</u>		<u>Maximum rated values</u>	
V _{CES}		600	V
I _C		300	A
I _{CRM}	t _p = 1 ms	600	A
P _{tot}	t _C = 25°C	1200	W
V _{GE}		20	V
V _{EG}		20	V

<u>Charakteristische Werte</u>		<u>Characteristic values</u>	
V _{CE sat}	i _{CM} = 300 A, V _{GE} = 15 V, t _{vj} = 25°C	typ.	2,0 V
	i _{CM} = 300 A, V _{GE} = 15 V, t _{vj} = 25°C	max.	2,5 V
V _{GE (th)}	V _{CE} = 5 V, i _C = 300 mA, t _{vj} = 25°C	min.	3 V
	V _{CE} = 5 V, i _C = 300 mA, t _{vj} = 25°C	max.	6 V
C _{ies}	V _{CE} = 10 V, V _{GE} = 0 V, f _o = 1 MHz, t _{vj} = 25°C	typ.	27 nF
i _{CES}	V _{CE} = 600 V, V _{GE} = 0 V, t _{vj} = 25°C	typ.	1 mA
	V _{CE} = 600 V, V _{GE} = 0 V, t _{vj} = 125°C	typ.	6 mA
i _{GES}	V _{GE} = 20 V, t _{vj} = 25°C	typ.	50 nA
	V _{GE} = 20 V, t _{vj} = 25°C	max.	500 nA
i _{EGS}	V _{EG} = 20 V, t _{vj} = 25°C	typ.	50 nA
	V _{EG} = 20 V, t _{vj} = 25°C	max.	500 nA
t _{on}	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, R _G = 6,8 Ω, t _{vj} = 25°C	typ.	0,4 μs
	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, R _G = 6,8 Ω, t _{vj} = 125°C	typ.	0,5 μs
t _s	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 6,8 Ω, t _{vj} = 25°C	typ.	0,5 μs
	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 6,8 Ω, t _{vj} = 125°C	typ.	0,6 μs
t _f	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 6,8 Ω, t _{vj} = 25°C	typ.	0,3 μs
	i _{CM} = 300 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 6,8 Ω, t _{vj} = 125°C	typ.	0,5 μs

<u>Bedingungen für den Kurzschlußschutz</u>	<u>Conditions for protection against short circuits</u>
t _{rg} = 10 μs,	V _{CC} = 350 V,
V _{LF} = V _{LR} = 15 V,	V _{CEM} = 500 V,
R _G = 6,8 Ω,	i _{CMK 1} ≈ 1200 A,
t _{vj} = 125°C,	i _{CMK 2} ≈ 900 A,

Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,05	°C/W
	DC, pro Baustein / per module	0,1	°C/W
R _{thCK}	pro Baustein / per module	0,03	°C/W
	pro Baustein / per module	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)}		300	A
I _{FRM}	t _p = 1 ms	600	A

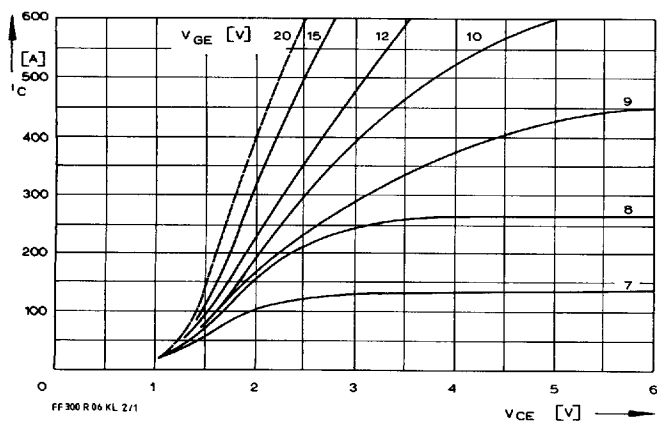
<u>Charakteristische Werte</u>		<u>Characteristic values</u>	
V _F	i _F = 300 A, V _{GE} = 0 V, t _{vj} = 25°C	typ.	1,8 V
	i _F = 300 A, V _{GE} = 0 V, t _{vj} = 25°C	max.	2,5 V
I _{RM}	i _{FM} = 300 A, -di _F /dt = 300 A/μs		
	V _{EG} = 10 V, t _{vj} = 25°C	typ.	20 A
	i _{FM} = 300 A, -di _F /dt = 300 A/μs		
	V _{EG} = 10 V, t _{vj} = 125°C	typ.	35 A
Q _r	i _{FM} = 300 A, -di _F /dt = 300 A/μs		
	V _{EG} = 10 V, t _{vj} = 25°C	typ.	3 μAs
	i _{FM} = 300 A, -di _F /dt = 300 A/μs		
	V _{EG} = 10 V, t _{vj} = 125°C	typ.	10 μAs

Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,125	°C/W
	DC, pro Zweig / per arm	0,25	°C/W
R _{thCK}	pro Baustein / per module	0,03	°C/W
	pro Zweig / per arm	0,06	°C/W

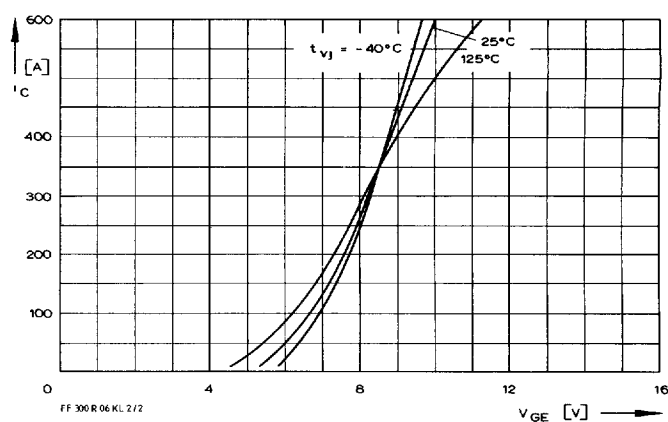
t _{vj max}	125 °C
t _{vj op}	- 40 / + 125 °C
t _{stg}	- 40 / + 125 °C

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

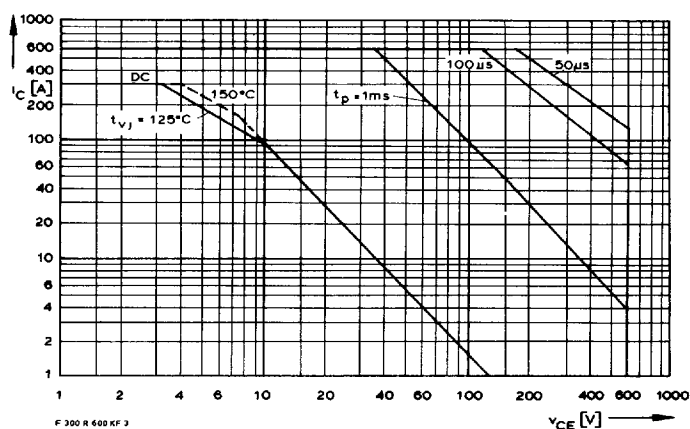
Mechanische Eigenschaften		Mechanical properties	
G		445	g
M 1		3	Nm
M 2		3	Nm
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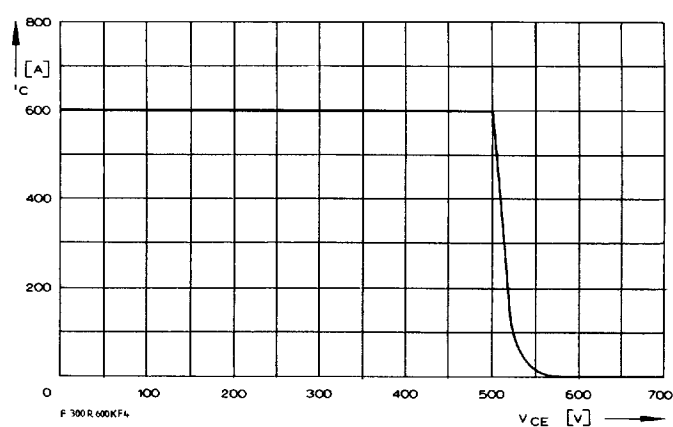
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$



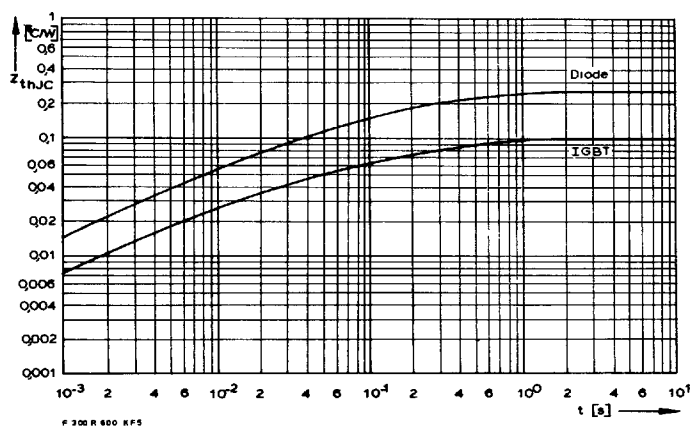
2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $V_{CE} = 5\text{ V}$



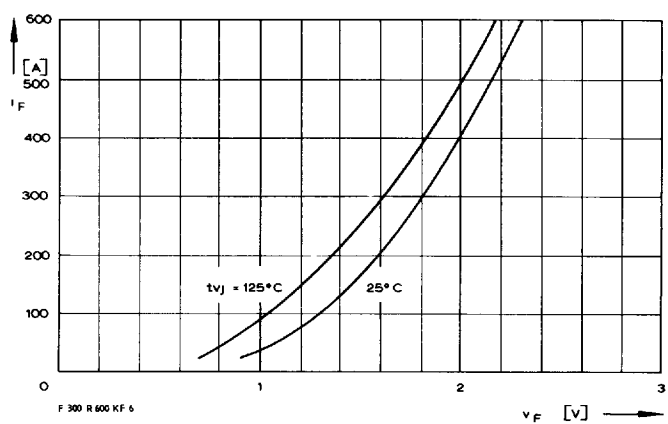
3 Vorwärts-Arbeitsbereich FBSOA (Einzelimpuls, nicht periodisch).
Forward biased safe operating area (single pulse, non repetitive).
 $t_C = 25^\circ\text{C}$



4 Rückwärts-Arbeitsbereich RBSOA.
Reverse biased safe operating area.
 $t_{vj} = 125^\circ\text{C}$, $V_{LF} = V_{LR} = 15\text{ V}$, $R_G = 6,8\ \Omega$



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).
 $V_{GE} = 0\text{ V}$