

Transistor		Transistor	
Elektrische Eigenschaften		Electrical properties	
<u>Höchstzulässige Werte</u>		<u>Maximum rated values</u>	
V _{CES}		1200	V
I _C		1200	A
I _{CRM}	t _p = 1 ms	2400	A
P _{tot}	t _C = 25°C	7800	W
V _{GE}		20	V
V _{EG}		20	V

Charakteristische Werte		Characteristic values	
V _{CE sat}	i _{CM} = 1,2 kA, V _{GE} = 15 V, t _{vj} = 25°C	typ. 3,0	V
	i _{CM} = 1,2 kA, V _{GE} = 15 V, t _{vj} = 125°C	max. 3,8	V
V _{GE (th)}	V _{CE} = 5 V, i _C = 80 mA, t _{vj} = 25°C	min. 4,5	V
	V _{CE} = 5 V, i _C = 80 mA, t _{vj} = 25°C	max. 6,5	V
C _{ies}	V _{CE} = 25 V, V _{GE} = 0 V, f _o = 1 MHz, t _{vj} = 25°C	typ. 180	nF
i _{CES}	V _{CE} = 1200 V, V _{GE} = 0 V, t _{vj} = 25°C	typ. 5	mA
	V _{CE} = 1200 V, V _{GE} = 0 V, t _{vj} = 125°C	typ. 20	mA
i _{GES}	V _{GE} = 20 V, t _{vj} = 25°C	typ. 40	nA
	V _{GE} = 20 V, t _{vj} = 25°C	max. 400	nA
i _{EGS}	V _{EG} = 20 V, t _{vj} = 25°C	typ. 40	nA
	V _{EG} = 20 V, t _{vj} = 25°C	max. 400	nA
t _{on}	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, R _G = 1,8 Ω, t _{vj} = 25°C	typ. 0,7	μs
	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, R _G = 1,8 Ω, t _{vj} = 125°C	typ. 0,8	μs
t _s	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 1,8 Ω, t _{vj} = 25°C	typ. 0,9	μs
	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 1,8 Ω, t _{vj} = 125°C	typ. 1,0	μs
t _f	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 1,8 Ω, t _{vj} = 25°C	typ. 0,25	μs
	i _{CM} = 1,2 kA, V _{CE} = 600 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 1,8 Ω, t _{vj} = 125°C	typ. 0,30	μs

<u>Bedingungen für den Kurzschlußschutz</u>	<u>Conditions for protection against short circuits</u>
t _{fg} = 10 μs,	V _{CC} = 750 V,
V _{LF} = V _{LR} = 15 V,	V _{CEM} = 900 V,
R _G = 1,8 Ω,	i _{CMK 1} ≈ 12000 A,
t _{vj} = 125°C,	i _{CMK 2} ≈ 9000 A,

Unabhängig davon gilt bei abweichenden Bedingungen
with regard to other conditions
V_{CEM} = V_{CES} - 15nH x | di_C/dt |

Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,016	°C/W
R _{thCK}	pro Baustein / per module	0,008	°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)}		1200	A
I _{FRM}	t _p = 1 ms	2400	A

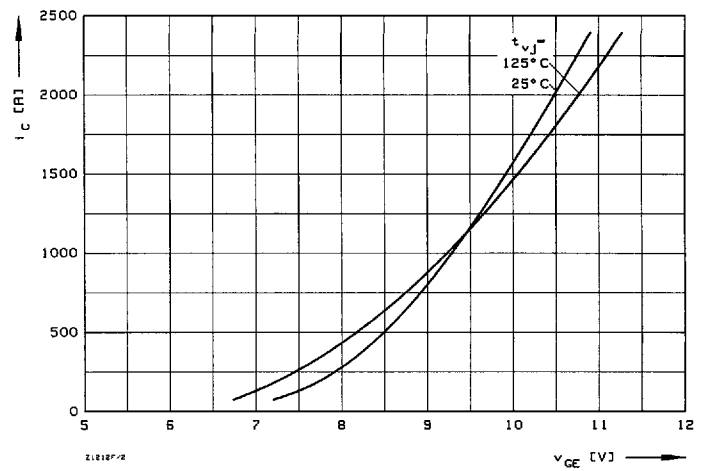
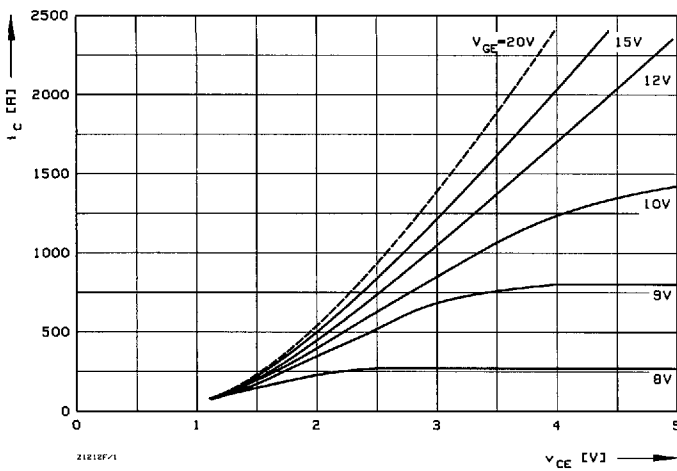
Charakteristische Werte		Characteristic values	
V _F	i _F = 1,2 kA, V _{GE} = 0 V, t _{vj} = 25°C	typ. 2,5	V
	i _F = 1,2 kA, V _{GE} = 0 V, t _{vj} = 125°C	typ. 2,1	V
I _{RM}	i _{FM} = 1,2 kA, -di _F /dt = 1,2 kA/μs	typ. 135	A
	V _{EG} = 10 V, t _{vj} = 25°C		
	i _{FM} = 1,2 kA, -di _F /dt = 1,2 kA/μs	typ. 330	A
	V _{EG} = 10 V, t _{vj} = 125°C		
Q _r	i _{FM} = 1,2 kA, -di _F /dt = 1,2 kA/μs	typ. 19	μAs
	V _{EG} = 10 V, t _{vj} = 25°C		
	i _{FM} = 1,2 kA, -di _F /dt = 1,2 kA/μs	typ. 85	μAs
	V _{EG} = 10 V, t _{vj} = 125°C		

Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,040	°C/W
R _{thCK}	pro Baustein / per module	0,008	°C/W
t _{vj max}		150	°C
t _{vj op}		- 40 / + 125	°C
t _{stg}		- 40 / + 125	°C

Innere Isolation		Internal insulation	
Isoliermaterial: Al ₂ O ₃		Insulating material: Al ₂ O ₃	
V _{ISOL}	RMS (f=50 Hz, t=1 min)	3,4	kV

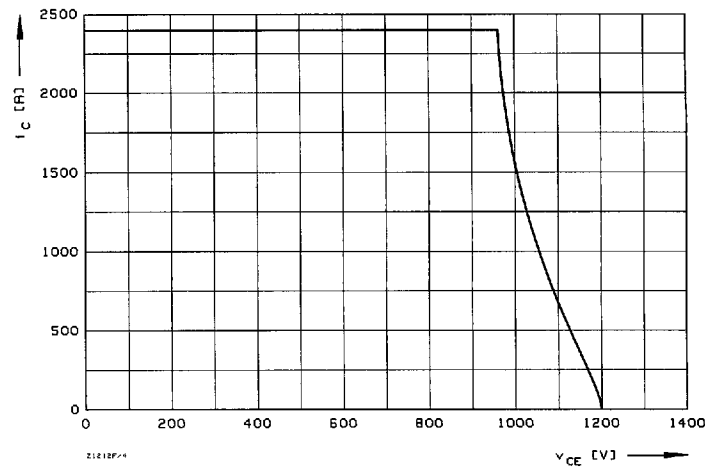
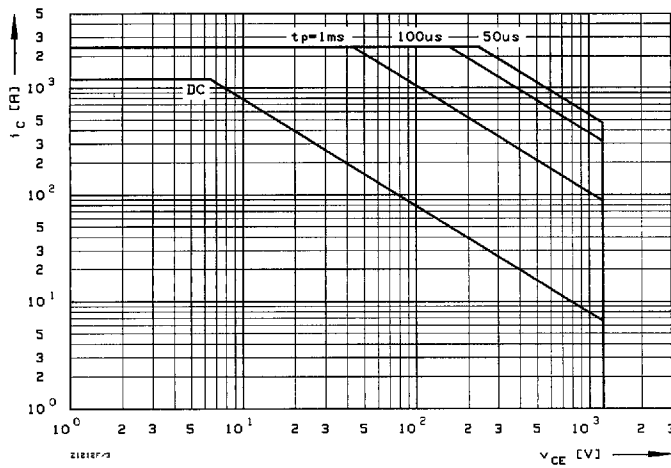
Mechanische Eigenschaften		Mechanical properties	
G		1500	g
M 1		3	Nm
M 2	terminals M 4 / M 8	2 Nm / 8 ... 10	Nm

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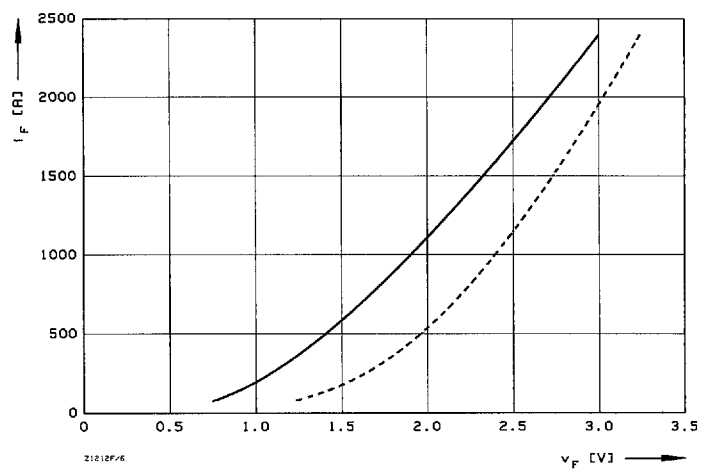
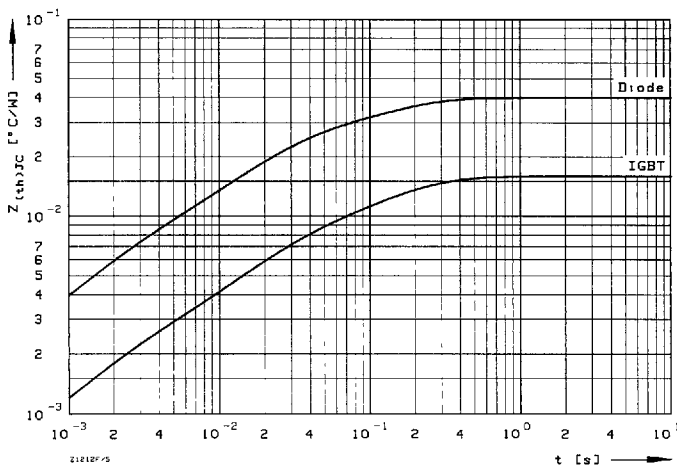
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$

2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $V_{CE} = 20\text{ V}$



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.
 $t_{vj} = 125^\circ\text{C}$, $V_{LF} = V_{LR} = 15\text{ V}$, $R_G = 1,8\ \Omega$



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).
--- $t_{vj} = 25^\circ\text{C}$, — $t_{vj} = 125^\circ\text{C}$, $V_{GE} = 0\text{ V}$