

Transistor		Transistor	
Elektrische Eigenschaften		Electrical properties	
<u>Höchstzulässige Werte</u>		<u>Maximum rated values</u>	
V _{CES}		600	V
I _C		75	A
I _{CRM}	t _p = 1 ms	150	A
P _{tot}	t _C = 25°C	350	W
V _{GE}		20	V
V _{EG}		20	V
<u>Charakteristische Werte</u>		<u>Characteristic values</u>	
V _{CE sat}	i _{CM} = 75 A, V _{GE} = 15 V, t _{vj} = 25°C	typ. 3	V
	i _{CM} = 75 A, V _{GE} = 15 V, t _{vj} = 25°C	max. 4	V
V _{GE (th)}	V _{CE} = 5 V, i _C = 75 mA, t _{vj} = 25°C	min. 3	V
	V _{CE} = 5 V, i _C = 75 mA, t _{vj} = 25°C	max. 6	V
C _{GE}	V _{CE} = 10 V, V _{GE} = 0 V, f _o = 1 MHz, t _{vj} = 25°C	typ. 6	nF
i _{CES}	V _{CE} = 600 V, V _{GE} = 0 V, t _{vj} = 25°C	typ. 0,3	mA
	V _{CE} = 600 V, V _{GE} = 0 V, t _{vj} = 125°C	typ. 2	mA
i _{GES}	V _{GE} = 20 V, t _{vj} = 25°C	typ. 50	nA
i _{EGS}	V _{GE} = 20 V, t _{vj} = 25°C	max. 500	nA
	V _{EG} = 20 V, t _{vj} = 25°C	typ. 50	nA
t _{on}	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, R _G = 33 Ω, t _{vj} = 25°C	typ. 0,4	μs
	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, R _G = 33 Ω, t _{vj} = 125°C	typ. 0,5	μs
t _s	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 33 Ω, t _{vj} = 25°C	typ. 0,4	μs
	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 33 Ω, t _{vj} = 125°C	typ. 0,5	μs
t _f	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 33 Ω, t _{vj} = 25°C	typ. 0,15	μs
	i _{CM} = 75 A, V _{CE} = 300 V, V _{LF} = 15 V, V _{LR} = 15 V, R _G = 33 Ω, t _{vj} = 125°C	typ. 0,25	μs

<u>Bedingungen für den Kurzschlußschutz</u>	<u>Conditions for protection against short circuits</u>
t _{fg} = 10 μs, V _{LF} = V _{LR} = 15 V, R _G = 33 Ω, t _{vj} = 125°C,	V _{CC} = 350 V, V _{CEM} = 500 V, i _{CMK1} ≈ 350 A, i _{CMK2} ≈ 200 A

Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,175	°C/W
	DC, pro Zweig / per arm	0,35	°C/W
R _{thCK}	pro Baustein / per module	0,06	°C/W
	pro Zweig / per arm	0,12	°C/W
t _{vjmax}		150	°C
t _{vjop}		-40 / + 150	°C
t _{stg}		-40 / + 125	°C

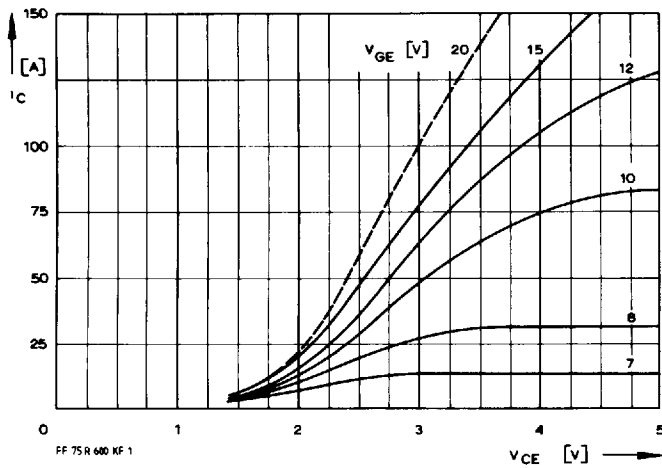
Inversdiode		Inverse diode	
<u>Höchstzulässige Werte</u>		<u>Maximum rated values</u>	
I _{F (max)}		75	A
I _{FRM}	t _p = 1 ms	150	A

<u>Charakteristische Werte</u>		<u>Characteristic values</u>	
V _F	i _F = 75 A, V _{GE} = 0 V, t _{vj} = 25°C	typ. 1,8	V
	i _F = 75 A, V _{GE} = 0 V, t _{vj} = 25°C	max. 2,5	V
I _{RM}	i _{FM} = 75 A, -di _F /dt = 100 A/μs		
	V _{EG} = 10 V, t _{vj} = 25°C	typ. 10	A
Q _r	i _{FM} = 75 A, -di _F /dt = 100 A/μs		
	V _{EG} = 10 V, t _{vj} = 125°C	typ. 18	A
	i _{FM} = 75 A, -di _F /dt = 100 A/μs		
	V _{EG} = 10 V, t _{vj} = 25°C	typ. 1,5	μAs
	i _{FM} = 75 A, -di _F /dt = 100 A/μs		
	V _{EG} = 10 V, t _{vj} = 125°C	typ. 5	μAs

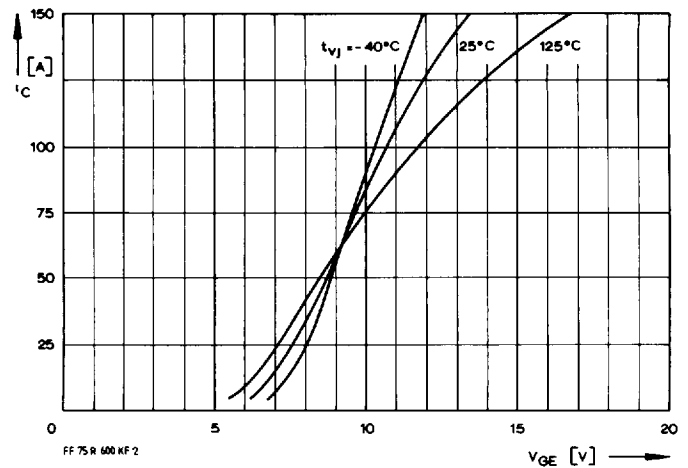
Thermische Eigenschaften		Thermal properties	
R _{thJC}	DC, pro Baustein / per module	0,415	°C/W
	DC, pro Zweig / per arm	0,83	°C/W
R _{thCK}	pro Baustein / per module	0,06	°C/W
	pro Zweig / per arm	0,12	°C/W
t _{vjmax}		125	°C
t _{vjop}		-40 / + 125	°C
t _{stg}		-40 / + 125	°C

<u>Innere Isolation</u>	<u>Internal insulation</u>
Isoliermaterial: AlN	Insulating material: AlN
V _{ISOL} RMS	2,5 kV

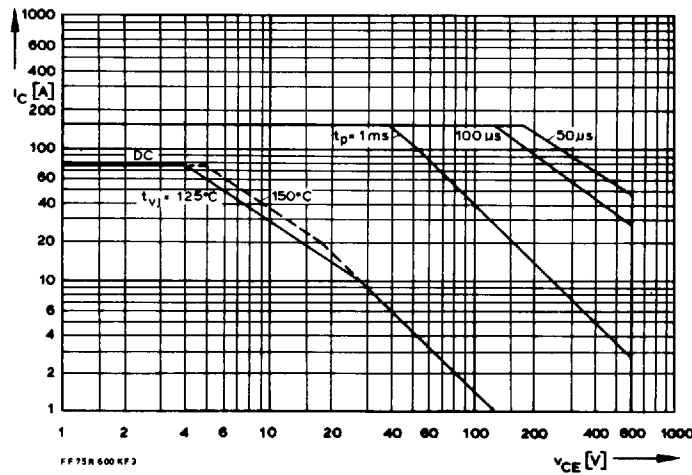
Mechanische Eigenschaften		Mechanical properties	
G		205	g
M1		3	Nm
M2		3	Nm



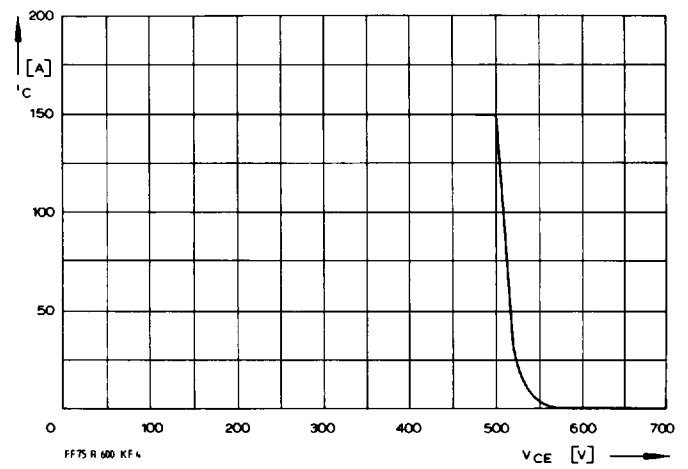
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$



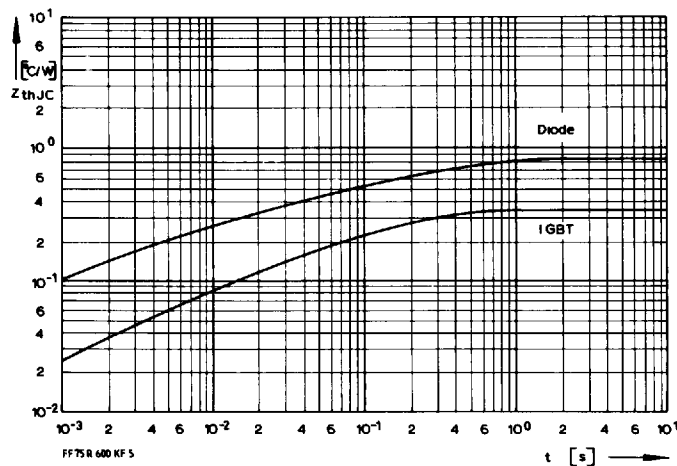
2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $V_{CE} = 5\text{ V}$



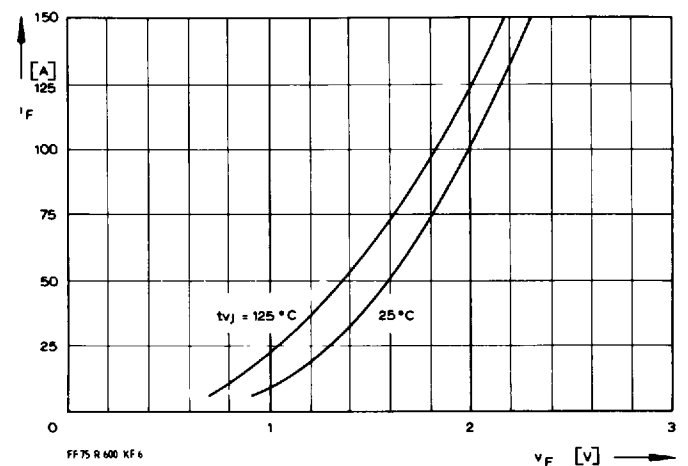
3 Erlaubter Arbeitsbereich in Vorwärtsrichtung (Einzelimpuls, nicht periodisch).
Forward biased safe operating area (single pulse, non repetitive).
 $t_C = 25^\circ\text{C}$



4 Erlaubter Arbeitsbereich in Rückwärtsrichtung.
Reverse biased safe operating area.
 $t_{vj} = 125^\circ\text{C}$, $V_{LF} = V_{LR} = 15\text{ V}$, $R_G = 33\ \Omega$

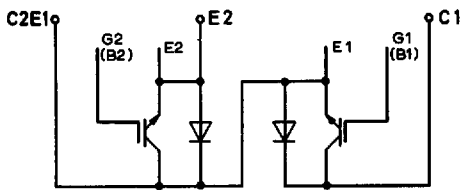


5 Transienter innerer Wärmewiderstand je Zweig (DC).
Transient thermal impedance per arm (DC).



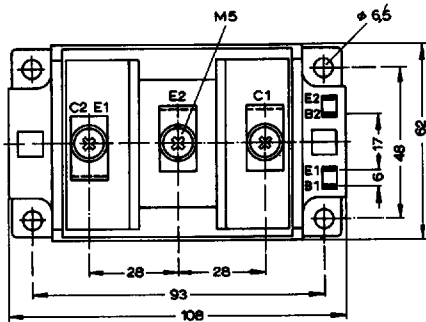
6 Durchlaßkennlinie der Inversdiode (typisch).
Forward characteristic of the inverse diode (typical).
 $V_{GE} = 0\text{ V}$

EUPEC



Technical drawing of the rear view of the device. Dimensions are indicated in millimeters:

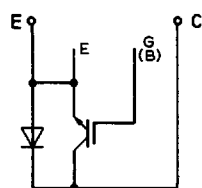
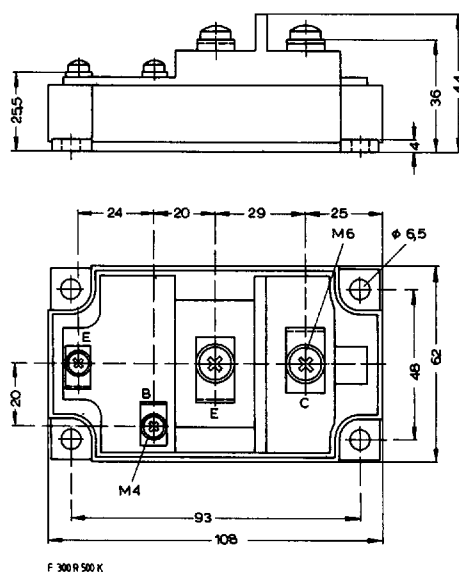
- Total width: 106
- Distance between mounting holes: 93
- Distance from left edge to first mounting hole: 28
- Distance between mounting holes: 28
- Distance from last mounting hole to right edge: 28
- Mounting hole diameter: $\varnothing 5.6$
- Internal components labeled: C2/E1, E2, C1, M5, B2/B1, E1/B1.
- Overall height: 35
- Height of the central section: 16



Technical drawing of the front view of a metal plate. The drawing shows a rectangular plate with a total width of 95 and a total height of 48. There are three main vertical sections. The left section contains a circular feature labeled C2 E1. The middle section contains a circular feature labeled E2. The right section contains a circular feature labeled C1. To the right of the C1 feature are two rectangular features labeled E2 B2 and E1 B1. Dimensions are indicated: 23 between the C2 E1 and E2 features, 23 between the E2 and C1 features, 6 between the E2 B2 and E1 B1 features, and 7 between the E2 B2 and E1 B1 features. A dimension of 80 is shown for the distance from the left edge to the center of the C1 feature. A dimension of 95 is shown for the total width. A dimension of 48 is shown for the total height. A dimension of 5.5 is shown for the radius of the circular features. A dimension of M5 is shown for the diameter of the circular features.

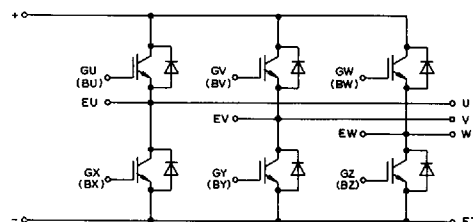
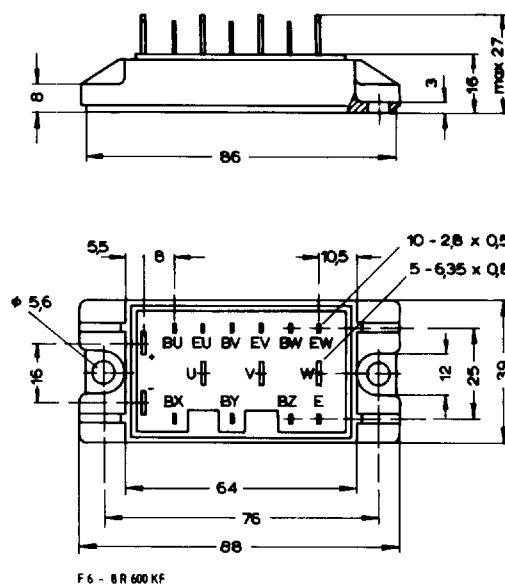
4

T-91-20

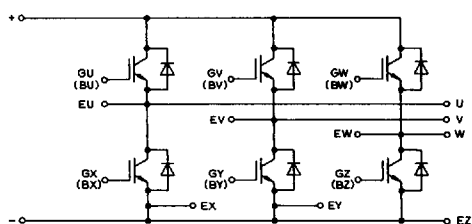
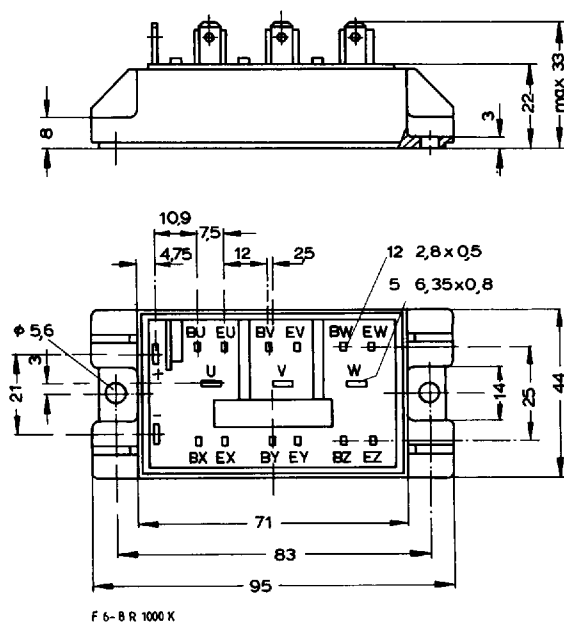


1)

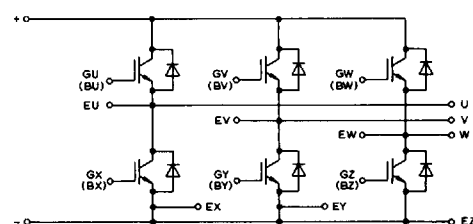
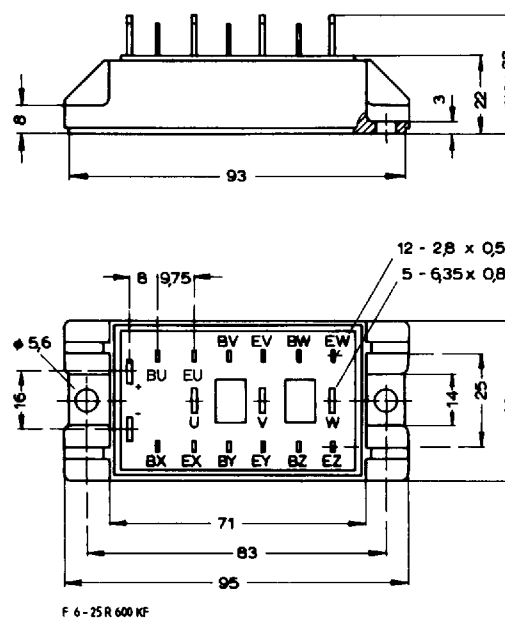
5



6



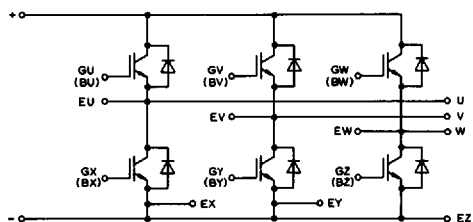
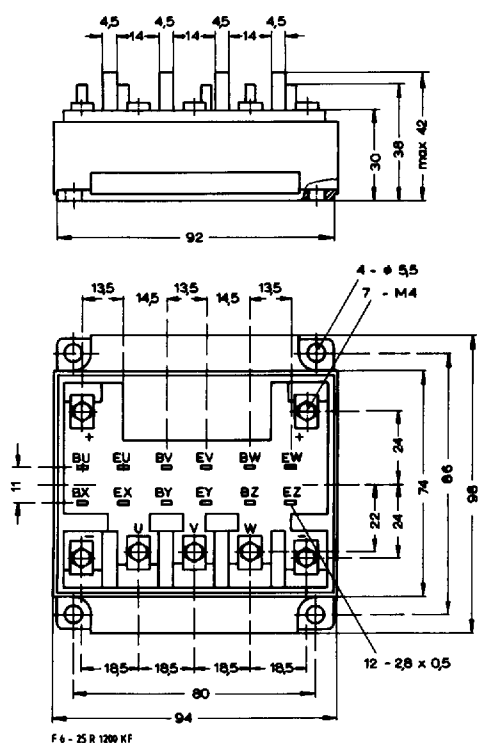
7



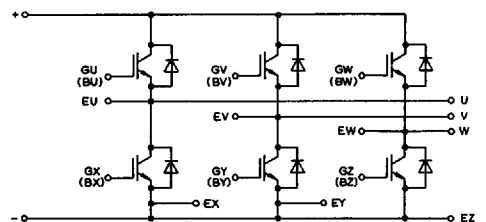
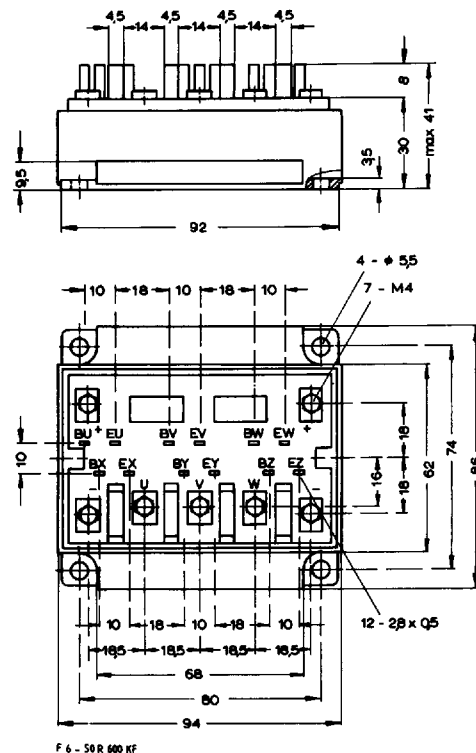
8

EUPEC

52E D ■ 3403297 0000300 272 ■ UPEC



9



10