

Transistor	Transistor
Elektrische Eigenschaften	Electrical properties
Höchstzulässige Werte	Maximum rated values
V _{CES}	1000 V
I _C	15 A
I _{CRM} t _p = 1 ms	30 A
P _{tot} t _C = 25°C	125 W
V _{GE}	20 V
V _{EG}	20 V

Charakteristische Werte	Characteristic values
V _{CE sat}	i _{CM} = 15 A, v _{GE} = 15 V, t _{vj} = 25°C typ. 3 V
	i _{CM} = 15 A, v _{GE} = 15 V, t _{vj} = 25°C max. 5 V
V _{GE (th)}	v _{CE} = 5 V, i _C = 15 mA, t _{vj} = 25°C min. 3 V
	v _{CE} = 5 V, i _C = 15 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. 2 nF
i _{CES}	v _{CE} = 1000 V, v _{GE} = 0 V, t _{vj} = 25°C typ. 0,2 mA
	v _{CE} = 1000 V, v _{GE} = 0 V, t _{vj} = 125°C typ. 1 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} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, R _G = 100 Ω, t _{vj} = 25°C typ. 0,4 μs
	i _{CM} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, R _G = 100 Ω, t _{vj} = 125°C typ. 0,5 μs
t _s	i _{CM} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, v _{LR} = 15 V,
	R _G = 100 Ω, t _{vj} = 25°C typ. 0,5 μs
	i _{CM} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, v _{LR} = 15 V,
	R _G = 100 Ω, t _{vj} = 25°C typ. 0,7 μs
t _f	i _{CM} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, v _{LR} = 15 V,
	R _G = 100 Ω, t _{vj} = 25°C typ. 0,3 μs
	i _{CM} = 15 A, v _{CE} = 600 V,
	v _{LF} = 15 V, v _{LR} = 15 V,
	R _G = 100 Ω, t _{vj} = 125°C typ. 0,4 μs

Bedingungen für den Kurzschlußschutz	Conditions for protection against short circuits
t _{fg} = 10 μs,	V _{CC} = 750 V,
v _{LF} = v _{LR} = 15 V,	V _{CEM} = 850 V,
R _G = 100 Ω,	i _{CMK1} ≈ 210 A,
t _{vj} = 125°C,	i _{CMK2} ≈ 120 A

Thermische Eigenschaften	Thermal properties
R _{thJC}	DC, pro Baustein / per module 0,5 °C/W
	DC, pro Zweig / per arm 1,0 °C/W
R _{thCK}	pro Baustein / per module 0,065 °C/W
	pro Zweig / per arm 0,13 °C/W
t _{vjmax}	150 °C
t _{vjop}	-40 / + 150 °C
t _{stg}	-40 / + 125 °C

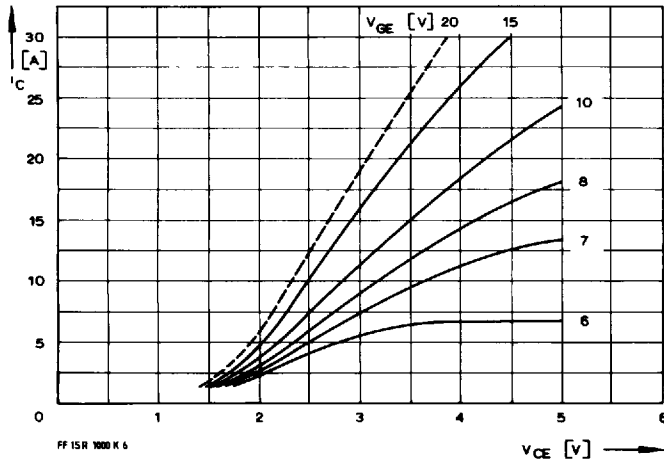
Inversdiode	Inverse diode
Elektrische Eigenschaften	Electrical properties
Höchstzulässige Werte	Maximum rated values
I _{F (max)}	15 A
I _{FRM} t _p = 1 ms	30 A

Charakteristische Werte	Characteristic values
V _F	i _F = 15 A, v _{GE} = 0 V, t _{vj} = 25°C typ. 1,8 V
	i _F = 15 A, v _{GE} = 0 V, t _{vj} = 25°C max. 2,5 V
I _{RM}	i _{FM} = 15 A, -di _F /dt = 100 A/μs
	v _{EG} = 10 V, t _{vj} = 25°C typ. 10 A
	i _{FM} = 15 A, -di _F /dt = 100 A/μs
	v _{EG} = 10 V, t _{vj} = 125°C typ. 17 A
Q _r	i _{FM} = 15 A, -di _F /dt = 100 A/μs
	v _{EG} = 10 V, t _{vj} = 25°C typ. 2,5 μAs
	i _{FM} = 15 A, -di _F /dt = 100 A/μs
	v _{EG} = 10 V, t _{vj} = 125°C typ. 5 μAs

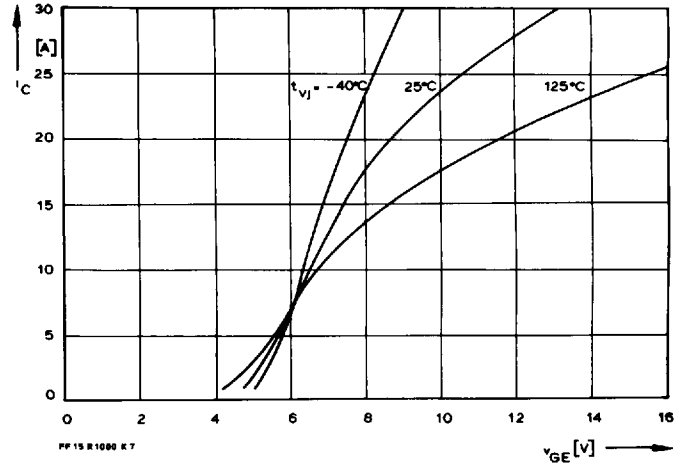
Thermische Eigenschaften	Thermal properties
R _{thJC}	DC, pro Baustein / per module 0,9 °C/W
	DC, pro Zweig / per arm 1,8 °C/W
R _{thCK}	pro Baustein / per module 0,065 °C/W
	pro Zweig / per arm 0,13 °C/W
t _{vjmax}	125 °C
t _{vjop}	-40 / + 125 °C
t _{stg}	-40 / + 125 °C

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

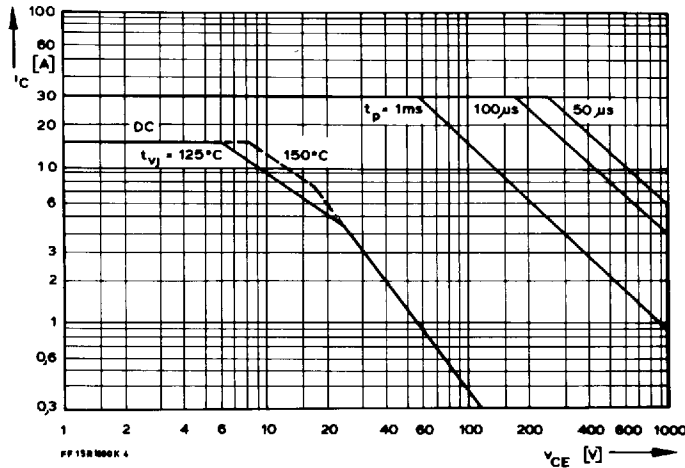
Mechanische Eigenschaften	Mechanical properties
G	220 g
M1	3 Nm
M2	3 Nm



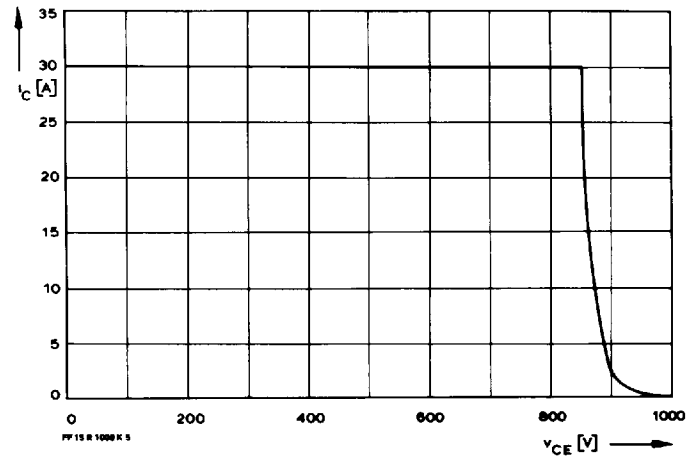
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).
Collector-emitter-voltage in saturation region (typical).
 $t_{vj} = 25^\circ\text{C}$



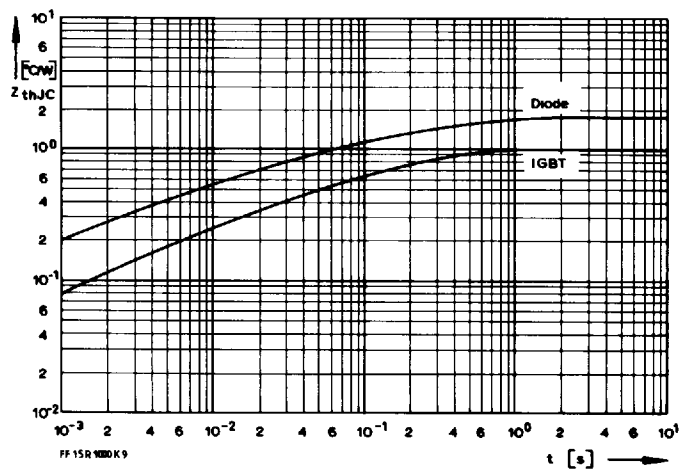
2 Übertragungscharakteristik (typisch).
Transfer characteristic (typical).
 $v_{CE} = 5\text{ V}$



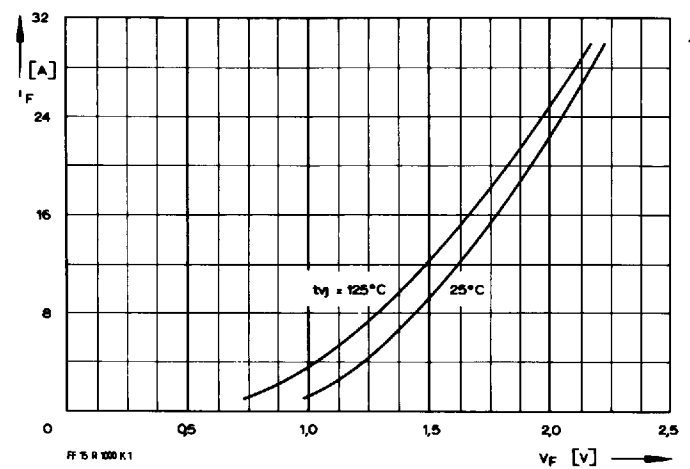
3 Erlaubter Arbeitsbereich in Vorwärtsrichtung (Einzelimpuls, nicht periodisch).
Forward biased safe operating area (single pulse, non repetitive).
 $t_C = 25^\circ\text{C}$



4 Erlaubter Arbeitsbereich in Rückwärtsrichtung
Reverse biased safe operating area.
 $t_{vj} = 125^\circ\text{C}$, $v_{LF} = v_{LR} = 15\text{ V}$, $R_G = 100\ \Omega$



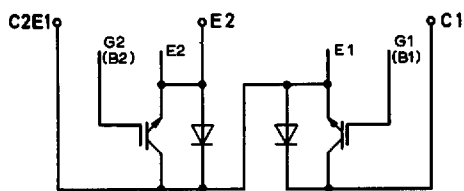
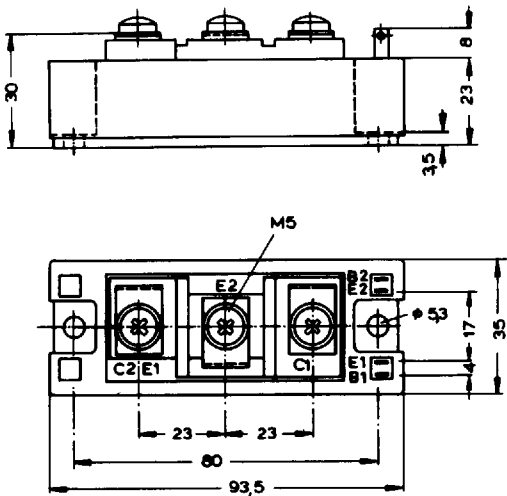
5 Transienter innerer Wärmewiderstand je Zweig (DC).
Transient thermal impedance per arm (DC).



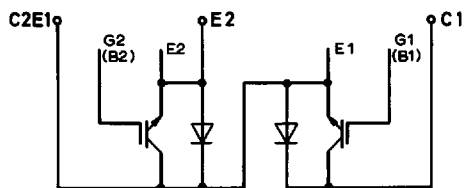
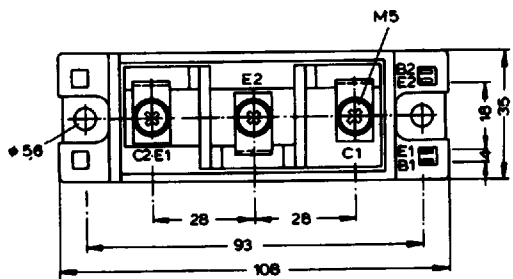
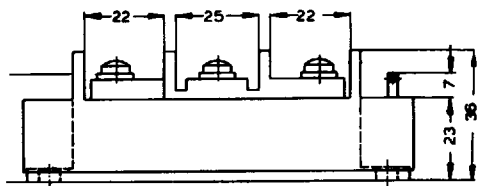
6 Durchlaßkennlinie der Inversdiode (typisch).
Forward characteristic of the inverse diode (typical).
 $v_{GE} = 0\text{ V}$

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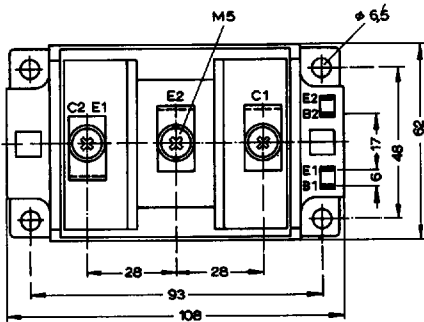
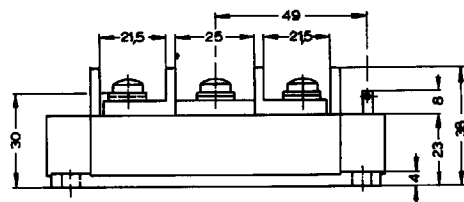
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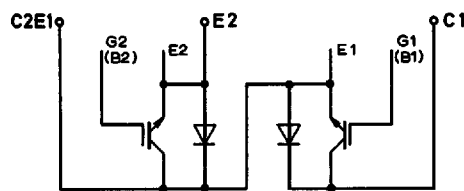
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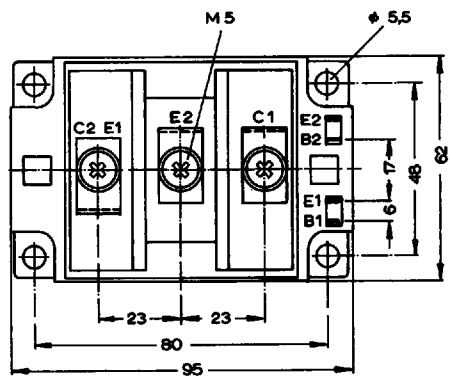
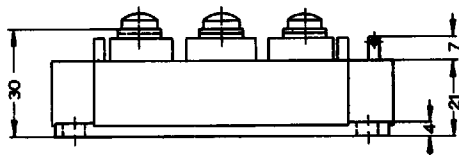


FF 100 R 1000 K

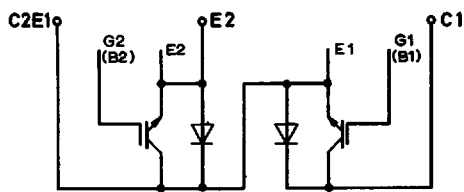


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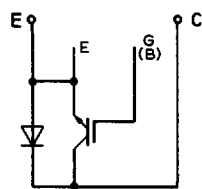
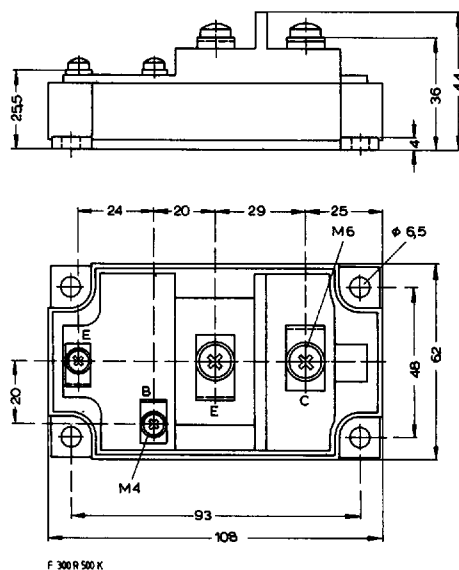
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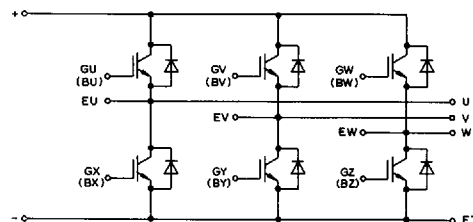
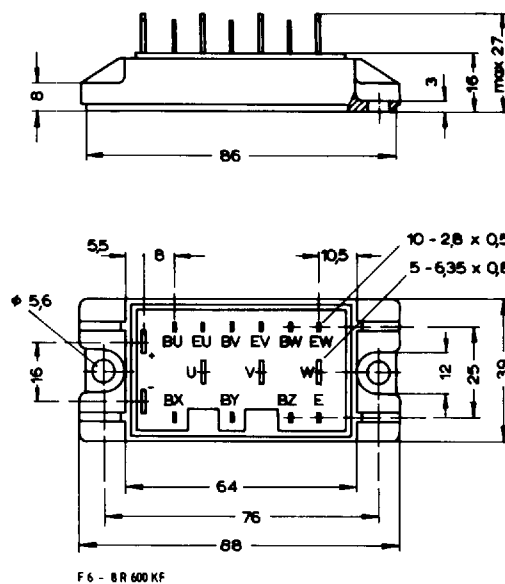
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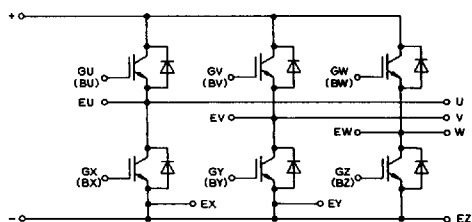
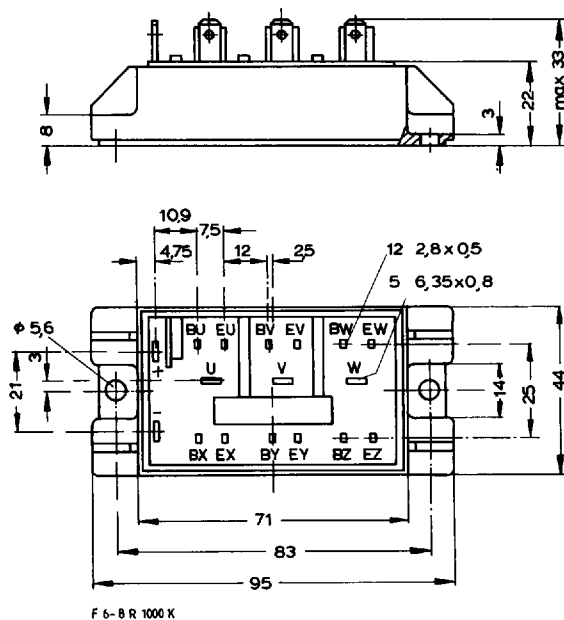
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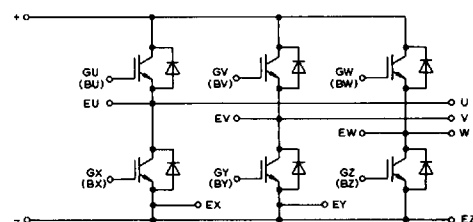
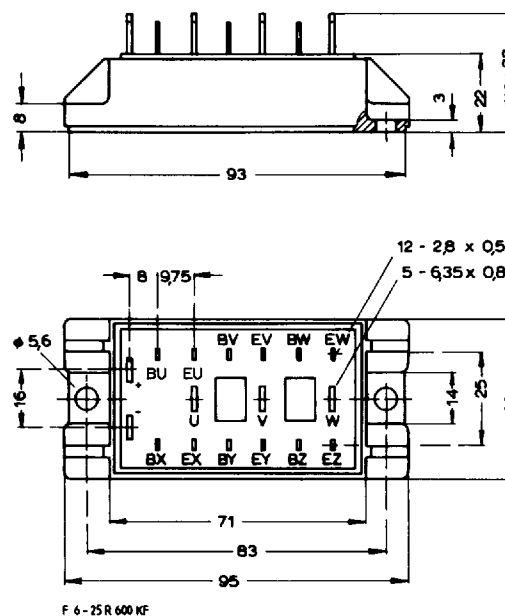
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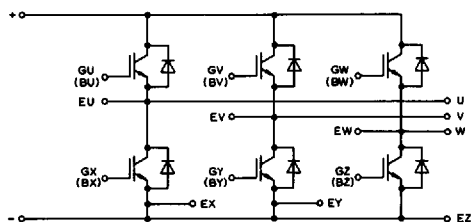
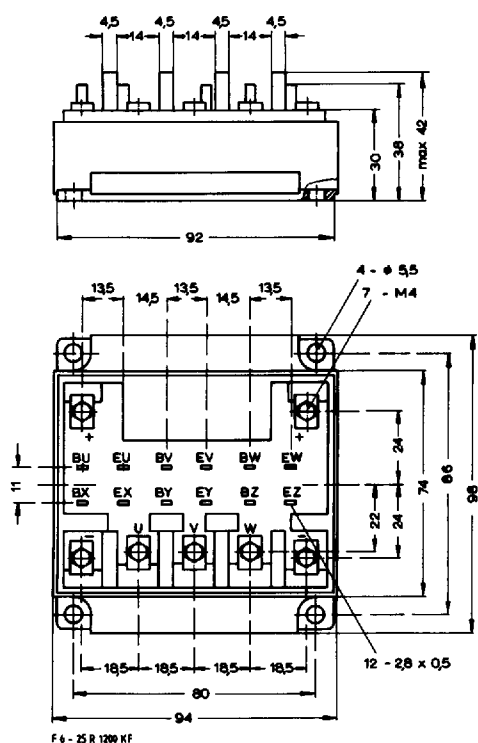
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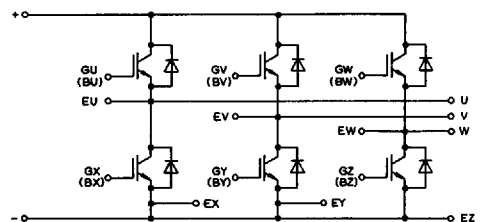
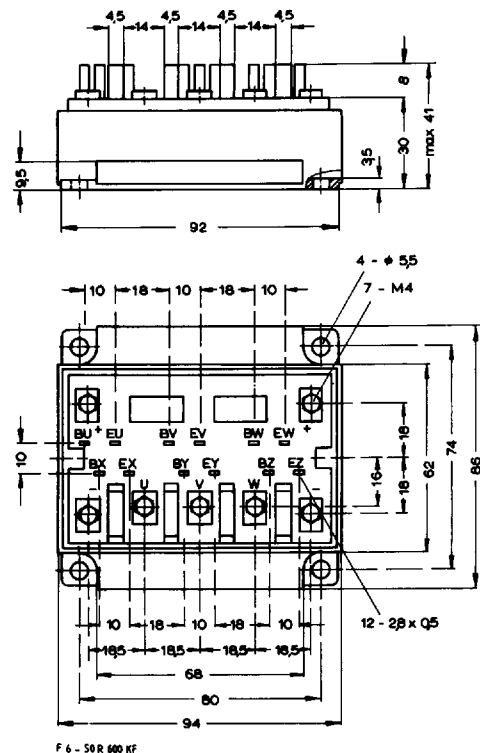
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