Transistor / Transistor

Elektrische Eigenschaften / Electrical properties

Höchstzulässige Werte / Maximum rated values

V_{CES}		1000	V
I_C		8	A
I_{CRM}	$t_p = 1\,ms$	16	A
P_{tot}	$t_C = 25°C$	80	W
V_{GE}		20	V
V_{EG}		20	V

Charakteristische Werte / Characteristic values

$v_{CE\,sat}$	$i_{CM} = 8\,A$,	$v_{GE} = 15\,V$,	$t_{vj} = 25°C$	typ.	3	V
	$i_{CM} = 8\,A$,	$v_{GE} = 15\,V$,	$t_{vj} = 25°C$	max.	5	V
$v_{GE\,(th)}$	$v_{CE} = 5\,V$,	$i_C = 8\,mA$,	$t_{vj} = 25°C$	min.	3	V
	$v_{CE} = 5\,V$,	$i_C = 8\,mA$,	$t_{vj} = 25°C$	max.	6	V
C_{GE}	$v_{CE} = 10\,V$,	$v_{GE} = 0\,V$				
	$f_o = 1\,MHz$,	$t_{vj} = 25°C$		typ.	0,8	nF
i_{CES}	$v_{CE} = 1000\,V$,	$v_{GE} = 0\,V$,	$t_{vj} = 25°C$	typ.	0,1	mA
	$v_{CE} = 1000\,V$,	$v_{GE} = 0\,V$,	$t_{vj} = 125°C$	typ.	0,5	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}	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$R_G = 150\,\Omega$,	$t_{vj} = 25°C$	typ.	0,35	µs
	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$R_G = 150\,\Omega$,	$t_{vj} = 125°C$	typ.	0,4	µs
t_s	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$v_{LR} = 15\,V$,				
	$R_G = 150\,\Omega$,	$t_{vj} = 25°C$		typ.	0,4	µs
	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$v_{LR} = 15\,V$,				
	$R_G = 150\,\Omega$,	$t_{vj} = 125°C$		typ.	0,6	µs
t_f	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$v_{LR} = 15\,V$,				
	$R_G = 150\,\Omega$,	$t_{vj} = 25°C$		typ.	0,3	µs
	$i_{CM} = 8\,A$,	$v_{CE} = 600\,V$,				
	$v_{LF} = 15\,V$,	$v_{LR} = 15\,V$,				
	$R_G = 150\,\Omega$,	$t_{vj} = 125°C$		typ.	0,4	µs

Bedingungen für den Kurzschlußschutz / Conditions for protection against short circuits

$t_{fg} = 10\,\mu s$,	$V_{CC} = 750\,V$,
$v_{LF} = v_{LR} = 15\,V$,	$v_{CEM} = 850\,V$,
$R_G = 150\,\Omega$,	$i_{CMK1} \approx 110\,A$,
$t_{vj} = 125°C$,	$i_{CMK2} \approx 60\,A$

Thermische Eigenschaften / Thermal properties

R_{thJC}	DC, pro Baustein / per module	0,26	°C/W
	DC, pro Zweig / per arm	1,56	°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

$I_{F\,(max)}$		8	A
I_{FRM}	$t_p = 1\,ms$	16	A

Charakteristische Werte / Characteristic values

v_F	$i_F = 8\,A$, $v_{GE} = 0\,V$, $t_{vj} = 25°C$	typ.	1,6	V
	$i_F = 8\,A$, $v_{GE} = 0\,V$, $t_{vj} = 25°C$	max.	2,5	V
I_{RM}	$i_{FM} = 8\,A$, $-di_F/dt = 50\,A/\mu s$			
	$v_{EG} = 10\,V$, $t_{vj} = 25°C$	typ.	7	A
	$i_{FM} = 8\,A$, $-di_F/dt = 50\,A/\mu s$			
	$v_{EG} = 10\,V$, $t_{vj} = 125°C$	typ.	11	A
Q_r	$i_{FM} = 8\,A$, $-di_F/dt = 50\,A/\mu s$			
	$v_{EG} = 10\,V$, $t_{vj} = 25°C$	typ.	0,5	µAs
	$i_{FM} = 8\,A$, $-di_F/dt = 50\,A/\mu s$			
	$v_{EG} = 10\,V$, $t_{vj} = 125°C$	typ.	1	µAs

Thermische Eigenschaften / Thermal properties

R_{thJC}	DC, pro Zweig / per arm	1,8	°C/W
R_{thCK}	pro Zweig / per arm		°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

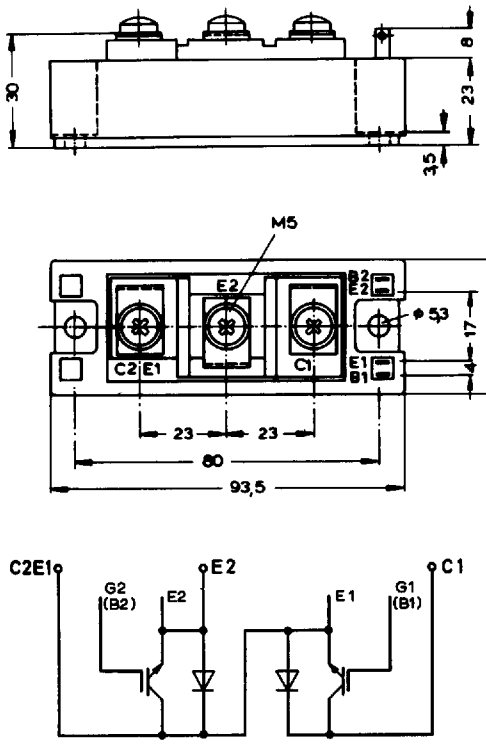
V_{ISOL}	RMS	2,5	kV

Mechanische Eigenschaften / Mechanical properties

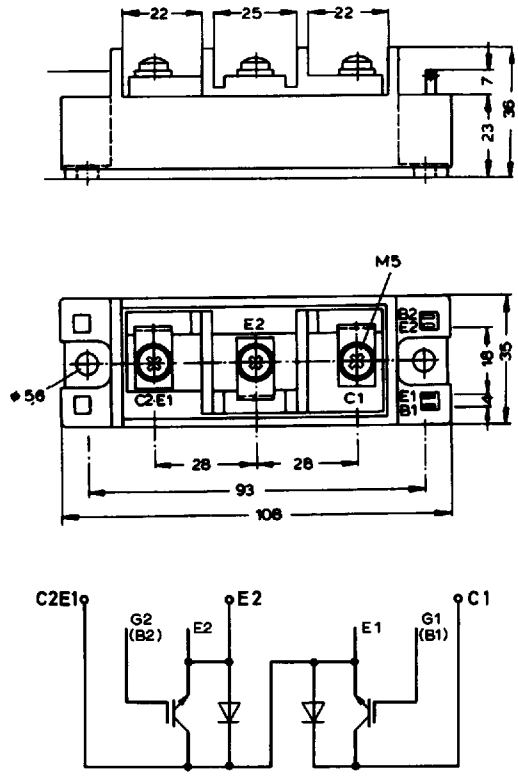
G	225	g
M1	3	Nm

Maßbild / outline
Seite 123, Nr. 7 / page 123, no. 7

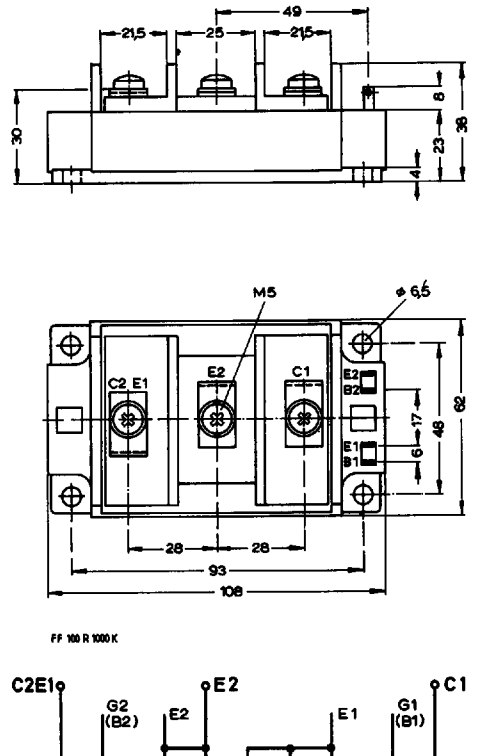
Maßbilder / Schaltbilder
Outlines / Circuits



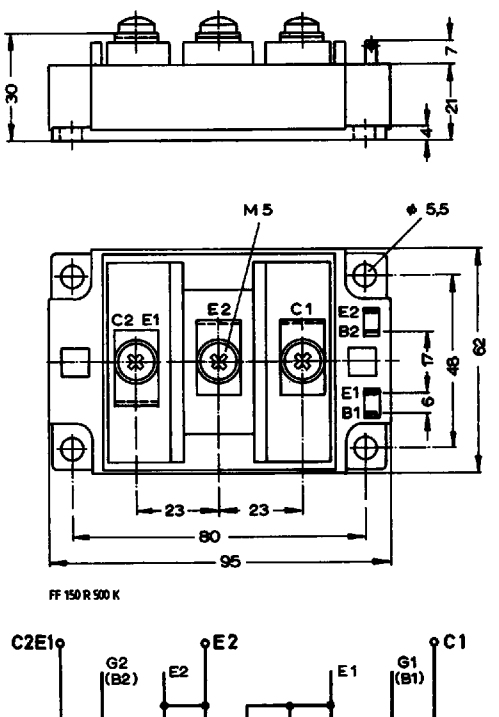
1



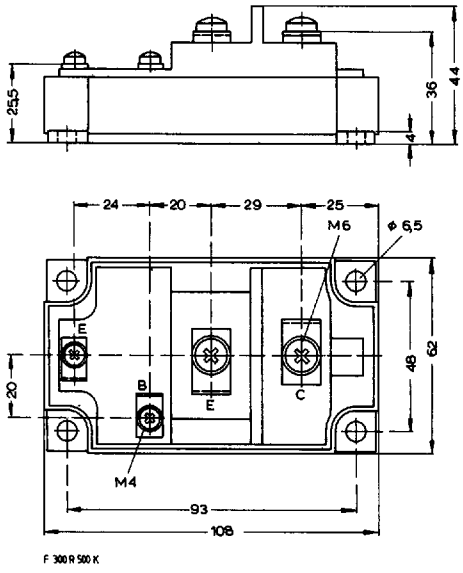
2



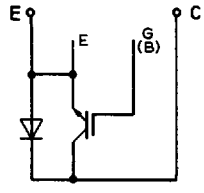
3



4

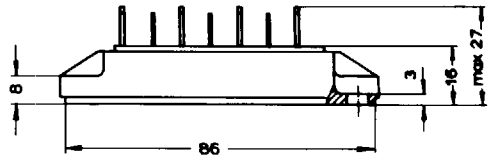


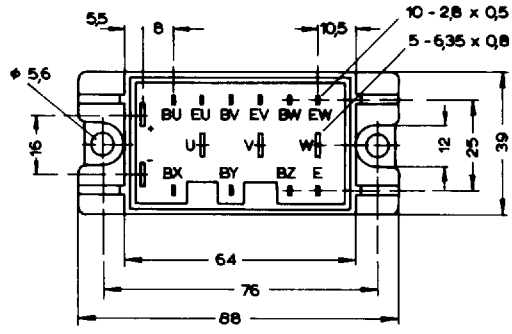
F 300 R 500 K



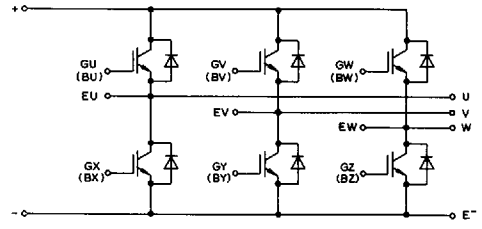
1)

5

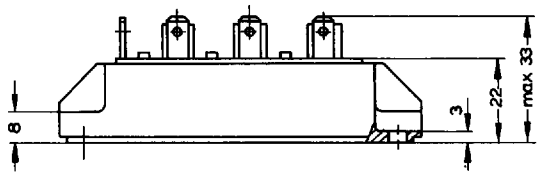


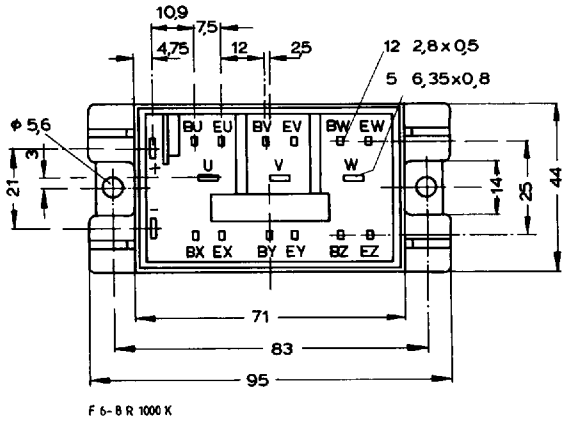


F 6 - 8 R 600 KF

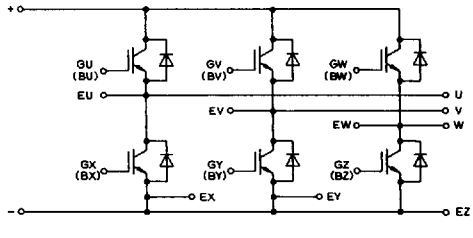


6

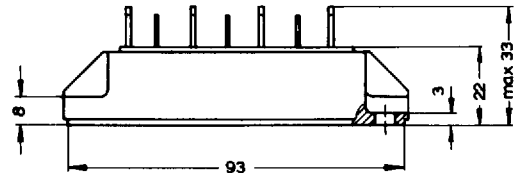


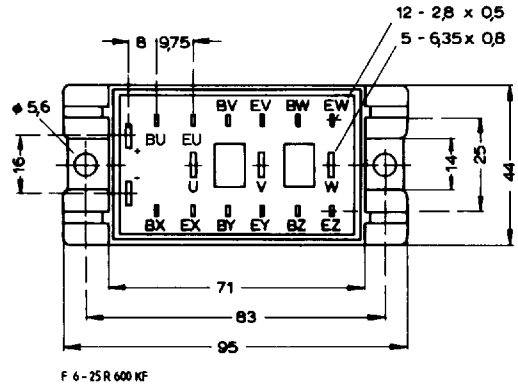


F 6-8 R 1000 K

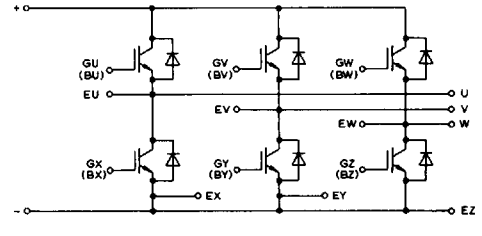


7

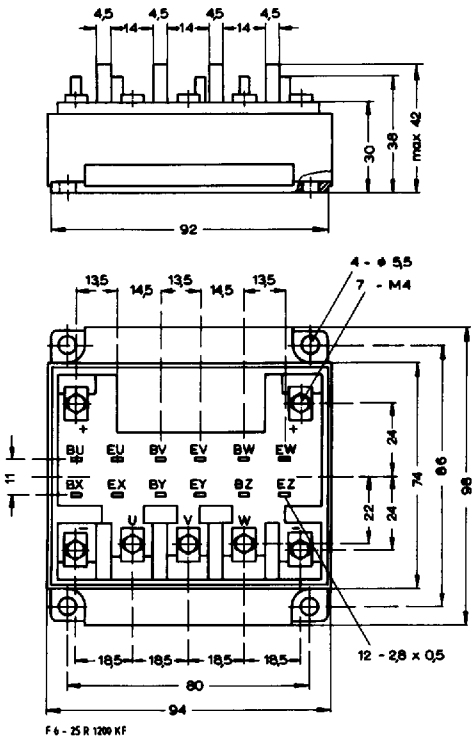


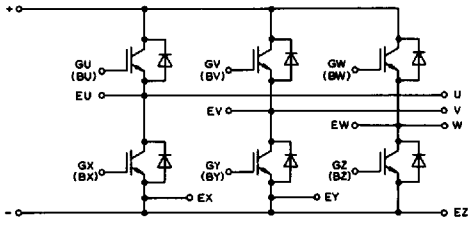


F 6-25 R 600 KF

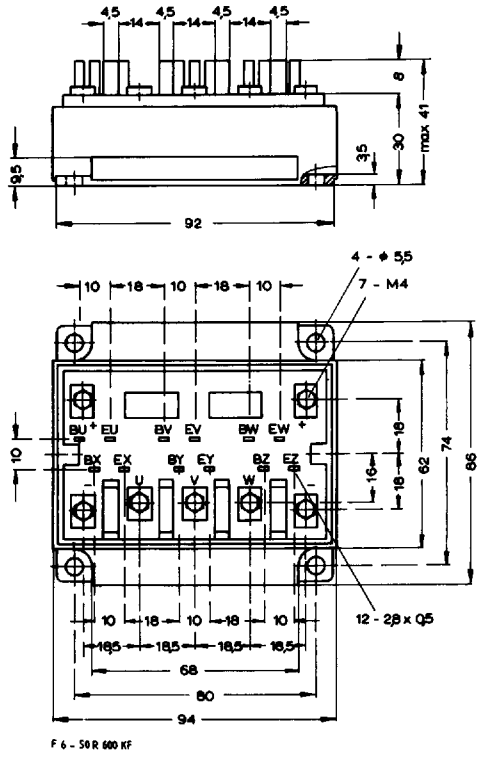


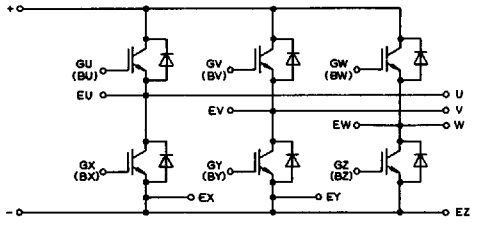
8


4,5 14 4,5 14 4,5 14 4,5
30
38
max 42
92
13,5 14,5 13,5 14,5 13,5
4 - ⌀ 5,5
7 - M4
BU EU BV EV BW EW
GX EX GY EY GZ EZ
U V W
11
24
22
24
74
86
98
18,5 18,5 18,5 18,5
80
94
12 - 2,8 x 0,5
F 6 - 25 R 1200 KF


GU (BU)
GV (BV)
GW (BW)
EU
EV
EW
U
V
W
GX (BX)
GY (BY)
GZ (BZ)
EX
EY
EZ

9


4,5 14 4,5 14 4,5 14 4,5
8
30
35
max 41
9,5
92
10 18 10 18 10
4 - ⌀ 5,5
7 - M4
BU EU BV EV BW EW
GX EX GY EY GZ EZ
U V W
10
16
18
62
74
86
10 18 10 18 10
18,5 18,5 18,5 18,5
68
80
94
12 - 2,8 x 0,5
F 6 - 50 R 600 KF


GU (BU)
GV (BV)
GW (BW)
EU
EV
EW
U
V
W
GX (BX)
GY (BY)
GZ (BZ)
EX
EY
EZ

10