

Transistor		Transistor	
Elektrische Eigenschaften		Electrical properties	
Höchstzulässige Werte		Maximum rated values	
$V_{CES}$		1200	V
$I_C$		75	A
$I_{CRM}$	$t_p = 1 \text{ ms}$	150	A
$P_{tot}$	$t_C = 25^\circ\text{C}$	570	W
$V_{GE}$		20	V
$V_{EG}$		20	V

Charakteristische Werte		Characteristic values	
$V_{CE \text{ sat}}$	$i_{CM} = 75 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ. 3	V
	$i_{CM} = 75 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$	max. 4	V
$V_{GE} \text{ (th)}$	$V_{CE} = 5 \text{ V}, i_C = 75 \text{ mA}, t_{vj} = 25^\circ\text{C}$	typ. 3	V
	$V_{CE} = 5 \text{ V}, i_C = 75 \text{ mA}, t_{vj} = 25^\circ\text{C}$	max. 6	V
$C_{ies}$	$V_{CE} = 10 \text{ V}, V_{GE} = 0 \text{ V}, f_o = 1 \text{ MHz}, t_{vj} = 25^\circ\text{C}$	typ. 9	nF
$i_{CES}$	$V_{CE} = 1200 \text{ V}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ. 0,3	mA
	$V_{CE} = 1200 \text{ V}, V_{GE} = 0 \text{ V}, t_{vj} = 125^\circ\text{C}$	typ. 2	mA
$i_{GES}$	$V_{GE} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ. 1	$\mu\text{A}$
	$V_{GE} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	max. 10	$\mu\text{A}$
$i_{EGS}$	$V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ. 1	$\mu\text{A}$
	$V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	max. 10	$\mu\text{A}$
$t_{on}$	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 25^\circ\text{C}$	typ. 0,4	$\mu\text{s}$
	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 125^\circ\text{C}$	typ. 0,6	$\mu\text{s}$
$t_s$	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 25^\circ\text{C}$	typ. 0,5	$\mu\text{s}$
	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 125^\circ\text{C}$	typ. 0,6	$\mu\text{s}$
$t_f$	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 25^\circ\text{C}$	typ. 0,2	$\mu\text{s}$
	$i_{CM} = 75 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 125^\circ\text{C}$	typ. 0,25	$\mu\text{s}$

Bedingungen für den Kurzschlußschutz	Conditions for protection against short circuits
$t_{fg} = 10 \mu\text{s}, V_{LF} = V_{LR} = 15 \text{ V}, R_G = 16 \Omega, t_{vj} = 125^\circ\text{C}$	$V_{CC} = 750 \text{ V}, V_{CEM} = 1000 \text{ V}, i_{CMK1} \approx 900 \text{ A}, i_{CMK2} \approx 600 \text{ A}$

Thermische Eigenschaften	Thermal properties
$R_{thJC}$	DC, pro Baustein / per module 0,11 $^\circ\text{C/W}$ DC, pro Zweig / per arm 0,22 $^\circ\text{C/W}$
$R_{thCK}$	pro Baustein / per module 0,05 $^\circ\text{C/W}$ pro Zweig / per arm 0,1 $^\circ\text{C/W}$

$t_{vj \text{ max}}$	150 $^\circ\text{C}$
$t_{vj \text{ op}}$	- 40 / + 150 $^\circ\text{C}$
$t_{stg}$	- 40 / + 125 $^\circ\text{C}$

Inversdiode	Inverse diode
Elektrische Eigenschaften	Electrical properties

Höchstzulässige Werte	Maximum rated values
$I_{F(\text{max})}$	75 A
$I_{FRM}$	150 A

Charakteristische Werte	Characteristic values
$V_F$	$i_F = 75 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$ typ. 1,8 V $i_F = 75 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$ max. 3 V
$I_{RM}$	$i_{FM} = 75 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ typ. 10 A $V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$ $i_{FM} = 75 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ typ. 20 A $V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$
$Q_r$	$i_{FM} = 75 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ typ. 1,5 $\mu\text{As}$ $V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$ $i_{FM} = 75 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ typ. 5,2 $\mu\text{As}$ $V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$

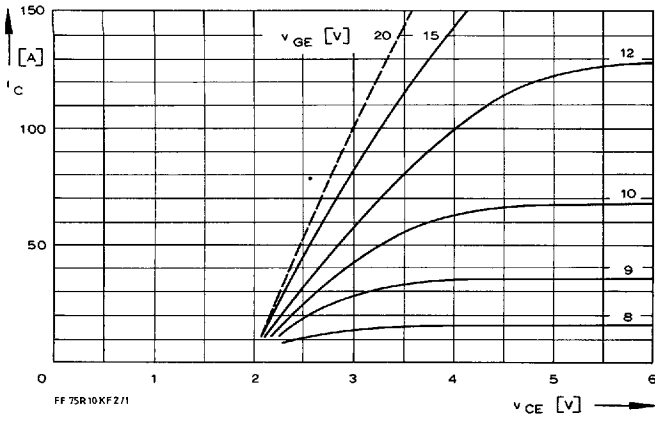
Thermische Eigenschaften	Thermal properties
$R_{thJC}$	DC, pro Baustein / per module 0,4 $^\circ\text{C/W}$ DC, pro Zweig / per arm 0,8 $^\circ\text{C/W}$
$R_{thCK}$	pro Baustein / per module 0,05 $^\circ\text{C/W}$ pro Zweig / per arm 0,1 $^\circ\text{C/W}$

$t_{vj \text{ max}}$	125 $^\circ\text{C}$
$t_{vj \text{ op}}$	- 40 / + 125 $^\circ\text{C}$
$t_{stg}$	- 40 / + 125 $^\circ\text{C}$

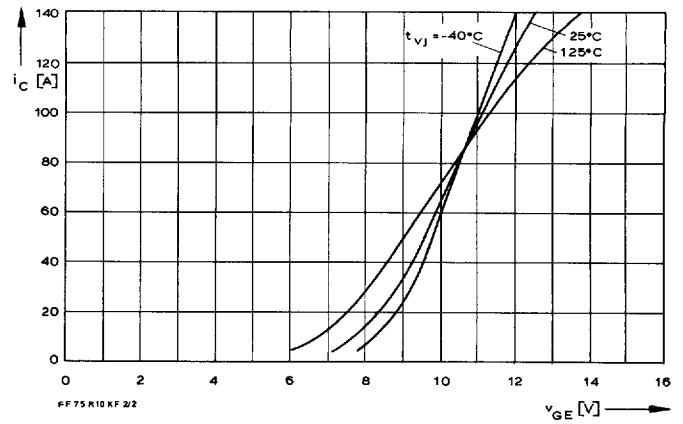
Innere Isolation	Internal insulation
Isoliermaterial: Al N $V_{ISOL}$ RMS (f=50 Hz, t=1 min)	Insulating material: Al N 2,5 kV

Mechanische Eigenschaften	Mechanical properties
G	205 g
M 1	3 Nm
M 2	3 Nm

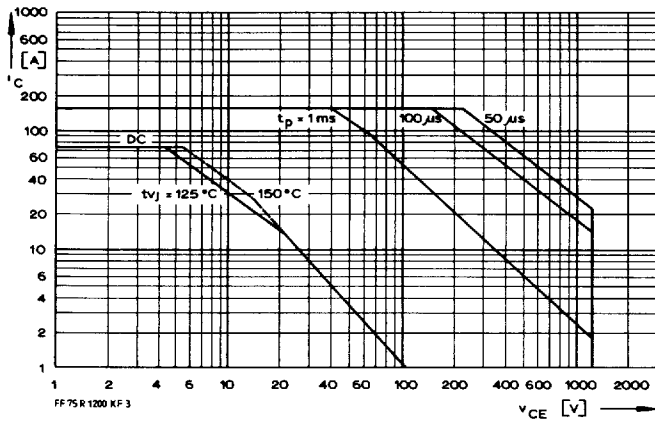
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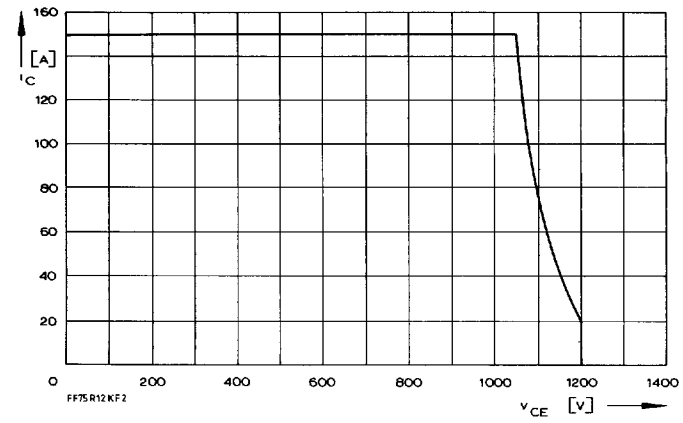
1 Kollektor-Emitter-Spannung im Sättigungsbereich (typisch).  
Collector-emitter-voltage in saturation region (typical).  
 $t_{vj} = 25^\circ\text{C}$



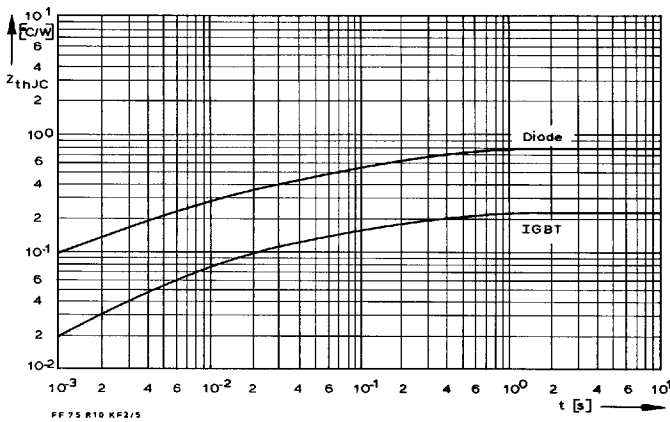
2 Übertragungscharakteristik (typisch).  
Transfer characteristic (typical).  
 $V_{CE} = 5\text{ V}$



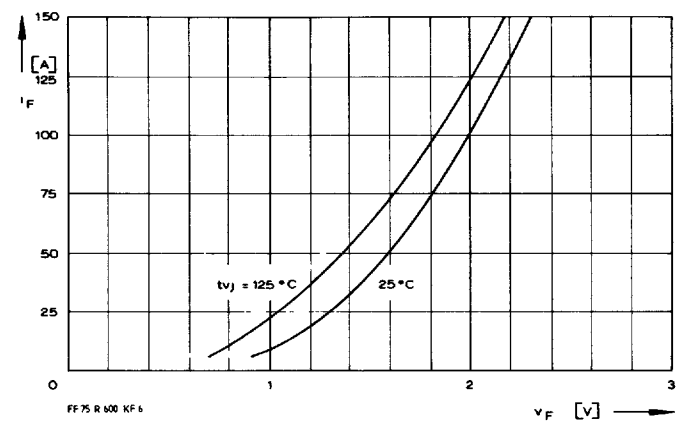
3 Vorwärts-Arbeitsbereich FBSOA (Einzelimpuls, nicht periodisch).  
Forward biased safe operating area (single pulse, non repetitive).  
 $t_c = 25^\circ\text{C}$



4 Rückwärts-Arbeitsbereich RBSOA.  
Reverse biased safe operating area.  
 $t_{vj} = 125^\circ\text{C}$ ,  $V_{LF} = V_{LR} = 15\text{ V}$ ,  $R_G = 16\ \Omega$



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