

Transistor**Elektrische Eigenschaften**Höchstzulässige Werte

V_{CES}		1200	V
I_C		50	A
I_{CRM}	$t_p = 1 \text{ ms}$	100	A
P_{tot}	$t_C = 25^\circ\text{C}$	250	W
V_{GE}		20	V
V_{EG}		20	V

Charakteristische Werte

$V_{CE \text{ sat}}$	$i_{CM} = 50 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ.	3	V
	$i_{CM} = 50 \text{ A}, V_{GE} = 15 \text{ V}, t_{vj} = 25^\circ\text{C}$	max.	4	V
$V_{GE (th)}$	$V_{CE} = 5 \text{ V}, i_C = 50 \text{ mA}, t_{vj} = 25^\circ\text{C}$	min.	3	V
	$V_{CE} = 5 \text{ V}, i_C = 50 \text{ mA}, t_{vj} = 25^\circ\text{C}$	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.	6	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	nA
	$V_{GE} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	max.	10	nA
i_{EGS}	$V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ.	1	nA
	$V_{EG} = 20 \text{ V}, t_{vj} = 25^\circ\text{C}$	max.	10	nA
t_{on}	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 25^\circ\text{C}$	typ.	0,4	μs
	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 125^\circ\text{C}$	typ.	0,5	μs
t_s	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 25^\circ\text{C}$	typ.	0,5	μs
	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 125^\circ\text{C}$	typ.	0,6	μs
t_f	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 25^\circ\text{C}$	typ.	0,2	μs
	$i_{CM} = 50 \text{ A}, V_{CE} = 600 \text{ V}, V_{LF} = 15 \text{ V}, V_{LR} = 15 \text{ V}, R_G = 24 \Omega, t_{vj} = 125^\circ\text{C}$	typ.	0,25	μs

Bedingungen für den Kurzschlußschutz

$t_{ig} = 10 \mu\text{s},$
 $V_{LF} = V_{LR} = 15 \text{ V},$
 $R_G = 24 \Omega,$
 $t_{vj} = 125^\circ\text{C},$

Transistor**Electrical properties**Maximum rated values

	1200	V
	50	A
	100	A
	250	W
	20	V
	20	V

Characteristic values

	typ.	3	V
	max.	4	V
	min.	3	V
	max.	6	V
	typ.	6	nF
	typ.	0,3	mA
	typ.	2	mA
	typ.	1	nA
	max.	10	nA
	typ.	1	nA
	max.	10	nA
	typ.	0,4	μs
	typ.	0,5	μs
	typ.	0,5	μs
	typ.	0,6	μs
	typ.	0,2	μs
	typ.	0,25	μs

Conditions for protection against short circuits

$V_{CC} = 750 \text{ V},$
 $V_{CEM} = 1000 \text{ V},$
 $i_{CMK 1} \approx 500 \text{ A},$
 $i_{CMK 2} \approx 320 \text{ A}.$

Thermische Eigenschaften

R_{thJC}	DC, pro Baustein / per module	0,083 $^\circ\text{C/W}$
	DC, pro Zweig / per arm	0,500 $^\circ\text{C/W}$

 $t_{vj \text{ max}}$ $t_{vj \text{ op}}$ t_{stg} 150 $^\circ\text{C}$ - 40 / + 150 $^\circ\text{C}$ - 40 / + 125 $^\circ\text{C}$ **Inversdiode****Inverse diode****Elektrische Eigenschaften****Electrical properties**Höchstzulässige Werte

$I_{F(max)}$		50 A
I_{FRM}	$t_p = 1 \text{ ms}$	100 A

Charakteristische Werte

V_F	$i_F = 50 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ.	1,8	V
	$i_F = 50 \text{ A}, V_{GE} = 0 \text{ V}, t_{vj} = 25^\circ\text{C}$	max.	2,5	V
I_{RM}	$i_{FM} = 50 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ $V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ.	7	A
	$i_{FM} = 50 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ $V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$	typ.	15	A
Q_r	$i_{FM} = 50 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ $V_{EG} = 10 \text{ V}, t_{vj} = 25^\circ\text{C}$	typ.	1	μAs
	$i_{FM} = 50 \text{ A}, -di_F/dt = 100 \text{ A}/\mu\text{s}$ $V_{EG} = 10 \text{ V}, t_{vj} = 125^\circ\text{C}$	typ.	3,5	μAs

Thermische Eigenschaften**Thermal properties**

R_{thJC}	DC, pro Baustein / per module	0,167 $^\circ\text{C/W}$
	DC, pro Zweig / per arm	1 $^\circ\text{C/W}$

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

Isoliermaterial: Al N
 V_{ISOL} RMS ($f=50 \text{ Hz}, t=1 \text{ min}$)

Internal insulation

Insulating material: Al N
 2,5 kV

Mechanische Eigenschaften**Mechanical properties**

G	690 g
M 1	3 Nm
M 2	2 Nm

Maßbild
 Seite 184, Nr. 9

outline
 page 184, no. 9