

Transistor	Transistor
Elektrische Eigenschaften	Electrical properties
Höchstzulässige Werte	Maximum rated values
V_{CES}	600 V
I_C	50 A
I_{CRM} $t_p = 1$ ms	100 A
P_{tot} $t_C = 25^\circ\text{C}$	250 W
V_{GE}	20 V
V_{EG}	20 V

Charakteristische Werte	Characteristic values
$V_{CE\ sat}$ $I_{CM} = 50$ A, $V_{GE} = 15$ V, $t_{vj} = 25^\circ\text{C}$ typ.	2,0 V
$V_{CE\ sat}$ $I_{CM} = 50$ A, $V_{GE} = 15$ V, $t_{vj} = 25^\circ\text{C}$ max.	2,5 V
$V_{GE\ (th)}$ $V_{CE} = 5$ V, $I_C = 50$ mA, $t_{vj} = 25^\circ\text{C}$ min.	3 V
$V_{GE\ (th)}$ $V_{CE} = 5$ V, $I_C = 50$ mA, $t_{vj} = 25^\circ\text{C}$ max.	6 V
C_{ies} $V_{CE} = 10$ V, $V_{GE} = 0$ V, $f_o = 1$ MHz, $t_{vj} = 25^\circ\text{C}$ typ.	4,0 nF
i_{CES} $V_{CE} = 600$ V, $V_{GE} = 0$ V, $t_{vj} = 25^\circ\text{C}$ typ.	0,3 mA
i_{CES} $V_{CE} = 600$ V, $V_{GE} = 0$ V, $t_{vj} = 125^\circ\text{C}$ typ.	2 mA
i_{GES} $V_{GE} = 20$ V, $t_{vj} = 25^\circ\text{C}$ typ.	50 nA
i_{GES} $V_{GE} = 20$ V, $t_{vj} = 25^\circ\text{C}$ max.	500 nA
i_{EGS} $V_{EG} = 20$ V, $t_{vj} = 25^\circ\text{C}$ typ.	50 nA
i_{EGS} $V_{EG} = 20$ V, $t_{vj} = 25^\circ\text{C}$ max.	500 nA
t_{on} $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 25^\circ\text{C}$ typ.	0,4 μs
t_{on} $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 125^\circ\text{C}$ typ.	0,5 μs
t_s $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $V_{LR} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 25^\circ\text{C}$ typ.	0,5 μs
t_s $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $V_{LR} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 125^\circ\text{C}$ typ.	0,6 μs
t_f $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $V_{LR} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 25^\circ\text{C}$ typ.	0,3 μs
t_f $I_{CM} = 50$ A, $V_{CE} = 300$ V, $V_{LF} = 15$ V, $V_{LR} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 125^\circ\text{C}$ typ.	0,5 μs

Bedingungen für den Kurzschlußschutz	Conditions for protection against short circuits
$t_{fg} = 10\ \mu\text{s}$, $V_{LF} = V_{LR} = 15$ V, $R_G = 51\ \Omega$, $t_{vj} = 125^\circ\text{C}$,	$V_{CC} = 350$ V, $V_{CEM} = 500$ V, $i_{CMK\ 1} \approx 250$ A, $i_{CMK\ 2} \approx 150$ A,

Thermische Eigenschaften	Thermal properties
R_{thJC} DC, pro Baustein / per module	0,084 $^\circ\text{C/W}$
DC, pro Zweig / per arm	0,500 $^\circ\text{C/W}$

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

Inversdiode	Inverse diode
Elektrische Eigenschaften	Electrical properties

Höchstzulässige Werte	Maximum rated values
$I_{F(max)}$	50 A
I_{FRM} $t_p = 1$ ms	100 A

Charakteristische Werte	Characteristic values
V_F $I_F = 50$ A, $V_{GE} = 0$ V, $t_{vj} = 25^\circ\text{C}$ typ.	1,7 V
V_F $I_F = 50$ A, $V_{GE} = 0$ V, $t_{vj} = 25^\circ\text{C}$ max.	2,5 V
I_{RM} $I_{FM} = 50$ A, $-di_F/dt = 100$ A/ μs $V_{EG} = 10$ V, $t_{vj} = 25^\circ\text{C}$ typ.	4 A
I_{RM} $I_{FM} = 50$ A, $-di_F/dt = 100$ A/ μs $V_{EG} = 10$ V, $t_{vj} = 125^\circ\text{C}$ typ.	8 A
Q_r $I_{FM} = 50$ A, $-di_F/dt = 100$ A/ μs $V_{EG} = 10$ V, $t_{vj} = 25^\circ\text{C}$ typ.	0,3 μAs
Q_r $I_{FM} = 50$ A, $-di_F/dt = 100$ A/ μs $V_{EG} = 10$ V, $t_{vj} = 125^\circ\text{C}$ typ.	1,2 μAs

Thermische Eigenschaften	Thermal properties
R_{thJC} DC, pro Baustein / per module	0,167 $^\circ\text{C/W}$
DC, pro Zweig / per arm	1,000 $^\circ\text{C/W}$

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

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

Mechanische Eigenschaften	Mechanical properties
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G	505 g
M 1	3 Nm
M 2	2 Nm

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