Elektrische Eigenschaften / Electrical properties

Höchstzulässige Werte / Maximum rated values

Diode Gleichrichter/ Diode Rectifier

Periodische Rückw. Spitzensperrspannung repetitive peak reverse voltage		V_{RRM}	1600	V
Durchlaßstrom Grenzeffektivwert RMS forward current per chip		I_{FRMSM}	60	A
Dauergleichstrom DC forward current	T_C = 80°C	I_d	75	A
Stoßstrom Grenzwert surge forward current	t_P = 10 ms, T_{vj} = 25°C t_P = 10 ms, T_{vj} = 150°C	I_{FSM}	500 400	A A
Grenzlastintegral I^2t - value	t_P = 10 ms, T_{vj} = 25°C t_P = 10 ms, T_{vj} = 150°C	I^2t	1250 800	A^2s A^2s

Transistor Wechselrichter/ Transistor Inverter

Kollektor-Emitter-Sperrspannung collector-emitter voltage		V_{CES}	600	V
Kollektor-Dauergleichstrom DC-collector current	Tc = 70 °C T_C = 25 °C	$I_{C,nom.}$ I_C	75 100	A A
Periodischer Kollektor Spitzenstrom repetitive peak collector current	t_P = 1 ms, T_C = 70 °C	I_{CRM}	150	A
Gesamt-Verlustleistung total power dissipation	T_C = 25°C	P_{tot}	310	W
Gate-Emitter-Spitzenspannung gate-emitter peak voltage		V_{GES}	+/- 20V	V

Diode Wechselrichter/ Diode Inverter

Dauergleichstrom DC forward current	Tc = 70 °C	I_F	75	A
Periodischer Spitzenstrom repetitive peak forw. current	t_P = 1 ms	I_{FRM}	150	A
Grenzlastintegral I^2t - value	V_R = 0V, t_p = 10ms, T_{vj} = 125°C	I^2t	920	A^2s

Transistor Brems-Chopper/ Transistor Brake-Chopper

Kollektor-Emitter-Sperrspannung collector-emitter voltage		V_{CES}	600	V
Kollektor-Dauergleichstrom DC-collector current	T_C = 80 °C T_C = 25 °C	$I_{C,nom.}$ I_C	37,5 50	A A
Periodischer Kollektor Spitzenstrom repetitive peak collector current	t_P = 1 ms, T_C = 80°C	I_{CRM}	75	A
Gesamt-Verlustleistung total power dissipation	T_C = 25°C	P_{tot}	180	W
Gate-Emitter-Spitzenspannung gate-emitter peak voltage		V_{GES}	+/- 20V	V

Diode Brems-Chopper/ Diode Brake-Chopper

Dauergleichstrom DC forward current	Tc = 70 °C	I_F	17,5	A
Periodischer Spitzenstrom repetitive peak forw. current	t_P = 1 ms	I_{FRM}	35	A

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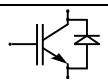

Modul Isolation/ Module Isolation

Isolations-Prüfspannung insulation test voltage	RMS, f = 50 Hz, t = 1 min. NTC connected to Baseplate	V_{ISOL}		2,5	kV

Elektrische Eigenschaften / Electrical properties

Charakteristische Werte / Characteristic values

Diode Gleichrichter/ Diode Rectifier			**min.**	**typ.**	**max.**	
Durchlaßspannung forward voltage	T_{vj} = 150°C, I_F = 75 A	V_F	-	1,15	-	V
Schleusenspannung threshold voltage	T_{vj} = 150°C	$V_{(TO)}$	-	-	0,8	V
Ersatzwiderstand slope resistance	T_{vj} = 150°C	r_T	-	-	6,5	mΩ
Sperrstrom reverse current	T_{vj} = 150°C, V_R = 1600 V	I_R	-	3	-	mA
Modul Leitungswiderstand, Anschlüsse-Chip lead resistance, terminals-chip	T_C = 25°C	$R_{AA'+CC'}$	-	4	-	mΩ

Transistor Wechselrichter/ Transistor Inverter			**min.**	**typ.**	**max.**	
Kollektor-Emitter Sättigungsspannung collector-emitter saturation voltage	V_{GE} = 15V, T_{vj} = 25°C, I_C = 75 A V_{GE} = 15V, T_{vj} = 125°C, I_C = 75 A	$V_{CE\ sat}$	- -	1,95 2,2	2,45 -	V V
Gate-Schwellenspannung gate threshold voltage	$V_{CE} = V_{GE}$, T_{vj} = 25°C, I_C = 1,5 mA	$V_{GE(TO)}$	4,5	5,5	6,5	V
Eingangskapazität input capacitance	f = 1MHz, T_{vj} = 25°C V_{CE} = 25 V, V_{GE} = 0 V	C_{ies}	-	3,3	-	nF
Kollektor-Emitter Reststrom collector-emitter cut-off current	V_{GE} = 0V, T_{vj} = 25°C, V_{CE} = 600 V V_{GE} = 0V, T_{vj} =125°C, V_{CE} = 600 V	I_{CES}	- -	3,0 4,0	500 -	µA mA
Gate-Emitter Reststrom gate-emitter leakage current	V_{CE} = 0V, V_{GE} =20V, T_{vj} =25°C	I_{GES}	-	-	300	nA
Einschaltverzögerungszeit (ind. Last) turn on delay time (inductive load)	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 25°C, R_G = 18 Ohm V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm	$t_{d,on}$	- -	70 70	- -	ns ns
Anstiegszeit (induktive Last) rise time (inductive load)	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 25°C, R_G = 18 Ohm V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm	t_r	- -	65 70	- -	ns ns
Abschaltverzögerungszeit (ind. Last) turn off delay time (inductive load)	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 25°C, R_G = 18 Ohm V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm	$t_{d,off}$	- -	310 345	- -	ns ns
Fallzeit (induktive Last) fall time (inductive load)	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 25°C, R_G = 18 Ohm V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm	t_f	- -	30 55	- -	ns ns
Einschaltverlustenergie pro Puls turn-on energy loss per pulse	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm L_S = 50 nH	E_{on}	-	2,8	-	mWs
Abschaltverlustenergie pro Puls turn-off energy loss per pulse	$I_C = I_{Nenn}$, V_{CC} = 300 V V_{GE} = ±15V, T_{vj} = 125°C, R_G = 18 Ohm L_S = 50 nH	E_{off}	-	3	-	mWs
Kurzschlußverhalten SC Data	$t_P \leq 10\mu s$, $V_{GE} \leq 15V$, R_G = 18 Ohm $T_{vj} \leq 125°C$, V_{CC} = 360 V dI/dt = 3500 A/µs	I_{SC}	-	300	-	A