



**Diode, Wechselrichter / Diode, Inverter**

**Höchstzulässige Werte / Maximum Rated Values**

Periodische Spitzensperrspannung Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	$V_{RRM}$	650	V
Dauergleichstrom Continuous DC forward current		$I_F$	400	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	$I_{FRM}$	800	A
Grenzlastintegral $I^2t$ - value	$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$	$I^2t$	8800 8500	$\text{A}^2\text{s}$ $\text{A}^2\text{s}$

**Charakteristische Werte / Characteristic Values**

			min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 400\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 400\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 400\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$V_F$	1,55 1,50 1,45	1,95	V V V
Rückstromspitze Peak reverse recovery current	$I_F = 400\text{ A}, -di_F/dt = 5500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$I_{RM}$	210 280 300		A A A
Sperrverzögerungsladung Recovered charge	$I_F = 400\text{ A}, -di_F/dt = 5500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$Q_r$	18,0 30,0 34,0		$\mu\text{C}$ $\mu\text{C}$ $\mu\text{C}$
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 400\text{ A}, -di_F/dt = 5500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$E_{rec}$	3,60 7,25 8,30		mJ mJ mJ
Wärmewiderstand, Chip bis Kühl-Flüssigkeit Thermal resistance, junction to cooling fluid	pro Diode / per diode cooling fluid = 50% water/50% ethylenglycol; $\Delta V/\Delta t = 10,0\text{ dm}^3/\text{min}$		$R_{thJF}$		0,28	K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\text{ op}}$	-40	150	$^{\circ}\text{C}$

**NTC-Widerstand / NTC-Thermistor**

**Charakteristische Werte / Characteristic Values**

			min.	typ.	max.	
Nennwiderstand Rated resistance	$T_C = 25^{\circ}\text{C}$	$R_{25}$		5,00		$\text{k}\Omega$
Abweichung von R100 Deviation of R100	$T_C = 100^{\circ}\text{C}, R_{100} = 493\ \Omega$	$\Delta R/R$	-5		5	%
Verlustleistung Power dissipation	$T_C = 25^{\circ}\text{C}$	$P_{25}$			20,0	mW
B-Wert B-value	$R_2 = R_{25} \exp [B_{25/50}(1/T_2 - 1/(298,15\text{ K}))]$	$B_{25/50}$		3375		K
B-Wert B-value	$R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298,15\text{ K}))]$	$B_{25/80}$		3411		K
B-Wert B-value	$R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298,15\text{ K}))]$	$B_{25/100}$		3433		K

Angaben gemäß gültiger Application Note.  
Specification according to the valid application note.

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**Modul / Module**

Isolations-Prüfspannung Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V <sub>ISOL</sub>	2,5		kV
Material Modulgrundplatte Material of module baseplate			Cu		
Innere Isolation Internal isolation	Basisisolierung (Schutzklasse 1, EN61140) basic insulation (class 1, IEC 61140)		Al <sub>2</sub> O <sub>3</sub>		
Kriechstrecke Creepage distance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		12,0 6,1		mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		12,0 6,1		mm
Vergleichszahl der Kriechwegbildung Comperative tracking index		CTI	> 200		
			min. typ. max.		
Druckabfall im Kühlkreislauf* Pressure drop in cooling circuit*	$\Delta V/\Delta t = 10,0 \text{ dm}^3/\text{min}$ ; T <sub>F</sub> = 25°C cooling fluid = 50% water/50% ethylenglycol	$\Delta p$		50	mbar
Höchstzulässiger Druck im Kühlkreislauf Maximum pressure in cooling circuit		p		2,0	bar
Modulstreuintduktivität Stray inductance module		L <sub>SCE</sub>		30	nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T <sub>F</sub> = 25°C, pro Schalter / per switch	R <sub>CC+EE'</sub>		1,00	mΩ
Lagertemperatur Storage temperature		T <sub>stg</sub>	-40		125 °C
Anzugsdrehmoment f. Modulmontage Mounting torque for modul mounting	Schraube M5 - Montage gem. gültiger Applikationsschrift Screw M5 - Mounting according to valid application note	M	3,00		6,00 Nm
Anzugsdrehmoment f. elektr. Anschlüsse Terminal connection torque	Schraube M6 - Montage gem. gültiger Applikationsschrift Screw M6 - Mounting according to valid application note	M	3,0	-	6,0 Nm
Gewicht Weight		G		665	g

Der Kollektor-Dauergleichstrom / Dioden-Dauergleichstrom ist durch die Lastanschlüsse begrenzt.  
DC-Collector current / diode forward current is limited by the power terminals.

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