

## 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		$I_F$	450	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	$I_{FRM}$	900	A
Grenzlastintegral $I^2t$ - value	$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$	$I^2t$	15000 14500	$\text{A}^2\text{s}$ $\text{A}^2\text{s}$

### Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 450\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 25^{\circ}\text{C}$		1,55	1,95	V
	$I_F = 450\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		1,50		V
	$I_F = 450\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		1,45		V
Rückstromspitze Peak reverse recovery current	$I_F = 450\text{ A}, -di_F/dt = 4900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		185		A
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		270		A
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		285		A
Sperrverzögerungsladung Recovered charge	$I_F = 450\text{ A}, -di_F/dt = 4900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		26,5		$\mu\text{C}$
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		30,0		$\mu\text{C}$
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		35,5		$\mu\text{C}$
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 450\text{ A}, -di_F/dt = 4900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		5,90		mJ
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		8,90		mJ
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		10,5		mJ
Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case	pro Diode / per diode	$R_{thJC}$		0,165	K/W
Wärmewiderstand, Gehäuse bis Kühlkörper Thermal resistance, case to heatsink	pro Diode / per diode $\lambda_{Paste} = 1\text{ W}/(\text{m}\cdot\text{K}) / \lambda_{grease} = 1\text{ W}/(\text{m}\cdot\text{K})$	$R_{thCH}$	0,0400		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	$T_{NTC} = 25^{\circ}\text{C}$	$R_{25}$	5,00		$\text{k}\Omega$
Abweichung von R100 Deviation of R100	$T_{NTC} = 100^{\circ}\text{C}, R_{100} = 493\ \Omega$	$\Delta R/R$	-5	5	%
Verlustleistung Power dissipation	$T_{NTC} = 25^{\circ}\text{C}$	$P_{25}$		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.

## 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		14,5 13,0		mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		12,5 10,0		mm
Vergleichszahl der Kriechwegbildung Comperative tracking index		CTI	> 200		
			min.	typ.	max.
Modulstreuinduktivität Stray inductance module		L <sub>sCE</sub>		20	nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T <sub>C</sub> = 25°C, pro Schalter / per switch	R <sub>CC+EE'</sub>		1,10	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		345	g