

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	300	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	600	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 7850	A^2s A^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 300\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 25^{\circ}\text{C}$		1,55	1,95	V
	$I_F = 300\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		1,50		V
	$I_F = 300\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		1,45		V
Rückstromspitze Peak reverse recovery current	$I_F = 300\text{ A}, -di_F/dt = 4500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		150		A
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		210		A
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		225		A
Sperrverzögerungsladung Recovered charge	$I_F = 300\text{ A}, -di_F/dt = 4500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		18,5		μC
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		22,0		μC
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		25,5		μC
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 300\text{ A}, -di_F/dt = 4500\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		4,05		mJ
	$V_R = 300\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		6,45		mJ
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		7,45		mJ
Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case	pro Diode / per diode	R_{thJC}		0,215	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}	0,0410		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 _{ISOL}	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 ₂ O ₃		
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.
Modulstreuintduktivität Stray inductance module		L _{sCE}		20	nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T _C = 25°C, pro Schalter / per switch	R _{CC+EE'}		1,10	mΩ
Lagertemperatur Storage temperature		T _{stg}	-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