

Diode, Wechselrichter / Diode, Inverter

Höchstzulässige Werte / Maximum Rated Values

Periodische Spitzensperrspannung Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	1700	V
Dauergleichstrom Continuous DC forward current		I_F	1500	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_p = 1\text{ ms}$	I_{FRM}	3000	A
Grenzlastintegral I^2t - value	$V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_p = 10\text{ ms}, T_{vj} = 175^{\circ}\text{C}$	I^2t	580 485	kA^2s kA^2s
Spitzenverlustleistung Maximum power dissipation	$T_{vj} = 175^{\circ}\text{C}$	P_{RQM}	1500	kW

Charakteristische Werte / Characteristic Values

				min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 1500\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1500\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1500\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	V_F		1,75 1,72 1,70	2,10 2,05 2,05	V V V
Rückstromspitze Peak reverse recovery current	$I_F = 1500\text{ A}, -di_F/dt = 8550\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	I_{RM}		1250 1450 1550		A A A
Sperrverzögerungsladung Recovered charge	$I_F = 1500\text{ A}, -di_F/dt = 8550\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	Q_r		325 550 700		μC μC μC
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 1500\text{ A}, -di_F/dt = 8550\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{rec}		185 325 425		mJ mJ mJ
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro Diode / per diode valid with IFX pre-applied thermal interface material		R_{thJH}			48,6	K/kW
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\text{ op}}$	-40		175	$^{\circ}\text{C}$

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}	4,0		kV
Material Modulgrundplatte Material of module baseplate			Cu		
Kriechstrecke Creepage distance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		36,0 28,0		mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		21,0 19,0		mm
Vergleichszahl der Kriechwegbildung Comperative tracking index		CTI	> 400		
			min.	typ.	max.
Modulstreuintuktivität Stray inductance module		L _{sCE}		10	nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T _H = 25°C, pro Schalter / per switch	R _{CC'+EE'} R _{AA'+CC'}		0,10 0,09	mΩ
Lagertemperatur Storage temperature		T _{stg}	-40		150 °C
Höchstzulässige Bodenplattenbetriebstemperatur Maximum baseplate operation temperature		T _{BPmax}			150 °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 M4 - Montage gem. gültiger Applikationsschrift Screw M4 - Mounting according to valid application note Schraube M8 - Montage gem. gültiger Applikationsschrift Screw M8 - Mounting according to valid application note	M	1,8 8,0	- -	2,1 10 Nm
Gewicht Weight		G		1400	g

Lagerung und Transport von Modulen mit TIM: siehe AN2012-07
Storage and shipment of modules with TIM: see AN2012-07