



**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		$I_F$	1600	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	$I_{FRM}$	3200	A
Grenzlastintegral $I^2t$ - value	$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$	$I^2t$	465	$\text{kA}^2\text{s}$
			440	$\text{kA}^2\text{s}$
Spitzenverlustleistung Maximum power dissipation	$T_{vj} = 125^{\circ}\text{C}$	$P_{RQM}$	1600	kW
Mindesteinschaltdauer Minimum turn-on time		$t_{on\ min}$	10,0	$\mu\text{s}$

**Charakteristische Werte / Characteristic Values**

			min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 1600\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$		1,80	2,20	V
	$I_F = 1600\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 125^{\circ}\text{C}$	$V_F$	1,90		V
	$I_F = 1600\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 150^{\circ}\text{C}$		1,95		V
Rückstromspitze Peak reverse recovery current	$I_F = 1600\text{ A}, -di_F/dt = 9900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$		1800		A
		$T_{vj} = 125^{\circ}\text{C}$	$I_{RM}$	2050		A
		$T_{vj} = 150^{\circ}\text{C}$		2050		A
Sperrverzögerungsladung Recovered charge	$I_F = 1600\text{ A}, -di_F/dt = 9900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$		390		$\mu\text{C}$
		$T_{vj} = 125^{\circ}\text{C}$	$Q_r$	680		$\mu\text{C}$
		$T_{vj} = 150^{\circ}\text{C}$		765		$\mu\text{C}$
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 1600\text{ A}, -di_F/dt = 9900\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 900\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$		270		mJ
		$T_{vj} = 125^{\circ}\text{C}$	$E_{rec}$	465		mJ
		$T_{vj} = 150^{\circ}\text{C}$		530		mJ
Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case	pro Diode / per diode	$R_{thJC}$			19,6	K/kW
Wärmewiderstand, Gehäuse bis Kühlkörper Thermal resistance, case to heatsink	pro Diode / per diode $\lambda_{Paste} = 1\text{ W}/(\text{m}\cdot\text{K}) / \lambda_{grease} = 1\text{ W}/(\text{m}\cdot\text{K})$	$R_{thCH}$		16,0		K/kW
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\ op}$	-40		150	$^{\circ}\text{C}$

prepared by: WB	date of publication: 2016-01-18
approved by: IB	revision: V3.1



**Modul / Module**

Isolations-Prüfspannung Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V <sub>ISOL</sub>	4,0		kV
Material Modulgrundplatte Material of module baseplate			AlSiC		
Kriechstrecke Creepage distance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		32,2 32,2		mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal		19,1 19,1		mm
Vergleichszahl der Kriechwegbildung Comperative tracking index		CTI	> 400		
			min.	typ.	max.
Modulstreuinduktivität Stray inductance module		L <sub>SCE</sub>		9,0	nH
Modulleitungswiderstand, Anschlüsse - Chip Module lead resistance, terminals - chip	T <sub>c</sub> = 25°C, pro Schalter / per switch	R <sub>CC+EE'</sub>		0,15	mΩ
Lagertemperatur Storage temperature		T <sub>stg</sub>	-40		150 °C
Anzugsdrehmoment f. Modulmontage Mounting torque for modul mounting	Schraube M6 - Montage gem. gültiger Applikationsschrift Screw M6 - Mounting according to valid application note	M	4,25		5,75 Nm
Anzugsdrehmoment f. elektr. Anschlüsse Terminal connection torque	Schraube M4 - Montage gem. gültiger Applikationsschrift Screw M4 - Mounting according to valid application note	M	1,8	-	2,1 Nm
	Schraube M8 - Montage gem. gültiger Applikationsschrift Screw M8 - Mounting according to valid application note		8,0	-	10 Nm
Gewicht Weight		G		800	g

prepared by: WB	date of publication: 2016-01-18
approved by: IB	revision: V3.1