

Diode, Brems-Chopper / Diode, Brake-Chopper

Höchstzulässige Werte / Maximum Rated Values

Periodische Spitzensperrspannung Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	1200	V
Dauergleichstrom Continuous DC forward current		I_F	900	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	1800	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	91,0 88,0	kA^2s kA^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 900\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 25^{\circ}\text{C}$		1,65	2,15	V
	$I_F = 900\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		1,55	2,00	V
	$I_F = 900\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		1,50		V
Rückstromspitze Peak reverse recovery current	$I_F = 900\text{ A}, -di_F/dt = 7800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		560		A
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		750		A
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		800		A
Sperrverzögerungsladung Recovered charge	$I_F = 900\text{ A}, -di_F/dt = 7800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		89,0		μC
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		180		μC
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		210		μC
Abschaltenergie pro Puls Reverse recovery energy	$I_F = 900\text{ A}, -di_F/dt = 7800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $T_{vj} = 25^{\circ}\text{C}$		43,0		mJ
	$V_R = 600\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		87,0		mJ
	$V_{GE} = -15\text{ V}$ $T_{vj} = 150^{\circ}\text{C}$		100		mJ
Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case	pro Diode / per diode			44,2	K/kW
Wärmewiderstand, Gehäuse bis Kühlkörper Thermal resistance, case to heatsink	pro Diode / per diode $\lambda_{\text{Paste}} = 1\text{ W}/(\text{m}\cdot\text{K})$ / $\lambda_{\text{grease}} = 1\text{ W}/(\text{m}\cdot\text{K})$		12,4		K/kW
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\text{ op}}$	-40	150	$^{\circ}\text{C}$

Diode, Revers / Diode, Reverse

Höchstzulässige Werte / Maximum Rated Values

Periodische Spitzensperrspannung Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	1200	V
Dauergleichstrom Continuous DC forward current		I_F	150	A
Periodischer Spitzenstrom Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	300	A
Grenzlastintegral I^2t - value	$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$	I^2t	0,17	kA^2s

Charakteristische Werte / Characteristic Values

		min.	typ.	max.	
Durchlassspannung Forward voltage	$I_F = 150\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 25^{\circ}\text{C}$		1,65	2,15	V
	$I_F = 150\text{ A}, V_{GE} = 0\text{ V}$ $T_{vj} = 125^{\circ}\text{C}$		1,65		V
Wärmewiderstand, Chip bis Gehäuse Thermal resistance, junction to case	pro Diode / per diode			225	K/kW
Wärmewiderstand, Gehäuse bis Kühlkörper Thermal resistance, case to heatsink	pro Diode / per diode $\lambda_{\text{Paste}} = 1\text{ W}/(\text{m}\cdot\text{K})$ / $\lambda_{\text{grease}} = 1\text{ W}/(\text{m}\cdot\text{K})$		120		K/kW
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, $f = 50 \text{ Hz}$, $t = 1 \text{ min.}$	V_{ISOL}		4,0		kV
Material Modulgrundplatte Material of module baseplate				Cu		
Innere Isolation Internal isolation	Basisisolation (Schutzklasse 1, EN61140) basic insulation (class 1, IEC 61140)			Al_2O_3		
Kriechstrecke Creepage distance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal			33,0 33,0		mm
Luftstrecke Clearance	Kontakt - Kühlkörper / terminal to heatsink Kontakt - Kontakt / terminal to terminal			19,0 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	$T_c = 25^{\circ}\text{C}$, pro Schalter / per switch	R_{CC+EE}		0,23		$\text{m}\Omega$
Lagertemperatur Storage temperature		T_{stg}	-40		150	$^{\circ}\text{C}$
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 Nm
Gewicht Weight		G		1400		g