

初步数据
Preliminary Data

二极管，制动-斩波器 / Diode, Brake-Chopper
最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	650	V
连续正向直流电流 Continuous DC forward current		I_F	300	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	600	A
I ² t-值 I ² t - 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 ² t	6450 5950	A ² s A ² s

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 300\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 300\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 300\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	V_F	1,55 1,50 1,45	1,95	V V V
反向恢复峰值电流 Peak reverse recovery current	$I_F = 300\text{ A}, -di_F/dt = 4800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	I_{RM}	145 205 220		A A A
恢复电荷 Recovered charge	$I_F = 300\text{ A}, -di_F/dt = 4800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	Q_r	9,20 20,0 23,0		μC μC μC
反向恢复损耗 (每脉冲) Reverse recovery energy	$I_F = 300\text{ A}, -di_F/dt = 4800\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 300\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	E_{rec}	2,65 5,50 6,30		mJ mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}		0,32	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{Paste} = 1\text{ W}/(\text{m}\cdot\text{K}) / \lambda_{grease} = 1\text{ W}/(\text{m}\cdot\text{K})$		R_{thCH}	0,185		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\ op}$	-40	150	$^{\circ}\text{C}$

反向二极管 / Diode, Reverse
最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$	V_{RRM}	650	V
连续正向直流电流 Continuous DC forward current		I_F	100	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	200	A
I ² t-值 I ² t - 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 ² t	1250 1150	A ² s A ² s

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 100\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 100\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 100\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	V_F	1,55 1,50 1,45	1,95	V V V
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}		0,75	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{Paste} = 1\text{ W}/(\text{m}\cdot\text{K}) / \lambda_{grease} = 1\text{ W}/(\text{m}\cdot\text{K})$		R_{thCH}	0,435		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\ op}$	-40	150	$^{\circ}\text{C}$

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初步数据
Preliminary Data

负温度系数热敏电阻 / NTC-Thermistor
特征值 / Characteristic Values

			min.	typ.	max.	
额定电阻值 Rated resistance	$T_C = 25^\circ\text{C}$	R_{25}		5,00		k Ω
R100 偏差 Deviation of R100	$T_C = 100^\circ\text{C}, R_{100} = 493 \Omega$	$\Delta R/R$	-5		5	%
耗散功率 Power dissipation	$T_C = 25^\circ\text{C}$	P_{25}			20,0	mW
B-值 B-value	$R_2 = R_{25} \exp [B_{25/50}(1/T_2 - 1/(298,15 \text{ K}))]$	$B_{25/50}$		3375		K
B-值 B-value	$R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298,15 \text{ K}))]$	$B_{25/80}$		3411		K
B-值 B-value	$R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298,15 \text{ K}))]$	$B_{25/100}$		3433		K

根据应用手册标定
Specification according to the valid application note.

模块 / Module

绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V_{ISOL}		4,0		kV
模块基板材料 Material of module baseplate				Cu		
内部绝缘 Internal isolation	基本绝缘 (class 1, IEC 61140) basic insulation (class 1, IEC 61140)			Al_2O_3		
爬电距离 Creepage distance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal			15,0 12,5		mm
电气间隙 Clearance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal			11,0 7,0		mm
相对电痕指数 Comperative tracking index		CTI		> 200		
			min.	typ.	max.	
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个模块 / per module $\lambda_{\text{Paste}} = 1 \text{ W}/(\text{m}\cdot\text{K}) / \lambda_{\text{grease}} = 1 \text{ W}/(\text{m}\cdot\text{K})$	R_{thCH}		0,009		K/W
杂散电感, 模块 Stray inductance module		L_{sCE}		20		nH
模块引线电阻, 端子-芯片 Module lead resistance, terminals - chip	$T_C = 25^\circ\text{C}$, 每个开关 / per switch	$R_{\text{CC+EE}}$		1,40		m Ω
储存温度 Storage temperature		T_{stg}	-40		125	$^\circ\text{C}$
模块安装的安装扭矩 Mounting torque for modul mounting	螺丝 M5 根据相应的应用手册进行安装 Screw M5 - Mounting according to valid application note	M	3,00	-	6,00	Nm
端子联接扭矩 Terminal connection torque	螺丝 M6 根据相应的应用手册进行安装 Screw M6 - Mounting according to valid application note	M	3,0	-	6,0	Nm
重量 Weight		G		400		g

Der Dauergleichstrom ist auf 225A @ $T_C=100^\circ\text{C}$, 240A @ $T_C=90^\circ\text{C}$ und 300A @ $T_C=50^\circ\text{C}$ rms pro Anschlussterminal begrenzt. ($T_{\text{terminal}}=125^\circ\text{C}$)
The DC forward current is limited to 225A @ $T_C=100^\circ\text{C}$, 240A @ $T_C=90^\circ\text{C}$ und 300A @ $T_C=50^\circ\text{C}$ rms per connector terminal. ($T_{\text{terminal}}=125^\circ\text{C}$)

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