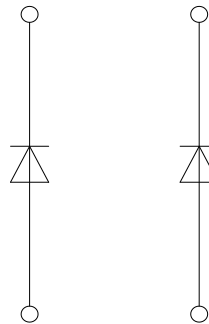


IHM-B 模块
IHM-B module



$$V_{CES} = 3300V$$

$$I_{C\ nom} = 1000A / I_{CRM} = 2000A$$

典型应用

- 中压变流器
- 电机传动
- 牵引变流器
- UPS系统
- 风力发电机

Typical Applications

- Medium voltage converters
- Motor drives
- Traction drives
- UPS systems
- Wind turbines

电气特性

- 高直流电压稳定性
- 低开关损耗

Electrical Features

- High DC stability
- Low switching losses

机械特性

- 碳化硅铝 (AlSiC) 基板提供更高的温度循环能力
- 封装的 CTI > 600
- IHM B 封装
- 绝缘的基板

Mechanical Features

- AlSiC base plate for increased thermal cycling capability
- Package with CTI > 600
- IHM B housing
- Isolated base plate

Module Label Code

Barcode Code 128



0000012345600000000000

DMX - Code



Content of the Code

Content of the Code	Digit
Module Serial Number	1 - 5
Module Material Number	6 - 11
Production Order Number	12 - 19
Datecode (Production Year)	20 - 21
Datecode (Production Week)	22 - 23

二极管, 逆变器 / Diode, Inverter

最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	$T_{vj} = -40^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	V_{RRM}	3300 3300	V
连续正向直流电流 Continuous DC forward current		I_F	1000	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1\text{ ms}$	I_{FRM}	2000	A
I^2t -值 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	260 245	kA^2s kA^2s
最大损耗功率 Maximum power dissipation	$T_{vj} = 125^{\circ}\text{C}$	P_{RQM}	1600	kW
最小开通时间 Minimum turn-on time		$t_{on\ min}$	10,0	μs

特征值 / Characteristic Values

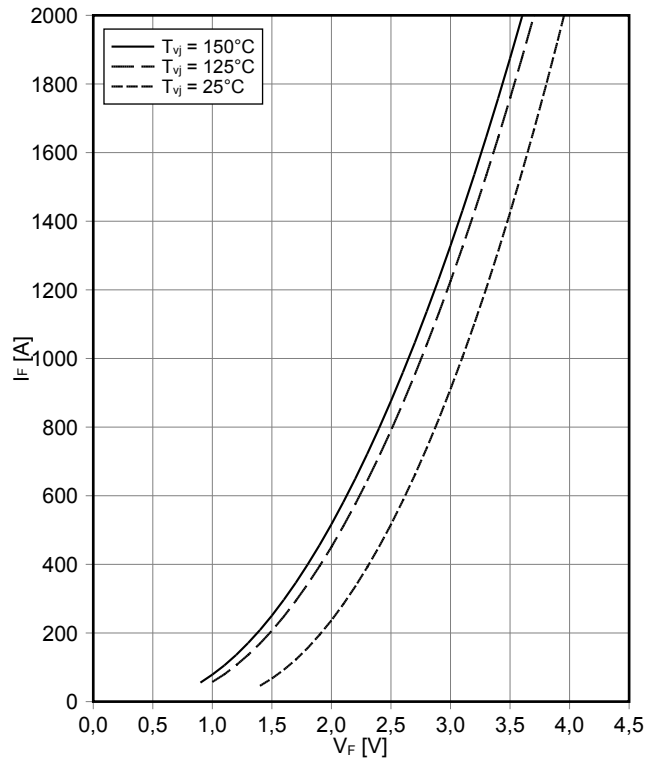
			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 1000\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1000\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1000\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	V_F		3,10 2,75 2,65	3,85 3,25 V V V
反向恢复峰值电流 Peak reverse recovery current	$I_F = 1000\text{ A}, -di_F/dt = 3000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 1800\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	I_{RM}		1000 1200 1250	A A A
恢复电荷 Recovered charge	$I_F = 1000\text{ A}, -di_F/dt = 3000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 1800\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	Q_r		450 900 1050	μC μC μC
反向恢复损耗 (每脉冲) Reverse recovery energy	$I_F = 1000\text{ A}, -di_F/dt = 3000\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 1800\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	E_{rec}		450 1100 1300	mJ mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}			21,6 K/kW
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{\text{Paste}} = 1\text{ W}/(\text{m}\cdot\text{K})$ / $\lambda_{\text{grease}} = 1\text{ W}/(\text{m}\cdot\text{K})$		R_{thCH}		16,5	K/kW
在开关状态下温度 Temperature under switching conditions			$T_{vj\ op}$	-40		150 $^{\circ}\text{C}$

模块 / Module

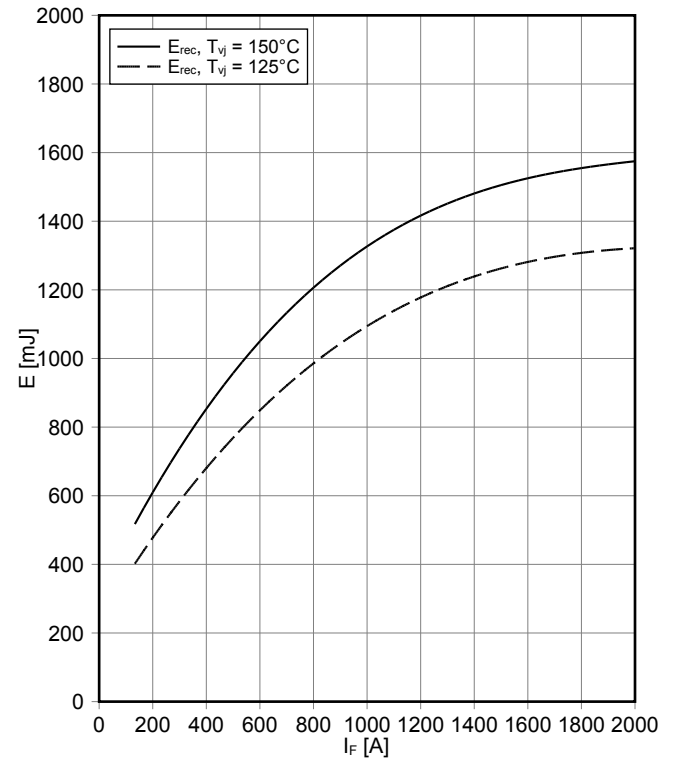
绝缘测试电压 Isolation test voltage	RMS, $f = 50 \text{ Hz}$, $t = 1 \text{ min.}$	V_{ISOL}	6,0	kV
局部放电停止电压 Partial discharge extinction voltage	RMS, $f = 50 \text{ Hz}$, $Q_{\text{PD}} \leq 10 \text{ pC}$	V_{ISOL}	2,6	kV
DC 稳定性 DC stability	$T_{\text{vj}} = 25^\circ\text{C}$, 100 fit	$V_{\text{CE D}}$	2100	V
模块基板材料 Material of module baseplate			AlSiC	
爬电距离 Creepage distance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal		32,2	mm
电气间隙 Clearance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal		19,1	mm
相对电痕指数 Comperative tracking index		CTI	> 600	
min. typ. max.				
杂散电感, 模块 Stray inductance module		L_{sCE}	18	nH
模块引线电阻, 端子-芯片 Module lead resistance, terminals - chip	$T_{\text{c}} = 25^\circ\text{C}$, 每个开关 / per switch	$R_{\text{AA}'+\text{CC}'}$	0,28	m Ω
储存温度 Storage temperature		T_{stg}	-40	150 °C
模块安装的安装扭矩 Mounting torque for modul mounting	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	4,25	5,75 Nm
端子联接扭矩 Terminal connection torque	螺丝 M4 根据相应的应用手册进行安装 Screw M4 - Mounting according to valid application note	M	1,8	- 2,1 Nm
	螺丝 M8 根据相应的应用手册进行安装 Screw M8 - Mounting according to valid application note		8,0	- 10 Nm
重量 Weight		G	800	g

Dynamische Daten gelten in Verbindung mit FZ1000R33HE3 Modul.
Dynamic Data valid in conjunction with FZ1000R33HE3 module.

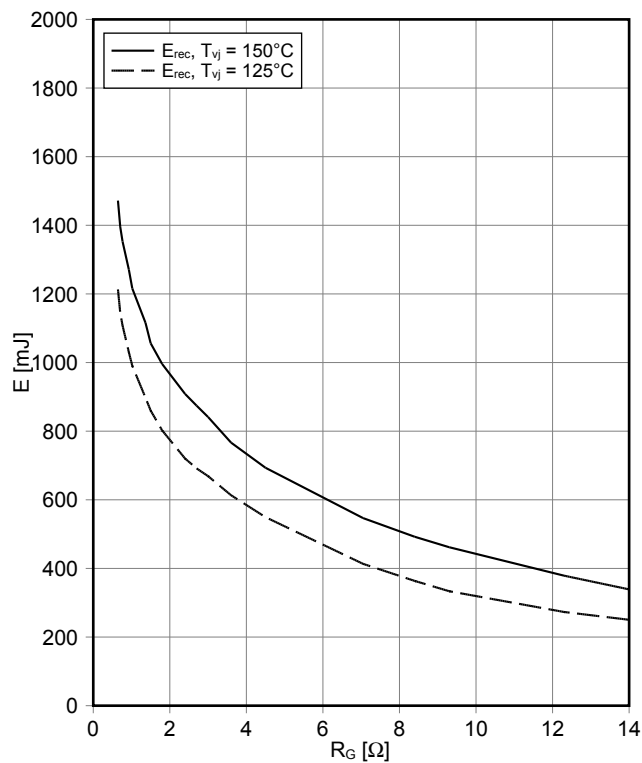
正向偏压特性 二极管,逆变器 (典型)
forward characteristic of Diode, Inverter (typical)
 $I_F = f(V_F)$



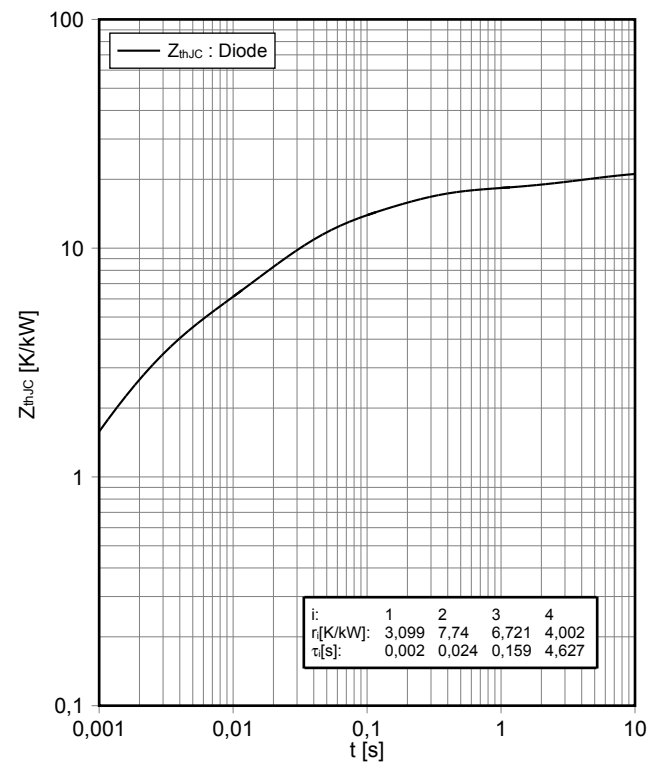
开关损耗 二极管,逆变器 (典型)
switching losses Diode, Inverter (typical)
 $E_{rec} = f(I_F)$
 $R_{Gon} = \Omega, V_{CE} = 1800 V$



开关损耗 二极管,逆变器 (典型)
switching losses Diode, Inverter (typical)
 $E_{rec} = f(R_G)$
 $I_F = 1000 A, V_{CE} = 1800 V$



瞬态热阻抗 二极管,逆变器
transient thermal impedance Diode, Inverter
 $Z_{thJC} = f(t)$

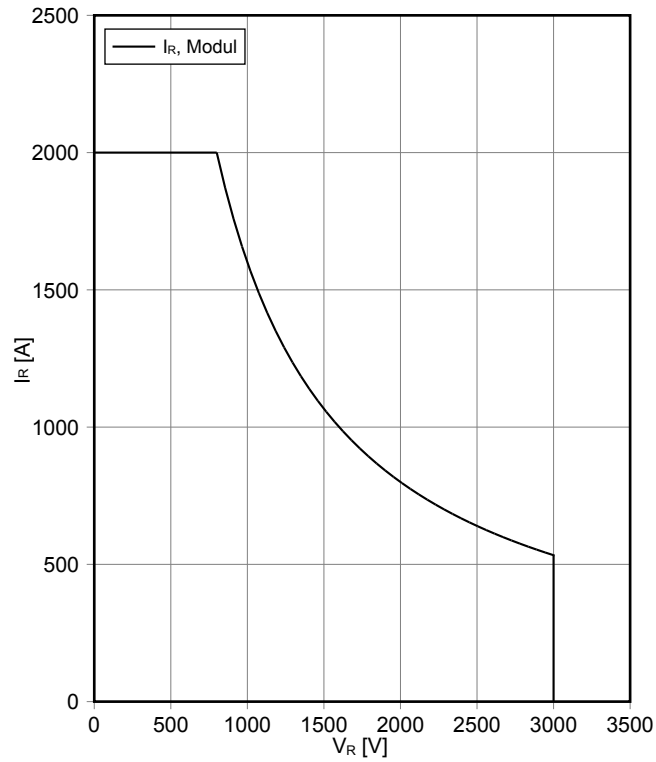


安全工作区 二极管, 逆变器 (SOA)

safe operation area Diode, Inverter (SOA)

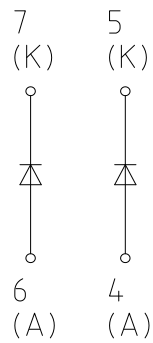
$$I_R = f(V_R)$$

$$T_{vj} = 150^{\circ}\text{C}$$

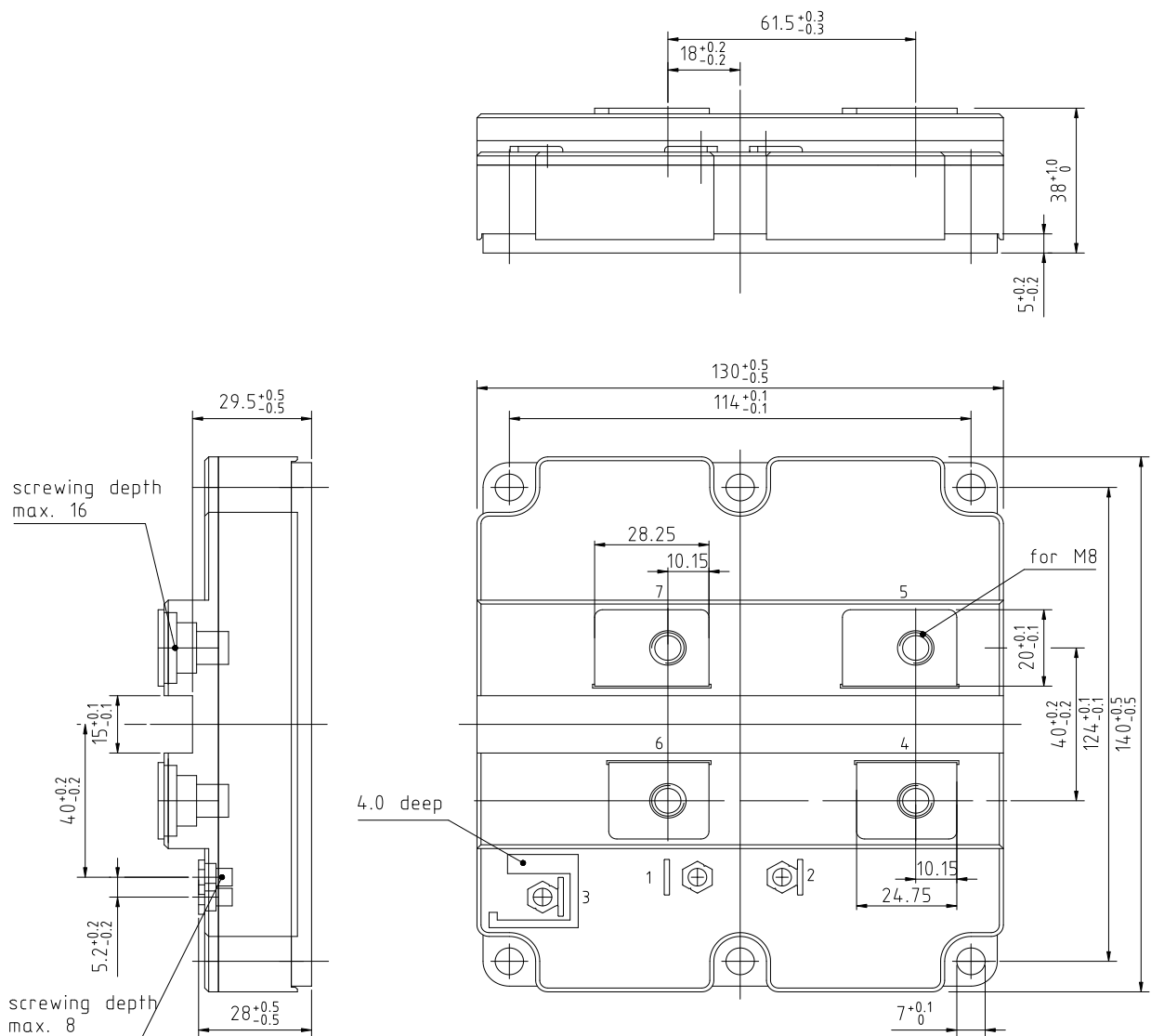


接线图 / Circuit diagram

DD...



封装尺寸 / Package outlines



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