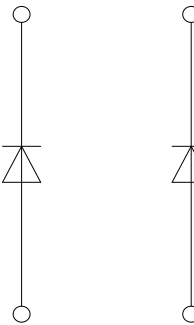


IHM-B 模块  
IHM-B module

初步数据 / Preliminary Data



$V_{CES} = 1200V$   
 $I_{C\ nom} = 1200A / I_{CRM} = 2400A$

典型应用

- 大功率变流器
- 电机传动
- 多电平逆变器
- 风力发电机

Typical Applications

- High Power Converters
- Motor Drives
- Multi level inverter
- Wind Turbines

电气特性

- 提高工作结温  $T_{vj\ op}$

Electrical Features

- Extended Operation Temperature  $T_{vj\ op}$

机械特性

- 4 kV 交流 1分钟 绝缘
- 封装的 CTI > 400
- 高功率密度
- IHM B 封装

Mechanical Features

- 4 kV AC 1min Insulation
- Package with CTI > 400
- High Power Density
- IHM B Housing

Module Label Code

Barcode Code 128



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

DMX - Code



prepared by: WB	date of publication: 2013-11-11	
approved by: PL	revision: 2.2	UL approved (E83335)



初步数据  
Preliminary Data

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	$T_{vj} = 25^{\circ}\text{C}$	$V_{RRM}$	1200	V
连续正向直流电流 Continuous DC forward current		$I_F$	1200	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1\text{ ms}$	$I_{FRM}$	2400	A
$I^2t$ -值 $I^2t$ - value	$V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 125^{\circ}\text{C}$ $V_R = 0\text{ V}, t_P = 10\text{ ms}, T_{vj} = 150^{\circ}\text{C}$	$I^2t$	155 150	$\text{kA}^2\text{s}$ $\text{kA}^2\text{s}$
最大损耗功率 Maximum power dissipation	$T_{vj} = 125^{\circ}\text{C}$	$P_{RQM}$	1200	kW

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 1200\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1200\text{ A}, V_{GE} = 0\text{ V}$ $I_F = 1200\text{ A}, V_{GE} = 0\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$V_F$	1,80 1,75 1,70	2,35	V V V
反向恢复峰值电流 Peak reverse recovery current	$I_F = 1200\text{ A}, -di_F/dt = 4950\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$I_{RM}$	475 660 720		A A A
恢复电荷 Recovered charge	$I_F = 1200\text{ A}, -di_F/dt = 4950\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$Q_r$	100 195 220		$\mu\text{C}$ $\mu\text{C}$ $\mu\text{C}$
反向恢复损耗 (每脉冲) Reverse recovery energy	$I_F = 1200\text{ A}, -di_F/dt = 4950\text{ A}/\mu\text{s} (T_{vj}=150^{\circ}\text{C})$ $V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 150^{\circ}\text{C}$	$E_{rec}$	45,0 80,0 90,0		mJ mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		$R_{thJC}$		40,0	K/kW
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{\text{Paste}} = 1\text{ W}/(\text{m}\cdot\text{K}) / \lambda_{\text{grease}} = 1\text{ W}/(\text{m}\cdot\text{K})$		$R_{thCH}$		22,0	K/kW
在开关状态下温度 Temperature under switching conditions			$T_{vj\text{ op}}$	-40	150	$^{\circ}\text{C}$

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初步数据  
Preliminary Data

模块 / Module

绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V <sub>ISOL</sub>	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 <sub>2</sub> O <sub>3</sub>		
爬电距离 Creepage distance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		32,0 32,0		mm
电气间隙 Clearance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		19,0 19,0		mm
相对电痕指数 Comperative tracking index		CTI	> 400		
min.    typ.    max.					
杂散电感, 模块 Stray inductance module		L <sub>sCE</sub>	18		nH
模块引线电阻, 端子-芯片 Module lead resistance, terminals - chip	T <sub>c</sub> = 25°C, 每个开关 / per switch	R <sub>CC+EE'</sub>	0,26		mΩ
储存温度 Storage temperature		T <sub>stg</sub>	-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 螺丝 M8 根据相应的应用手册进行安装 Screw M8 - Mounting according to valid application note	M	1,7 8,0	-	2,1 10 Nm
重量 Weight		G	1300		g

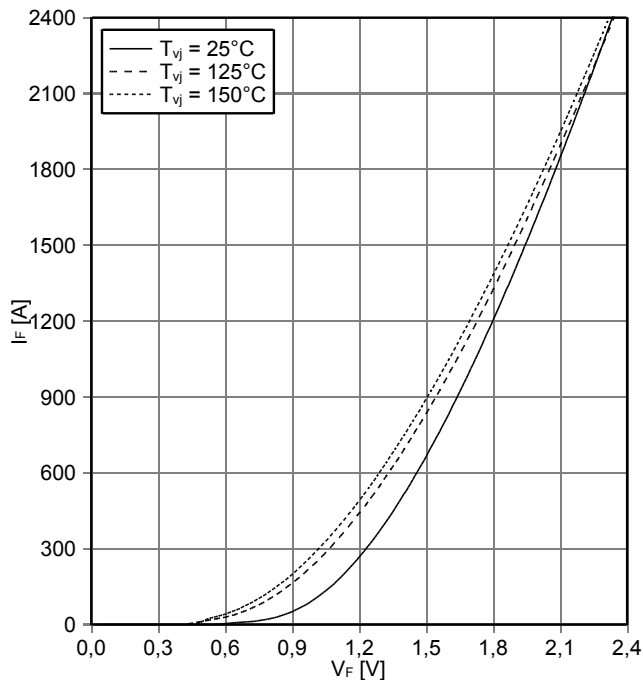
Dynamische Daten gehen in Verbindung mit FZ2400R12HP4\_B9 und R<sub>Gon</sub>=1,5Ohm  
Dynamic data valid in conjunction with FZ2400R12HP4\_B9 and R<sub>Gon</sub>=1,5Ohm

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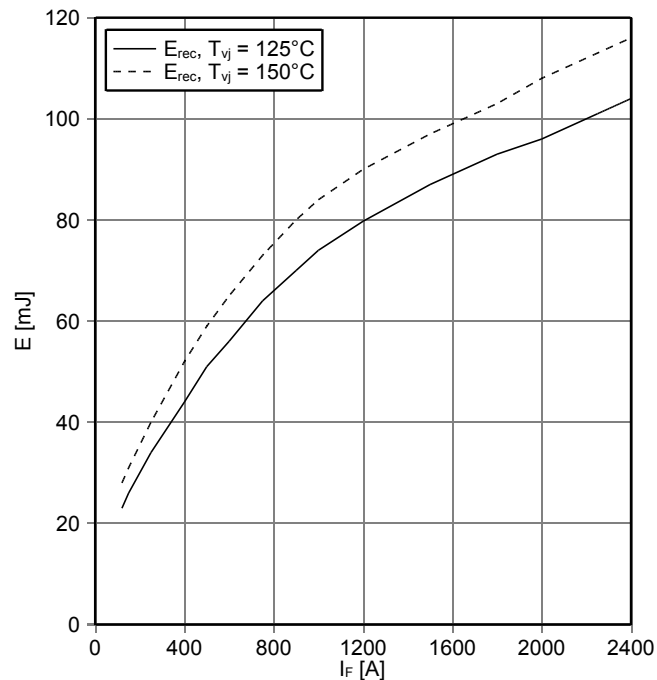


初步数据  
Preliminary Data

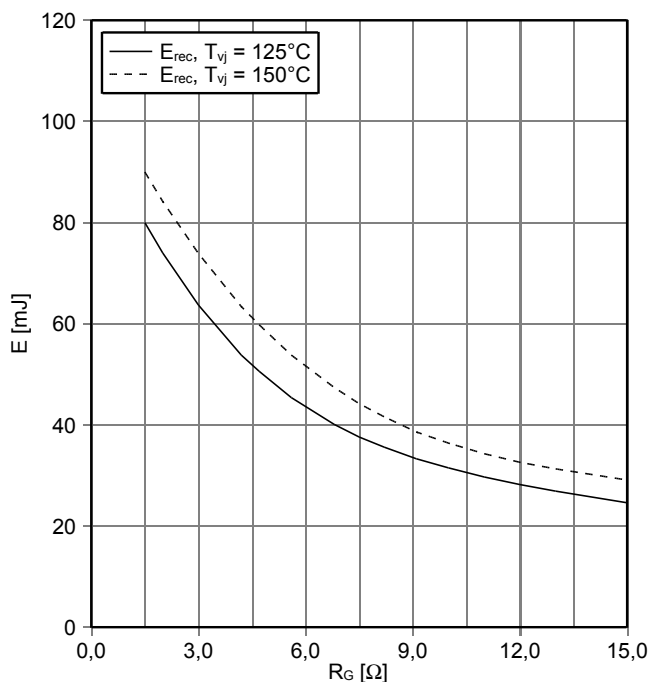
正向偏压特性 二极管,逆变器 (典型)  
forward characteristic of Diode, Inverter (typical)  
 $I_F = f(V_F)$



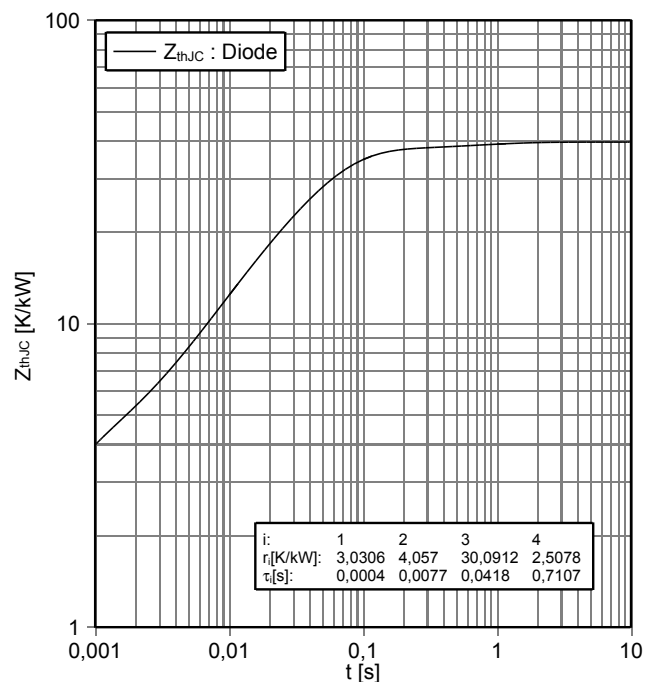
开关损耗 二极管,逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(I_F)$   
 $R_{Gon} = \Omega, V_{CE} = 600\text{ V}$



开关损耗 二极管,逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(R_G)$   
 $I_F = 1200\text{ A}, V_{CE} = 600\text{ V}$



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



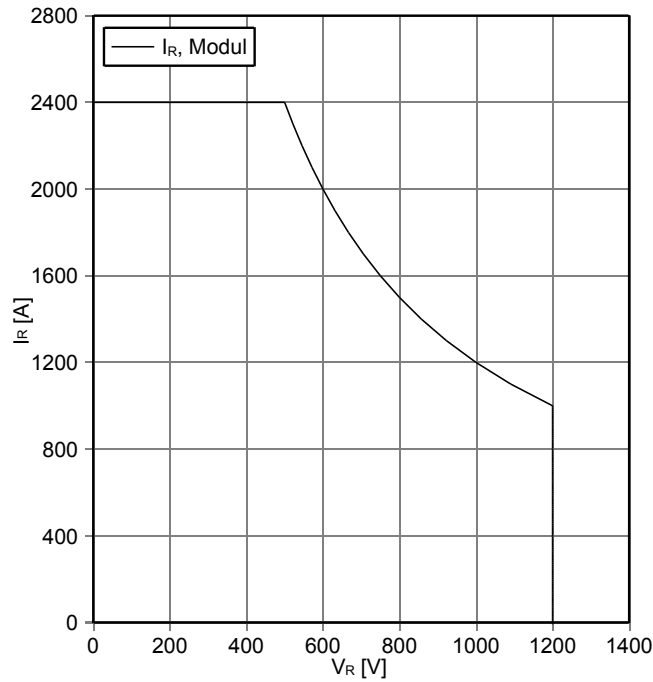
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初步数据  
Preliminary Data

安全工作区 二极管, 逆变器 (SOA)  
safe operation area Diode, Inverter (SOA)

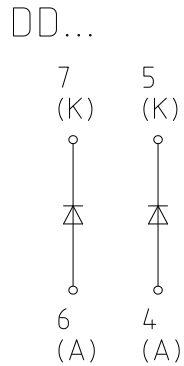
$I_R = f(V_R)$   
 $T_{vj} = 150^\circ\text{C}$



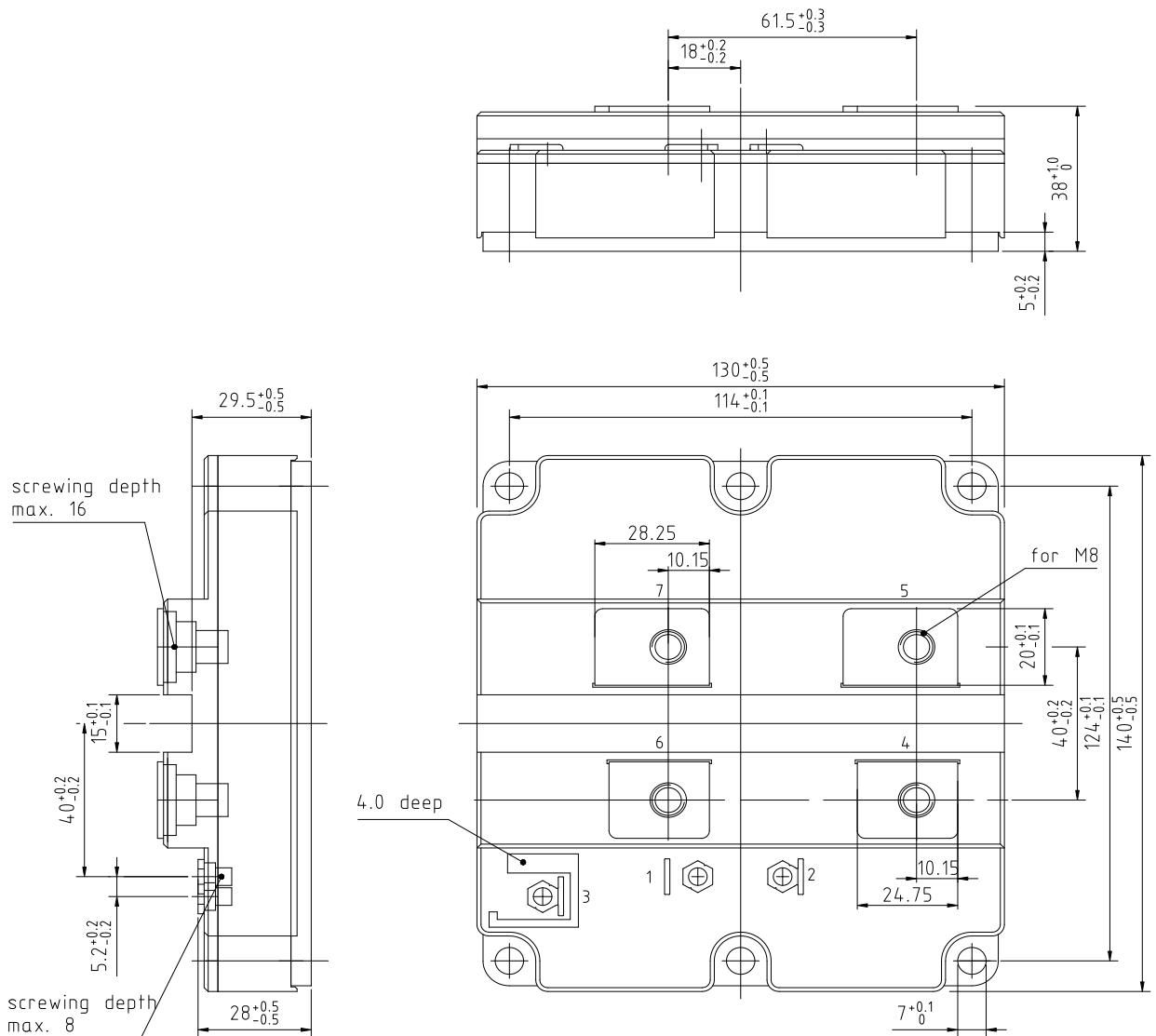
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初步数据  
Preliminary Data

接线图 / circuit\_diagram\_headline



封装尺寸 / package outlines



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**初步数据  
Preliminary Data**

**使用条件和条款**

**使用条件和条款**

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-得到质量协议的结论

-建立联合的测试和出厂产品检查，我们可以根据测试的实际情况供货

如果有必要，请根据实际需要将类似的说明给你的客户

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- to perform joint Risk and Quality Assessments;

- the conclusion of Quality Agreements;

- to establish joint measures of an ongoing product survey, and that we may make delivery depended on the realization of any such measures.

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