

# 技术信息 / Technical Information

IGBT-模块  
IGBT-modules

## DZ800S17K3



62mm C-Serien Modul mit Emitter Controlled<sup>3</sup> Diode  
62mm C-series module with Emitter Controlled<sup>3</sup> diode

### 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	$T_{vj} = 25^{\circ}\text{C}$	$V_{RRM}$	1700	V
连续正向直流电流 Continuous DC forward current		$I_F$	800	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1 \text{ ms}$	$I_{FRM}$	1600	A
I <sup>2</sup> t-值 I <sup>2</sup> t - value	$V_R = 0 \text{ V}, t_P = 10 \text{ ms}, T_{vj} = 125^{\circ}\text{C}$	$I^2t$	99500	A <sup>2</sup> s

### 特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 800 \text{ A}, V_{GE} = 0 \text{ V}$ $I_F = 800 \text{ A}, V_{GE} = 0 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$V_F$	1,80 1,90	2,20	V V
反向恢复峰值电流 Peak reverse recovery current	$I_F = 800 \text{ A}, -di_F/dt = 4900 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 900 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$I_{RM}$	780 850		A A
恢复电荷 Recovered charge	$I_F = 800 \text{ A}, -di_F/dt = 4900 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 900 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$Q_r$	205 345		$\mu\text{C}$ $\mu\text{C}$
反向恢复损耗 (每脉冲) Reverse recovery energy	$I_F = 800 \text{ A}, -di_F/dt = 4900 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 900 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$E_{rec}$	130 225		mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		$R_{thJC}$		0,058	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{\text{Paste}} = 1 \text{ W}/(\text{m}\cdot\text{K}) / \lambda_{\text{grease}} = 1 \text{ W}/(\text{m}\cdot\text{K})$		$R_{thCH}$	0,01		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj \text{ op}}$	-40	125	$^{\circ}\text{C}$

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初步数据  
Preliminary Data

模块 / Module

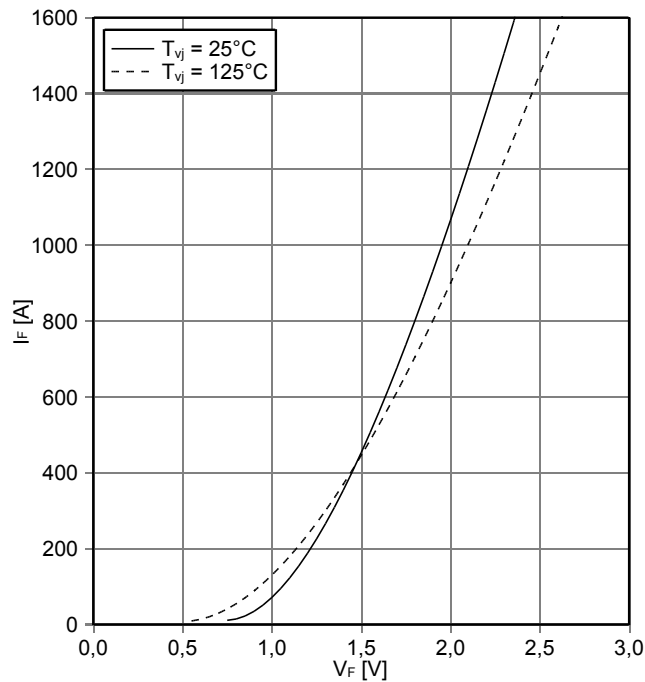
绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V <sub>ISOL</sub>	4,0		kV
模块基板材料 Material of module baseplate			Cu		
内部绝缘 Internal isolation	基本绝缘 (class 1, IEC 61140) basic insulation (class 1, IEC 61140)		Al <sub>2</sub> O <sub>3</sub>		
爬电距离 Creepage distance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		25,0 19,0		mm
电气间隙 Clearance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		25,0 10,0		mm
相对电痕指数 Comperative tracking index		CTI	> 400		
			min.	typ.	max.
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个模块 / per module $\lambda_{\text{Paste}} = 1 \text{ W/(m}\cdot\text{K)} / \lambda_{\text{grease}} = 1 \text{ W/(m}\cdot\text{K)}$	R <sub>thCH</sub>		0,01	K/W
杂散电感, 模块 Stray inductance module		L <sub>sCE</sub>		16	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>		0,50	mΩ
储存温度 Storage temperature		T <sub>stg</sub>	-40		125 °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	3,00	-	6,00 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 M6 根据相应的应用手册进行安装 Screw M6 - Mounting according to valid application note	M	1,1 2,5	-	2,0 5,0 Nm
重量 Weight		G		340	g

Dynamische Daten gelten in Verbindung mit FF800R17KE3 Modul  
Dynamic data valid in conjunction with FF800R17KE3 module

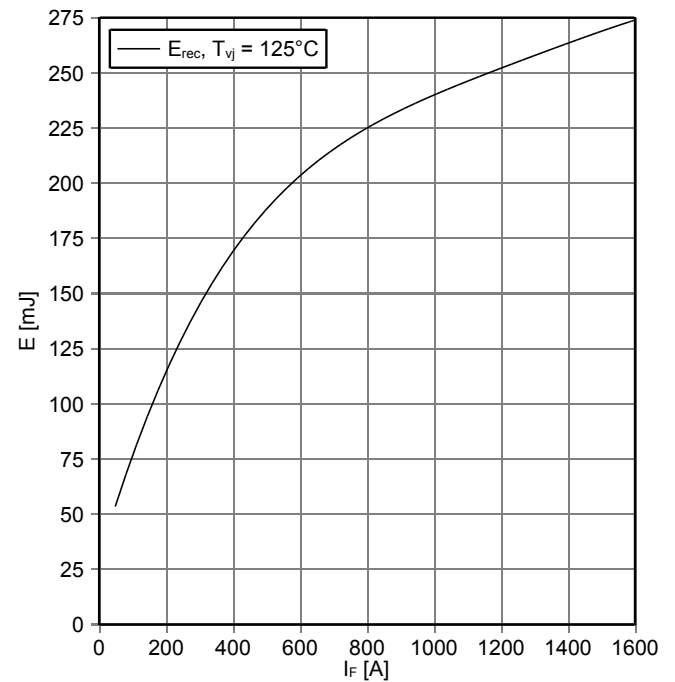
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初步数据  
Preliminary Data

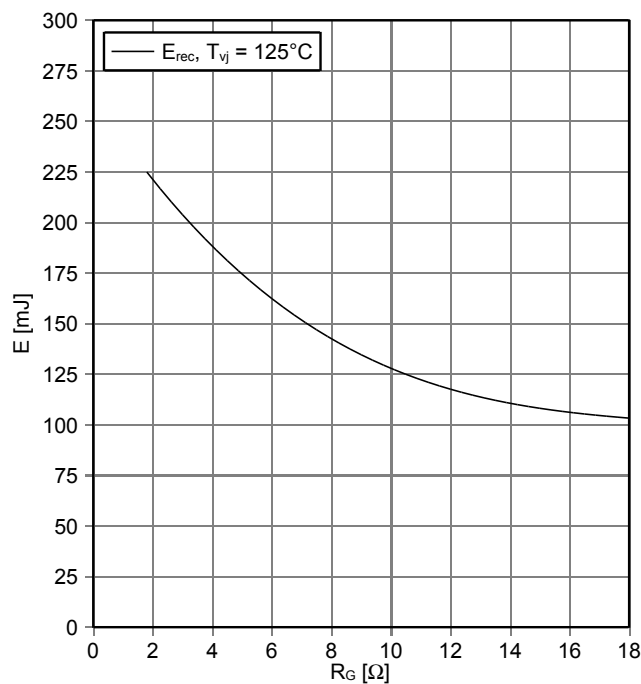
正向偏压特性 二极管, 逆变器 (典型)  
forward characteristic of Diode, Inverter (typical)  
 $I_F = f(V_F)$



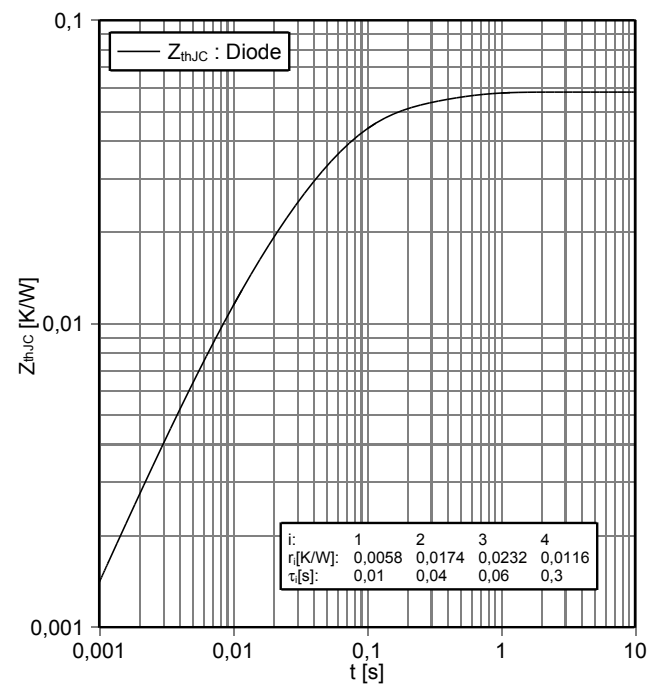
开关损耗 二极管, 逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(I_F)$   
 $R_{Gon} = \Omega, V_{CE} = 900\text{ V}$



开关损耗 二极管, 逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(R_G)$   
 $I_F = 800\text{ A}, V_{CE} = 900\text{ V}$

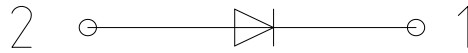


瞬态热阻抗 二极管, 逆变器  
transient thermal impedance Diode, Inverter  
 $Z_{thJC} = f(t)$

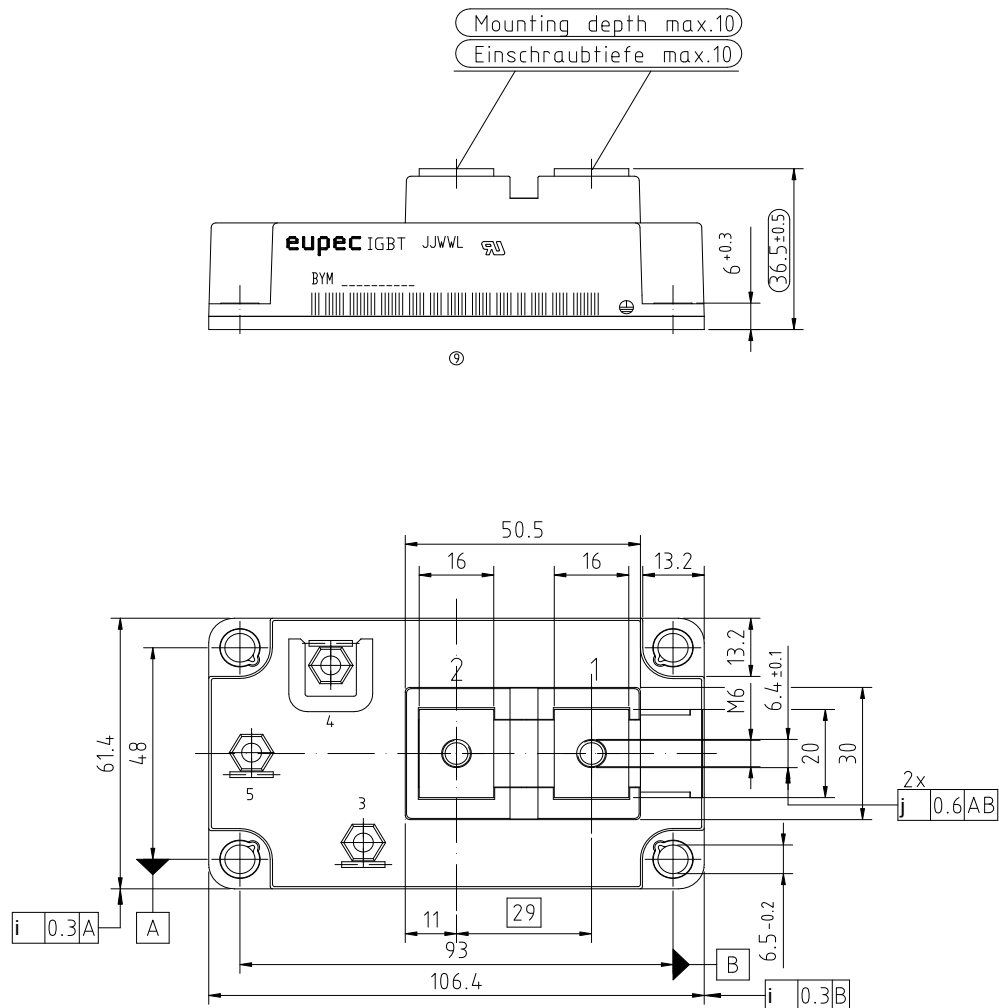


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接线图 / circuit\_diagram\_headline



封装尺寸 / package outlines



Az12

Freimaßtoleranzen  
nach ISO2768 mH

General tolerance  
ISO2768 mH

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**初步数据  
Preliminary Data**

**使用条件和条款**

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