



二极管, 逆变器 / Diode, Inverter  
最大额定值 / Maximum Rated Values

初步数据  
Preliminary Data

反向重复峰值电压 Repetitive peak reverse voltage	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = -25^{\circ}\text{C}$	$V_{RRM}$	3300 3300	V
连续正向直流电流 Continuous DC forward current		$I_F$	400	A
正向重复峰值电流 Repetitive peak forward current	$t_P = 1 \text{ ms}$	$I_{FRM}$	800	A
I <sup>2</sup> t-值 I <sup>2</sup> t - value	$V_R = 0 \text{ V}, t_P = 10 \text{ ms}, T_{vj} = 125^{\circ}\text{C}$	$I^2t$	72,0	kA <sup>2</sup> s
最大损耗功率 Maximum power dissipation	$T_{vj} = 125^{\circ}\text{C}$	$P_{RQM}$	600	kW
最小开通时间 Minimum turn-on time		$t_{on \text{ min}}$	10,0	$\mu\text{s}$

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	$I_F = 400 \text{ A}, V_{GE} = 0 \text{ V}$ $I_F = 400 \text{ A}, V_{GE} = 0 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$V_F$	2,60 2,55	t.b.d.	V V
反向恢复峰值电流 Peak reverse recovery current	$I_F = 400 \text{ A}, -di_F/dt = 2600 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 1800 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$I_{RM}$	530 620		A A
恢复电荷 Recovered charge	$I_F = 400 \text{ A}, -di_F/dt = 2600 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 1800 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$Q_r$	270 480		$\mu\text{C}$ $\mu\text{C}$
反向恢复损耗 (每脉冲) Reverse recovery energy	$I_F = 400 \text{ A}, -di_F/dt = 2600 \text{ A}/\mu\text{s} (T_{vj}=125^{\circ}\text{C})$ $V_R = 1800 \text{ V}$ $V_{GE} = -15 \text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$	$E_{rec}$	270 550		mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		$R_{thJC}$		51,0	K/kW
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode $\lambda_{\text{Paste}} = 1 \text{ W}/(\text{m}\cdot\text{K}) / \lambda_{\text{grease}} = 1 \text{ W}/(\text{m}\cdot\text{K})$		$R_{thCH}$	32,0		K/kW
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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模块 / Module

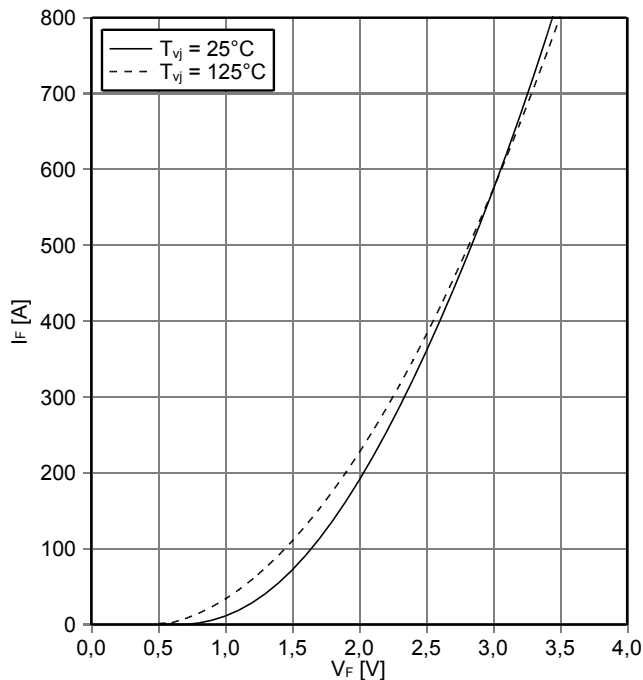
绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V <sub>ISOL</sub>	6,0		kV
局部放电停止电压 Partial discharge extinction voltage	RMS, f = 50 Hz, Q <sub>PD</sub> ≤ 10 pC (acc. to IEC 1287)	V <sub>ISOL</sub>	2,6		kV
DC 稳定性 DC stability	T <sub>vj</sub> = 25°C, 100 fit	V <sub>CE D</sub>	2150		V
模块基板材料 Material of module baseplate			AISiC		
内部绝缘 Internal isolation	基本绝缘 (class 1, IEC 61140) basic insulation (class 1, IEC 61140)		AIN		
爬电距离 Creepage distance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		32,0 32,2		mm
电气间隙 Clearance	端子- 散热片 / terminal to heatsink 端子- 端子 / terminal to terminal		19,0 19,1		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 λ <sub>Paste</sub> = 1 W/(m·K) / λ <sub>grease</sub> = 1 W/(m·K)	R <sub>thCH</sub>		16,0	K/kW
杂散电感, 模块 Stray inductance module		L <sub>sCE</sub>		58	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>		0,78	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	4,25	-	5,75 Nm
端子联接扭矩 Terminal connection torque	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	3,6	-	4,2 Nm
重量 Weight		G		500	g

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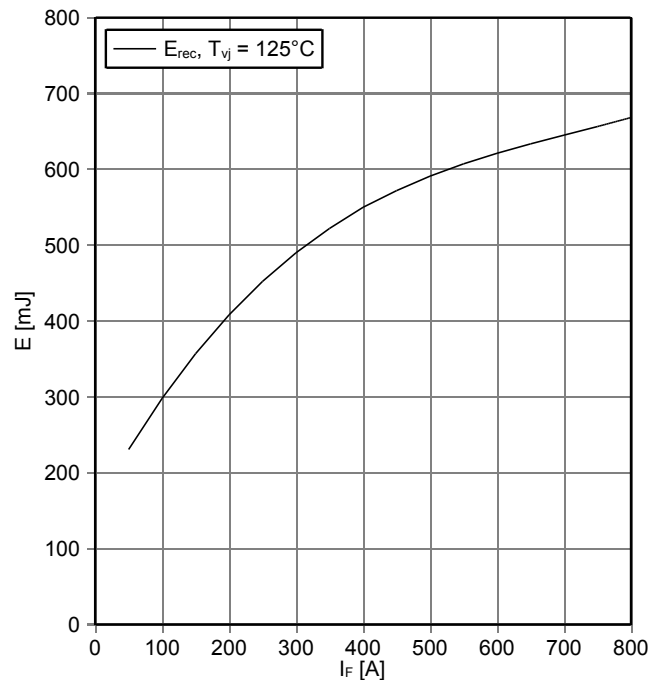


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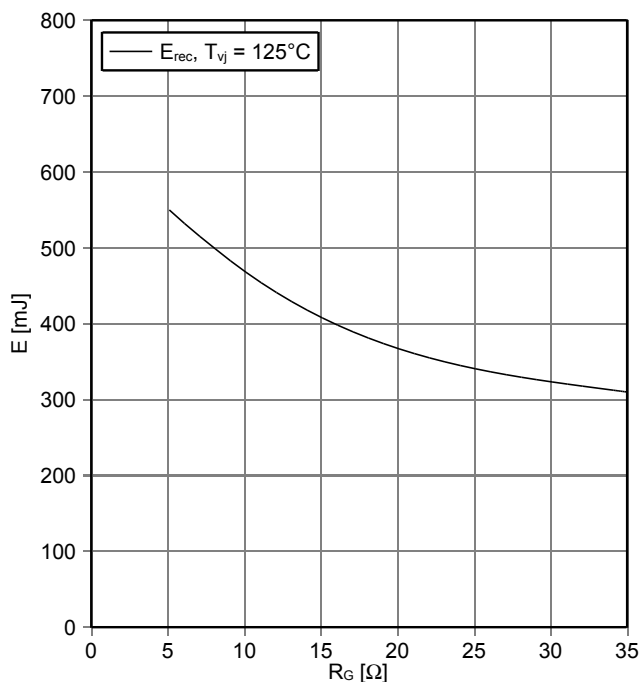
正向偏压特性 二极管, 逆变器 (典型)  
forward characteristic of Diode, Inverter (typical)  
 $I_F = f(V_F)$



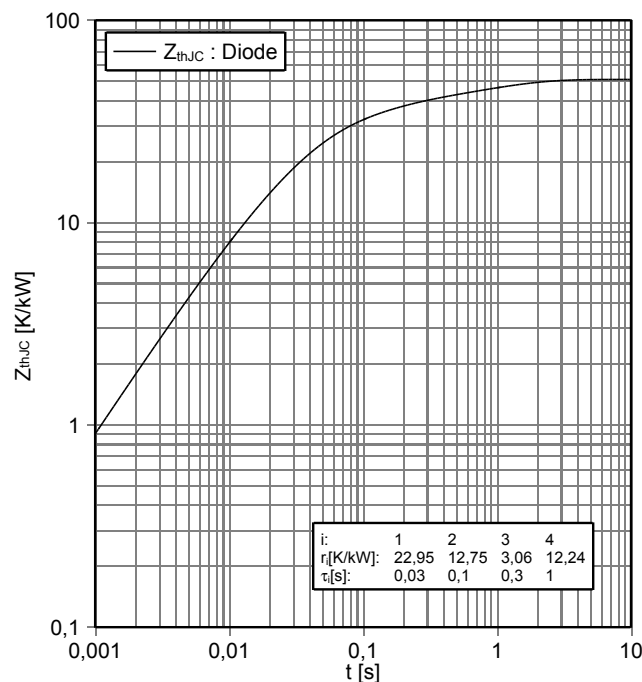
开关损耗 二极管, 逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(I_F)$   
 $R_{Gon} = \Omega, V_{CE} = 1800 V$



开关损耗 二极管, 逆变器 (典型)  
switching losses Diode, Inverter (typical)  
 $E_{rec} = f(R_G)$   
 $I_F = 400 A, V_{CE} = 1800 V$



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



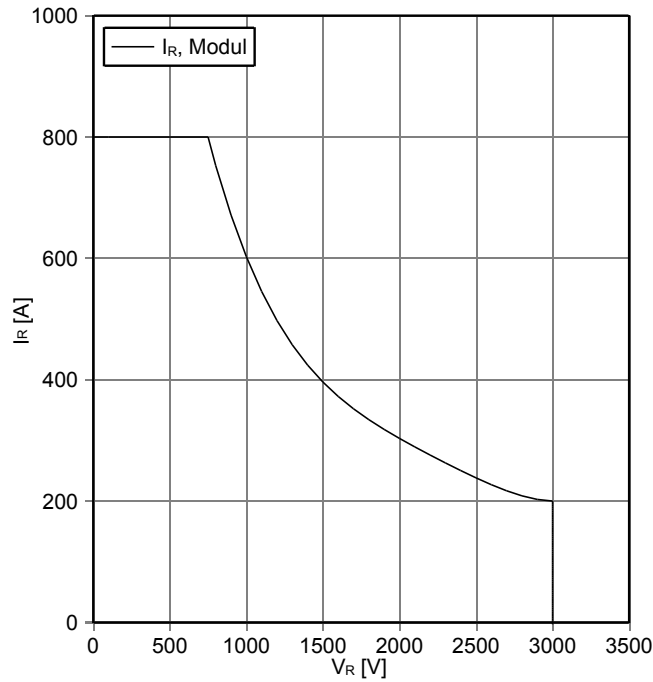
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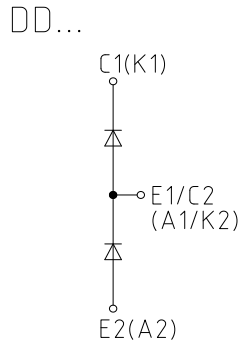
安全工作区 二极管, 逆变器 (SOA)  
safe operation area Diode, Inverter (SOA)

$I_R = f(V_R)$   
 $T_{vj} = 125^\circ\text{C}$

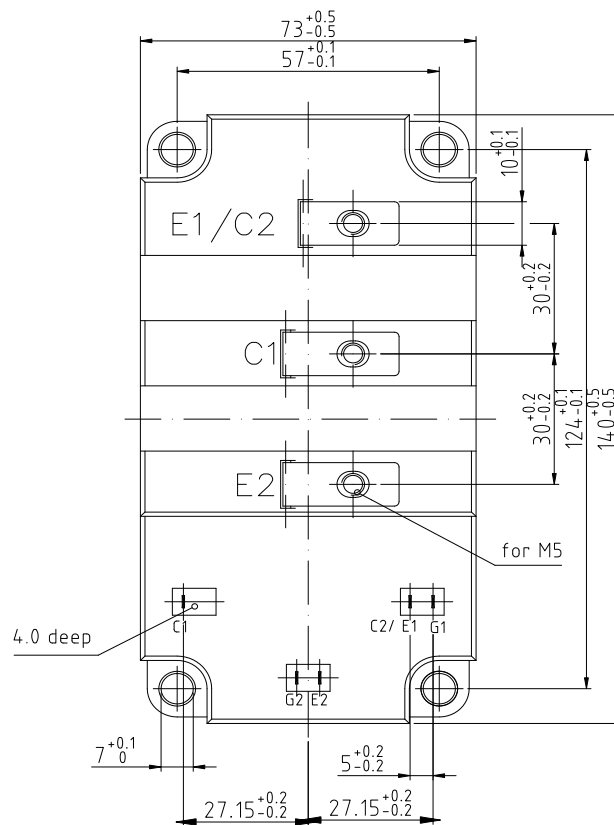
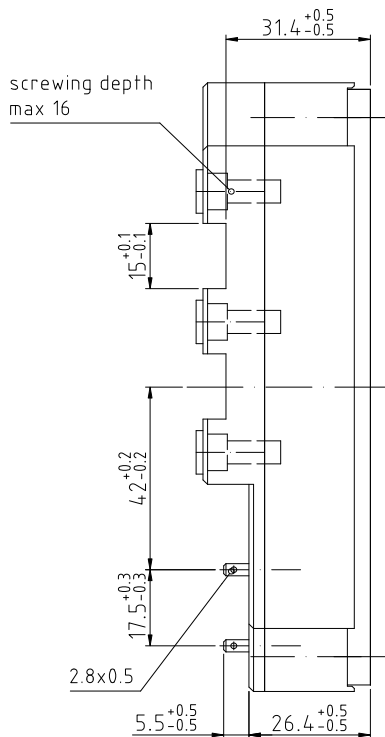
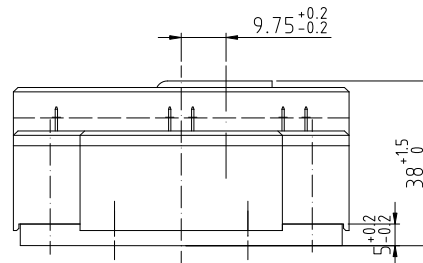


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接线图 / circuit\_diagram\_headline



封装尺寸 / package outlines



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**使用条件和条款**

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