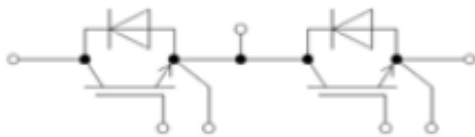


<p>技术信息 / Technical Information</p> <p>IGBT-模块 IGBT-modules</p>	<p>LMIBH100-12</p>
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94mm×34mm 中压 IGBT 模块
94mm×34mm medium voltage IGBT modules



半桥 IGBT / half bridge IGBT



$V_{CES}=1200V$ $I_C=100A$

特性

采用 SPT+ 技术 IGBT 芯片，超低开关损耗
低 V_{CEsat}
低驱动功率
采用氧化铝陶瓷基板，模块热阻较低
工业标准化封装，安装方便

Features

SPT+chip-set for ultra low switching losses
Low $V_{CE sat}$
Low driving power
 Al_2O_3 substrates for low thermal resistance
Industry standard package assembling easily

典型应用

中压变频器/逆变器
电焊机变频器
中低压 UPS 系统

Typical Application

Medium voltage converters / inverters
Transducer for electric welding machine
Medium and low voltage UPS system



静电敏感设备 (ESD) ,请勿直接用手触摸辅助电极。

This is an Electro-Static Discharge device, please don't touch the auxiliary terminal by hand.

撰写: JJ	版本: REV1.0
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Maximum Rated Values / 最大额定值

Parameter/参数	Symbol/符号	Conditions/条件	Min/最小	Max/最大	Unit/单位
Collector-emitter voltage 集电极-发射极电压	V_{CES}	$V_{GE}=0V, T_{vj} \geq 25^{\circ}C$		1200	V
DC collector current 集电极电流	I_C	$T_C=85^{\circ}C$		100	A
Peak collector current 集电极峰值电流	I_{CM}	$t_p=1ms, T_C=80^{\circ}C$		200	A
Gate emitter voltage 栅极发射极电压	V_{GE}		-20	20	V
Total power dissipation 总功率损耗	P_{tot}	$T_C=25^{\circ}C$, per switch(IGBT)		515	W
DC forward current 直流正向电流	I_F			100	A
Peak forward current 峰值正向电流	I_{FRM}	$t_p=1ms$		200	A
IGBT short circuit SOA IGBT 短路安全工作区	t_{psc}	$V_{CC}=600V, V_{CEM\ CHIP} \leq 1200V,$ $V_{GE} \leq 15V, T_{vj} \leq 125^{\circ}C$		10	us
Isolation voltage 绝缘电压	V_{isol}	1 min, f=50Hz		2500	V
Junction temperature 结温	T_{vj}			175	$^{\circ}C$
Junction operating temperature 工作结温	$T_{vj(op)}$		-50	150	$^{\circ}C$
Case temperature 壳温	T_C		-50	150	$^{\circ}C$
Storage temperature 储存温度	T_{stg}		-50	125	$^{\circ}C$
Mounting torques 安装力矩	M_S	Base-heatsink, M6 screws 基板-散热器, M6 螺丝	3	6	Nm
	M_{t1}	Main terminals, M6 screws 主端子, M6 螺丝	2.5	5	

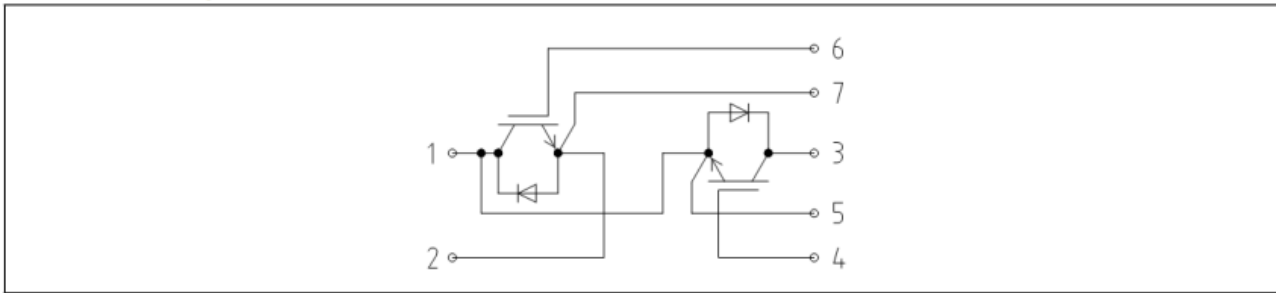
IGBT characteristic values / IGBT 特征值

Parameter/参数	Symbol/符号	Conditions/条件	Min/最小	Type/典型	Max/最大	Unit/单位
Collector-emitter breakdown voltage 集电极-发射极阻断电压	$V_{(BR)CES}$	$V_{GE}=0V, I_C=3mA, T_{vj} \geq 25^\circ C$	1200			V
Collector emitter saturation voltage 集电极-发射极饱和电压	$V_{CE\ sat}$	$I_C=100A, V_{GE}=15V$				V
				$T_{vj}=25^\circ C$	1.9	2.4
				$T_{vj}=125^\circ C$	2.0	2.6
Collector cut off current 集电极截至电流	I_{CES}	$V_{CE}=1200V, V_{GE}=0V$				mA
				$T_{vj}=25^\circ C$	3	
				$T_{vj}=125^\circ C$	30	
Gate leakage current 栅极漏电流	I_{GES}	$V_{CE}=0V, V_{GE}=\pm 20V, T_{vj}=125^\circ C$	-500		500	nA
Gate-emitter threshold voltage 栅极-发射极阈值电压	$V_{GE(th)}$	$I_C=16mA, V_{CE}=V_{GE}, T_{vj}=25^\circ C$	5.2		7.2	V
Gate charge 栅极电荷	Q_g	$I_C=100A, V_{CE}=600V,$ $V_{GE}=+15V \dots -15V$		0.94		μC
Turn on delay time 开通延迟时间	$t_{d(on)}$			$T_{vj}=25^\circ C$	170	
				$T_{vj}=125^\circ C$	200	
Rise time 上升时间	t_r			$T_{vj}=25^\circ C$	30	
				$T_{vj}=125^\circ C$	50	
Turn off delay time 关断延迟时间	$t_{d(off)}$	$V_{CC}=600V,$ $I_C=100A,$		$T_{vj}=25^\circ C$	280	
				$T_{vj}=125^\circ C$	300	
Fall time 下降时间	T_f	$V_{GE}=\pm 15V,$ $R_G=3.9\Omega,$		$T_{vj}=25^\circ C$	280	
				$T_{vj}=125^\circ C$	300	
Turn on switching loss energy 开通能量损耗	E_{on}	$L_o=200nH,$ inductive load		$T_{vj}=25^\circ C$	4.3	
				$T_{vj}=125^\circ C$	5.5	
Turn off switching loss energy 关断能量损耗	E_{off}			$T_{vj}=25^\circ C$	8	
				$T_{vj}=125^\circ C$	10	
Short circuit current 短路电流	I_{SC}	$V_{CC}=900V, V_{GE}=15V,$ $L_o=200nH, \text{ inductive load}$		400		A

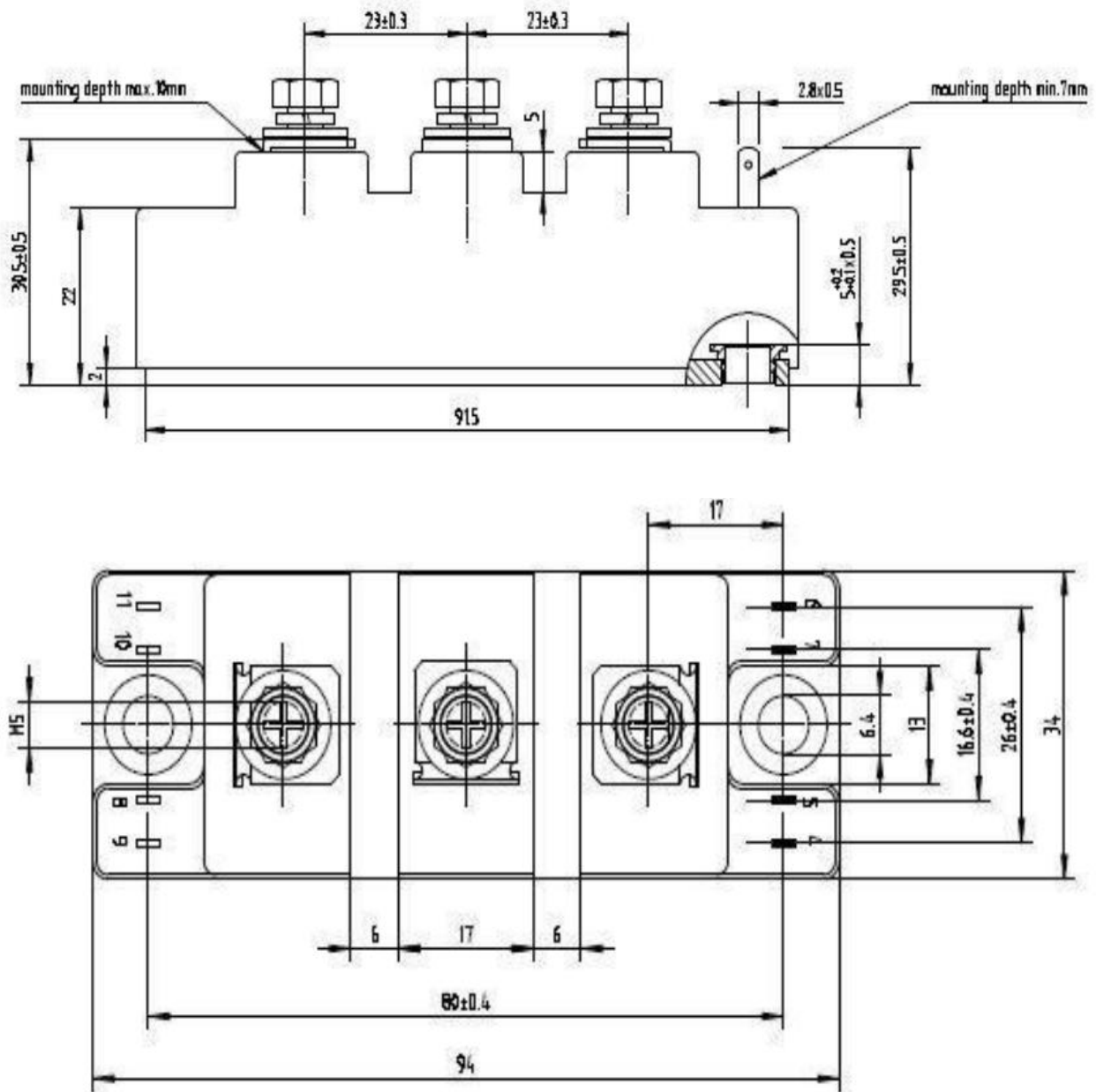
Diode characteristic values / 二极管特征值

Parameter/参数	Symbol/符号	Conditions/条件	Min/最小	Type/典型	Max/最大	Unit/单位	
Forward voltage 正向电压	V_F	$I_F=100A,$	$T_{vj}=25^{\circ}C$		1.8	2.4	V
			$T_{vj}=125^{\circ}C$		1.9	2.5	
Reverse recovery current 反向恢复电流	I_{rr}	$V_{CC}=600V,$	$T_{vj}=25^{\circ}C$		110		A
			$T_{vj}=125^{\circ}C$		120		
Recovered charge 恢复电荷	Q_{rr}	$I_C=100A,$ $V_{GE}=\pm 15V,$	$T_{vj}=25^{\circ}C$		14		uC
			$T_{vj}=125^{\circ}C$		16		
Reverse recovery time 反向恢复时间	t_{rr}	$R_G=3.9\Omega,$ $L_o=200nH,$ inductive load	$T_{vj}=25^{\circ}C$		270		ns
			$T_{vj}=125^{\circ}C$		300		
Reverse recovery energy 反向恢复能量	E_{rec}	inductive load	$T_{vj}=25^{\circ}C$		8		mJ
			$T_{vj}=125^{\circ}C$		10		

Electrical configuration / 电气结构



Outline drawing / 外形尺寸



Note: All dimensions are shown in millimeters

注意：所有尺寸皆为毫米

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