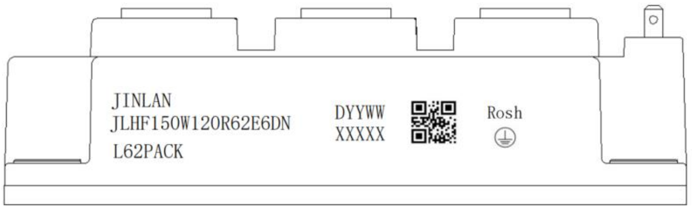
JLHF150W120R62E6DN

L62 module with GEN6 IGBT and emitter controlled diode

Features

- Electrical features
  - V_{CES} = 1200 V
  - IC $_{nom}$ = 150 A / I_{CRM} = 300 A
  - V_{CEsat} with positive temperature coefficient
- Mechanical features
  - Standard housing
  - High creepage and clearance distances
  - Isolated base plate
  - Package with CTI >500

L62 Pack



Typical Applications

- High Frequency Switching Application
- Medical Applications
- Motor Drives
- Resonant Inverter Applications
- Servo Drives
- UPS Systems

JINLAN = Company Name

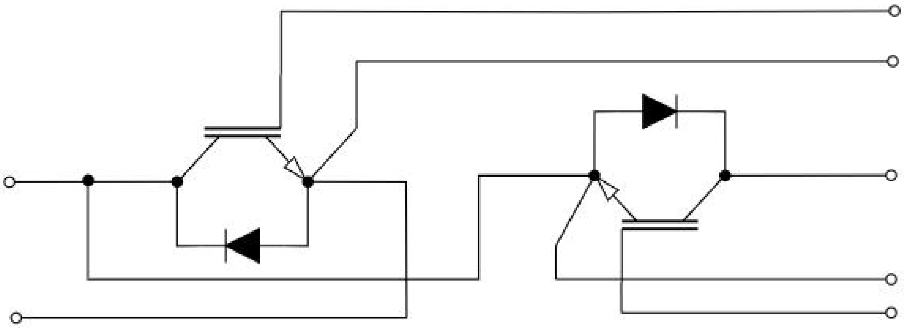
JLHF150W120R62E6DN = Specific Device Code

YYWW = Year and Work Week Code

XXXXX = Serial Number

QR code = Custom Assembly Information

Description



Package Insulation coordination

Symbol	Parameter	Note or test condition	Values	Unit
V_{ISOL}	Isolation test voltage	RMS,f=50Hz,t=60s	2.5	kV
d_{creep}	Creepage distance	terminal to heatsink	29.0	mm
d_{creep}	Creepage distance	terminal to terminal	23.0	mm
d_{clear}	Clearance	terminal to heatsink	23.0	mm
d_{clear}	Clearance	terminal to terminal	11.0	mm
CTI	Comparative tracking index (electrical)		＞500	

Package Characteristic values

Symbol	Description	Note or test condition		Values			Unit
				Min.	Typ.	Max.	
L_{sCE}	Stray Inductance			--	20	--	nH
$R_{CC'+EE'}$	Module Lead Resistance, Terminal to Chip	T_C=25°C, per switch		--	0.7	--	mΩ
T_{stg}	Storage temperature			-40	--	125	°C
M	Mounting torque for module mounting	-Mounting according to valid application note	M5, Screw	3	--	6	Nm
M	Terminal connection torque	-Mounting according to valid application note	M6, Screw	2.5	--	5.0	Nm
G	Weight			--	340	--	g

IGBT

Absolute Maximum Ratings (Tc = 25°C unless otherwise noted)

Symbol	Description	Note or test condition	Value	Unit
V_{CES}	Collector-Emitter Voltage	T_{vj} = 25 °C	1200	V
I_{CDC}	Continuous Collector Current @ T_C = 80°C (T_{JMAX} = 175°C)		150	A
I_{CRM}	Repetitive peak collector current	Peak Collector Current@ tp=1ms	300	A
P_{tot}	Total power dissipation	T_C = 25°C, $T_{vj\,max}$ = 150°C	874	W
V_{GES}	Gate-emitter peak voltage		±30	V

Characteristics (Tc = 25°C unless otherwise noted)

Symbol	Parameter	Test Condition		Rating			Unit
				Min	Typ	Max	
$V_{CE(sat)}$	Collector−Emitter Saturation Voltage	I_C=150A V_{GE}=15V	Tj=25°C	--	2.2	3.0	V
			Tj=150°C	--	2.6	--	
$V_{GE(TH)}$	Gate−Emitter Threshold Voltage	I_C=3mA,V_{CE}=V_{GE},T_{vj}= 25°C		4.0	--	6.5	V
I_{CES}	Collector−Emitter Cutoff Current	V_{GE} =0V,V_{CE}=1200V,T_{vj}= 25°C		--	--	3.0	mA
I_{GES}	Gate-Emitter Leakage Current	V_{GE} = ±20V , V_{CE} = 0 V， T_{vj} = 25°C		--	--	100	nA
R_{Gint}	Internal Gate Resistance	T_{vj} = 25 °C		--	0.8	--	Ω
C_{ies}	Input Capacitance	V_{CE}=30V,V_{GE}=0V, f=1MHz,T_{vj} = 25°C		--	24.76	--	nF
C_{oes}	Output Capacitance			--	0.74	--	
C_{res}	Reverse Transfer Capacitance			--	0.532	--	
Q_g	Total Gate Charge	V_{CC}=960V, I_C=150A, V_{GE}=15V,T_{vj} = 25°C		--	0.96	--	uC
Q_{ge}	Gate to Emitter Charge			--	0.20	--	
Q_{gc}	Gate to Collector Charge			--	0.46	--	
$t_{d(ON)}$	Turn-on Delay Time	V_{CE}=600V,I_C=150A, V_{GE}=15/-5V, R_g=6.8Ω Inductive Load		--	140	--	ns
t_r	Rise Time			--	98	--	
$t_{d(OFF)}$	Turn-Off Delay Time			--	504	--	
t_f	Fall Time			--	217	--	
E_{on}	Turn-On Switching Loss			--	7.35	--	mJ
E_{off}	Turn-Off Switching Loss			--	4.20	--	

E_{ts}	Total Switching Loss		--	11.55	--	
R_{thJC}	Thermal resistance,junction to case	per IGBT	--	0.13	--	K/W
$T_{vj\ op}$	Temperature under switching conditions		-40	--	150	℃

Diode

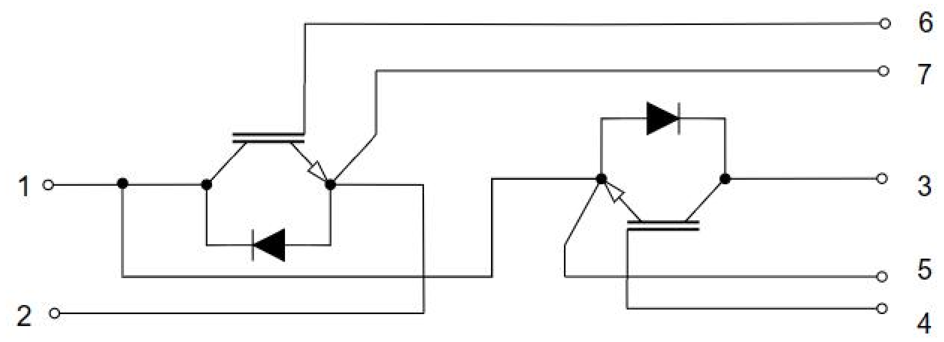
Absolute Maximum Ratings (Tc = 25°C unless otherwise noted)

Symbol	Description	Note or test condition	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	T_{vj} = 25 °C	1200	V
I_F	Continuous DC forward current		150	A
I_{FRM}	Repetitive peak forward current	t_P = 1 ms	300	A

Characteristics (Tc = 25°C unless otherwise noted)

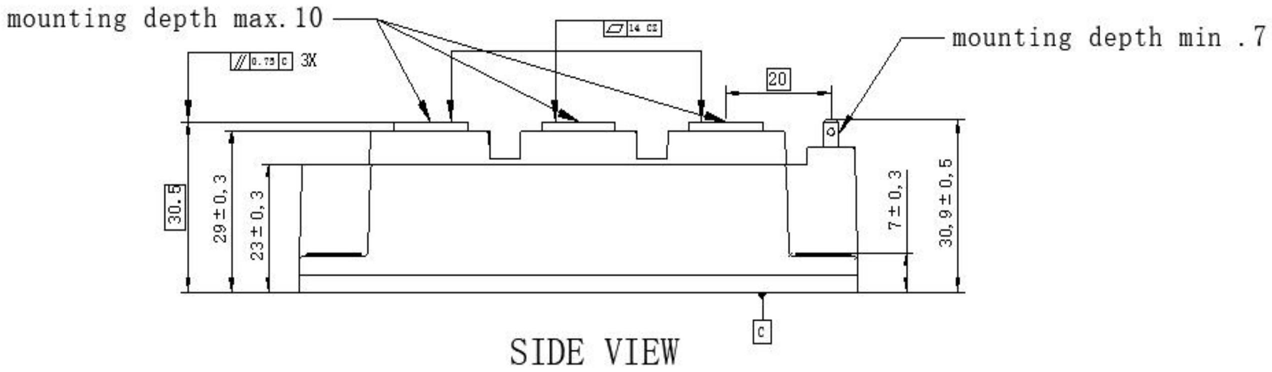
Symbol	Parameter	Test Conditions	Rating			Units
			Min.	Typ.	Max.	
V_F	Diode Forward Voltage	I_F=150A	--	3.3	4.2	V
T_{rr}	Reverse Recovery Time	V_{CE}=600V,I_F=150A, V_{GE}=15/0V R_g=6.8Ω	--	402	--	ns
I_{RRM}	Diode Peak Reverse Recovery Current		--	49	--	A
Q_{rr}	Reverse Recovery Charge		--	3.67	--	uC
E_{rec}	Reverse Recovery Energy		--	1.75	--	mJ
R_{thJC}	Thermal resistance,junction to case	Per Diode	--	0.2	--	K/W
$T_{vj\ op}$	Temperature under switching conditions		-40	--	150	℃

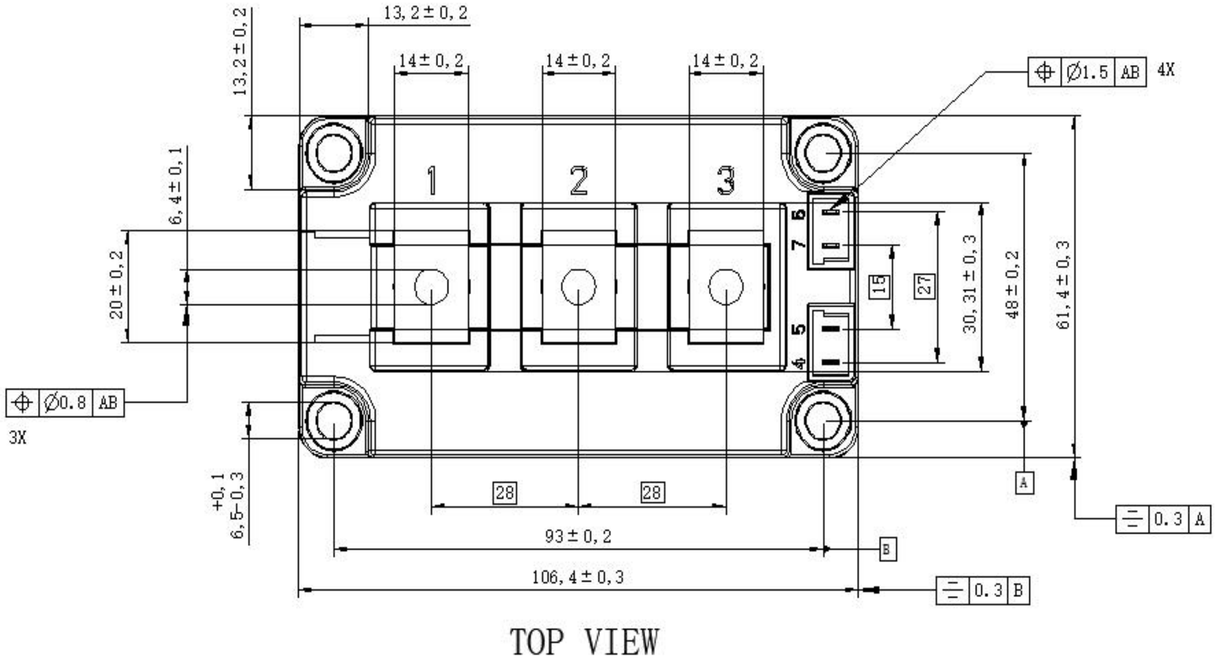
Circuit Diagram



Package Dimensions

Dimensions in Millimeters





REVISION HISTORY

Document version	Date of release	Description of changes
Rev.00	2024-08-23	Preview

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