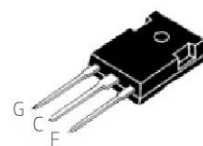
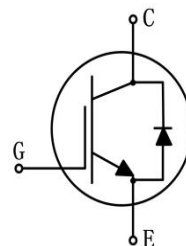


MAIN CHARACTERISTICS

I_C @TC=100°C	40A
V_{CE}	1200V
$V_{CE(sat)}$ -typ	1.7V



TO-247

FEATURES

- Trench and field-stop technology
- High speed switching
- Low collector to emitter saturation voltage
- Easy parallel switching capability
- Short circuit withstands time 10μs
- High ruggedness performance

APPLICATIONS

- Inverter
- Motor driver

MECHANICAL DATA

- Case: Molded plastic
- Mounting Position: Any
- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106

Product specification classification

Part Number	Package	Mode Name	Pack
LGT40N120B	TO-247	LGT40N120B	Tube

Maximum Ratings

Characteristics	Symbol	Value	Unit
		247	
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	± 20	V
Continuous collector current (TC=25°C)	I_C	80	A
Continuous collector current (TC=100°C)		40	A
Pulsed collector current, tp limited by Tvjmax	I_{CM}	160	A
Diode continuous forward current (TC=100°C)	I_F	40	A
Diode maximum current, tp limited by Tvjmax	I_{FM}	80	A
Power dissipation (TC=25°C)	P_{tot}	428	W
Operating junction temperature range	T_{vj}	-40 to +175	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Thermal characteristics

Characteristics	Symbol	Values		Unit
		Typ	Max.	
Thermal resistance, junction to case for IGBT	$R_{th(j-c)}$	-	0.35	K/ W
Thermal resistance, junction to case for Diode	$R_{th(j-c)}$	-	0.70	K/ W
Thermal resistance, junction to ambient	$R_{th(j-a)}$	-	40	K/ W

Note1:Pulse test: 300 μ s pulse width, 2 % duty cycle

Electrical characteristics of IGBT at Tvj=25°C unless otherwise specified

Static characteristics

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\mu A$	BV_{CES}	1200	-	-	V
Collector-emitter leakage current	$V_{CE}=1200V, V_{GE}=0V$	I_{CES}	-	-	100	μA
Gate leakage current, forward	$V_{GE}=\pm 20V, V_{CE}=0V$	I_{GES}	-	-	± 100	nA
Gate-emitter threshold voltage	$V_{GE}=V_{CE}, I_C=1mA$	$V_{GE(th)}$	5.4	5.7	6	V
Collector-emitter saturation voltage	$V_{GE}=15V, I_C=40A$	$V_{CE(sat)}$	-	1.7	-	V
	$V_{GE}=15V, I_C=40A, T_{vj}=175^\circ C$		-	2.2	-	V

Dynamic characteristics

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Input capacitance	$V_{CE}=25V$	C_{ies}	-	3230	-	pF
Output capacitance	$V_{GE}=0V$	C_{oes}	-	172	-	pF
Reverse transfer capacitance	$f=1MHz$	C_{res}	-	30	-	pF
Total gate charge	$V_{CC}=960V, V_{GE}=15V, I_C=40A$	Q_g	-	180	-	nC

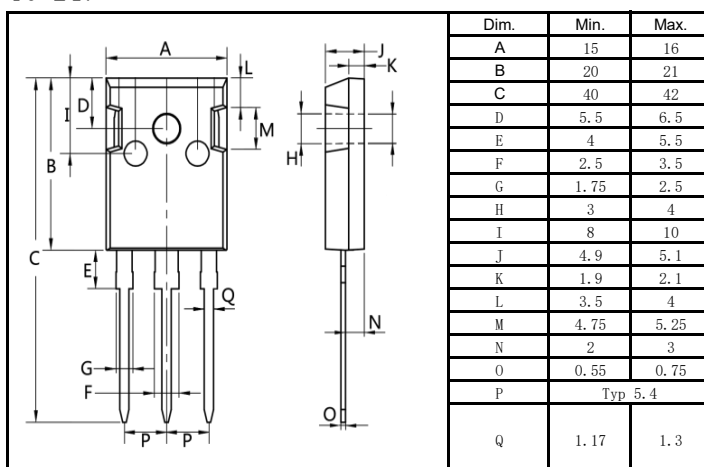
Electrical characteristics of IGBT at $T_{vj}=25^{\circ}\text{C}$ unless otherwise specified

Switching characteristics

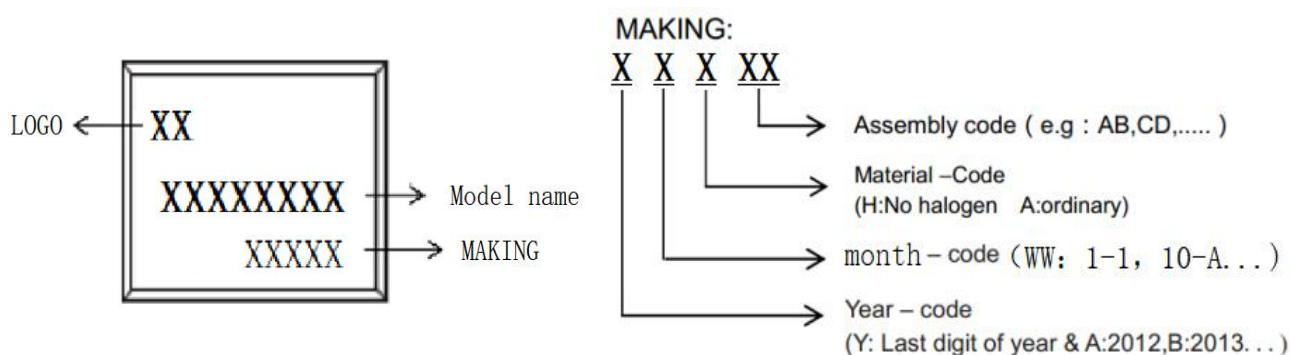
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Turn-on delay time	$V_{CC}=600\text{V}$ $V_{GE}=15\text{V}$ $I_C=40\text{A}$ $R_G=10\Omega$ Inductive load	td(on)	-	40	-	ns
Rise time		tr	-	89	-	ns
Turn-off delay time		td(off)	-	380	-	ns
Fall time		tf	-	47	-	ns
Turn-on energy		Eon	-	3.5	-	mJ
Turn-off energy		Eoff	-	2	-	mJ
Total switching energy		Ets	-	5.5	-	mJ
Diode forward voltage	$I_F=40\text{A}$	VF	-	1.8	-	V
Diode reverse recovery time	$V_R=600\text{V}$	trr	-	250	-	ns
Diode peak reverse recovery current	$I_F=40\text{A}$	Irrm	-	22	-	A
Diode reverse recovery charge	$diF/dt=-450\text{A}/\mu\text{s}$	Qrr	-	2.2	-	μC

Package Outline Dimensions millimeters

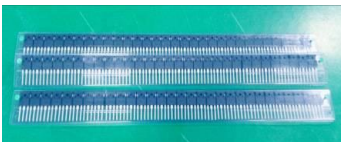
TO-247



Marking on the body



packing instruction

PKG	最小包装	内盒	外箱
TO-247			
	30PCS/管	600pcs/盒	2400pcs/箱

Notice

All product,product specifications and data are subject to change without notice to improve.The right to explain is owned by LINGXUN company.

Confirm that operation temperature is within the specified range described in the product specification. Avoid applying poer exceeding poer; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.

LINGXUN electronics shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in t