LG200N08AB

N-Channel SGT Power MOSFET

MAIN CHARACTERISTICS

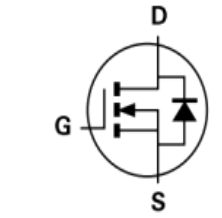
I_D	200A
V_{DSS}	80V
R_{DSON}-typ （@V_{GS}=10V）	2.7mΩ

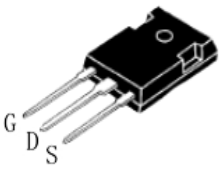
FEATURES

- Ultra-Low RDS(ON)
- Low Gate Charge
- High Current Capability

APPLICATIONS

- Power Management in Telecom.,Industrial Automa
- Motor Driving in Power Tool,E-vehicle,Robotics
- Current Switching in DC/DC&AC/DC(SR) Sub-syst





TO-247

Product specification classification

Part Number	Package	Mode Name	Pack
LG200N08AB	TO-247	LG200N08AB	Tube

LG200N08AB

N-Channel SGT Power MOSFET

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	80	V
Gate-Source Voltage	V_{GS}	±20	V
Continue Drain Current	I_D	200	A
Pulsed Drain Current (Note1)	I_{DM}	800	A
Power Dissipation	P_D	268	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	700	mJ
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.47	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	34	°C/W

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

Electrical Characteristics at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{GS} = 0 V,I_D = 250 μA	BV_{DSS}	80	-	-	V
Drain-Source Leakage Current	V_{DS} = 80 V, V_{GS} = 0 V	I_{DSS}	-	-	1	μA
Gate Leakage Current	V_{GS} = ± 20 V, V_{DS} = 0 V	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	V_{DS} = V_{GS} , I_D = 250 μA	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance	V_{GS} = 10 V, I_D = 20 A	$R_{DS(on)}$	-	2.7	3.4	mΩ
Input Capacitance	VDS=40V , VGS=0V , f=1.0MHz	C_{iss}	-	7000	-	pF
Output Capacitance		C_{oss}	-	3500	-	pF
Reverse Transfer Capacitance		C_{rss}	-	250	-	pF
Turn-on Delay Time(Note2)	VDS=39V , VGS=10V RG=6.2R , ID=20A	$t_{d(ON)}$	-	31	-	ns
Rise Time(Note2)		t_r	-	35	-	ns
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	61	-	ns
Fall Time(Note2)		t_f	-	31	-	ns
Total Gate Charge(Note2)	VDS=40V , VGS=10V ID=20A	Q_G	-	91	-	nC
Gate to Source Charge(Note2)		Q_{GS}	-	33	-	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	18	-	nC

Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current		I_S	-	-	200	A
Maximum Pulsed Body Diode Forward Current		ISM	-	-	800	A
Drain-Source Diode Forward Voltage	VGS=0V , IS=20A , TJ=25°	V_{SD}	-	-	1.2	V
Reverse Recovery Time(Note2)	IF = 20A, di/dt = 100A/us	trr	-	75	-	ns
Reverse Recovery Charge(Note2)		Qrr	-	155	-	nC

Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

RATINGS AND CHARACTERISTIC CURVES

Figure 1: Power De-rating

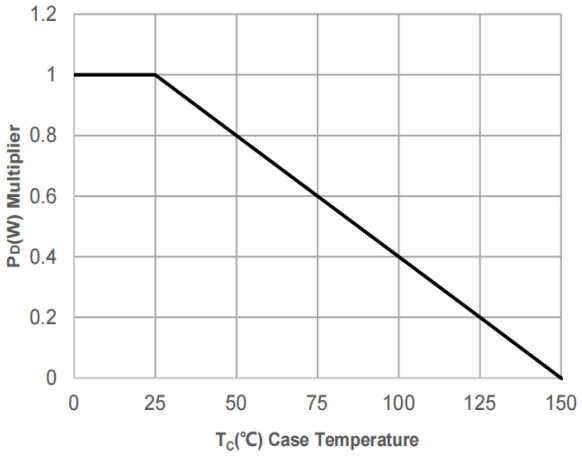


Figure 2: Current De-rating

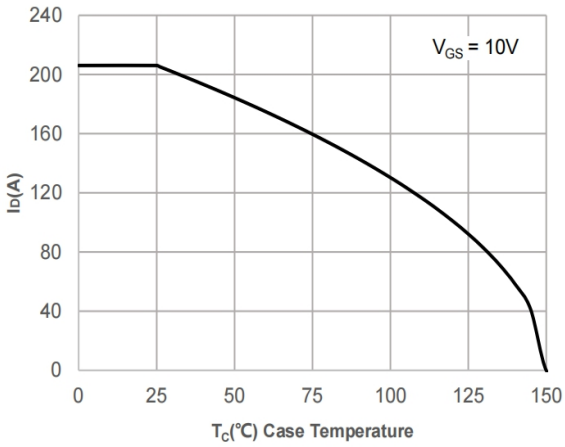


Figure 3: Normalized Maximum Transient Thermal Impedance

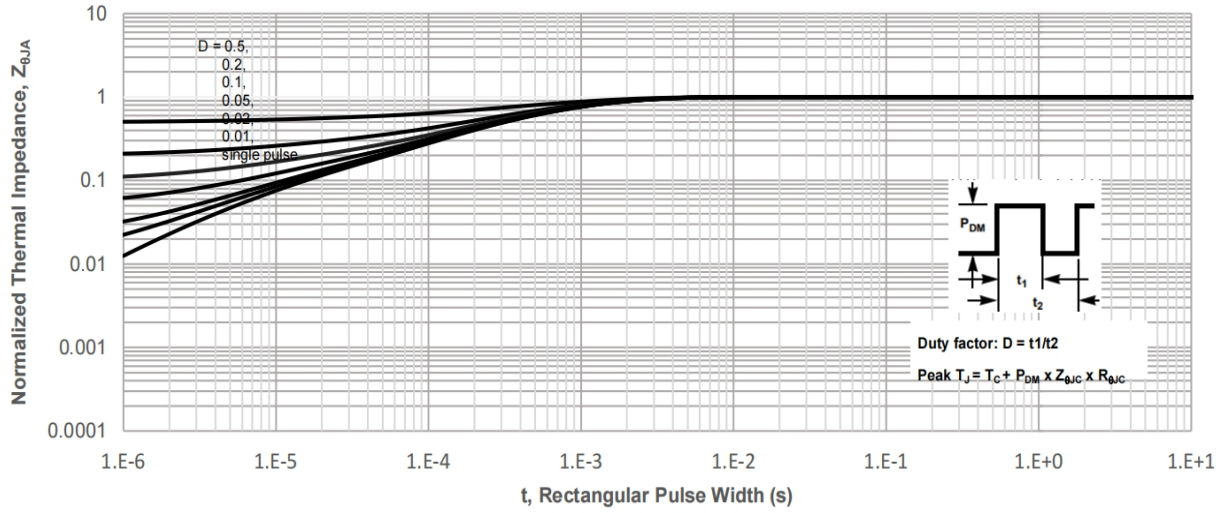
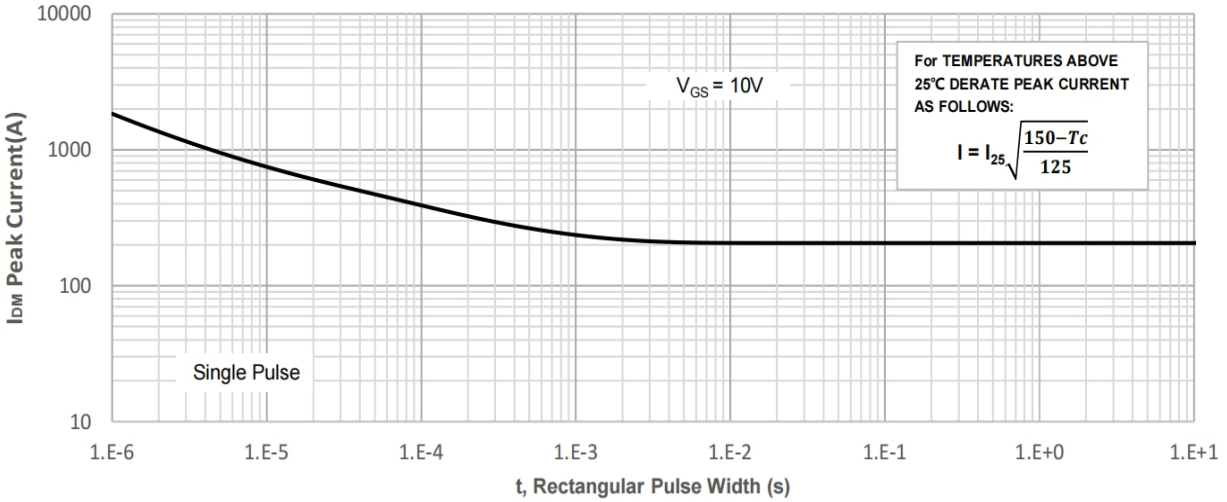


Figure 4: Peak Current Capacity



RATINGS AND CHARACTERISTIC CURVES

Figure 5: Output Characteristics

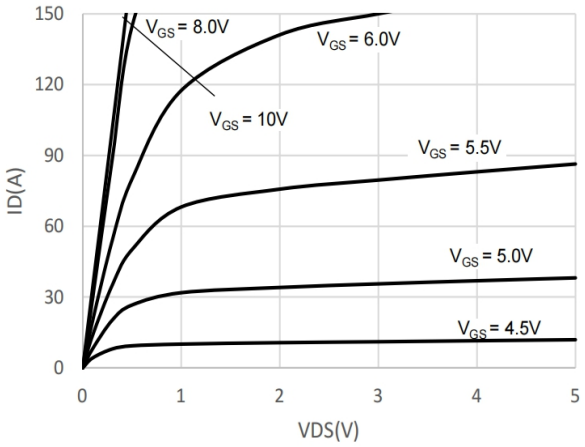


Figure 6: Typical Transfer Characteristics

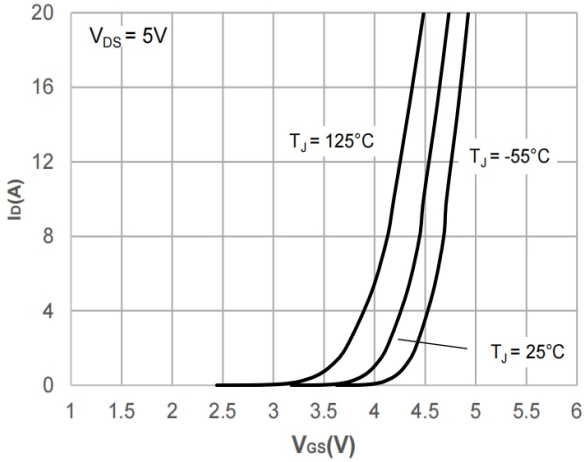


Figure 7: On-resistance vs. Drain Current

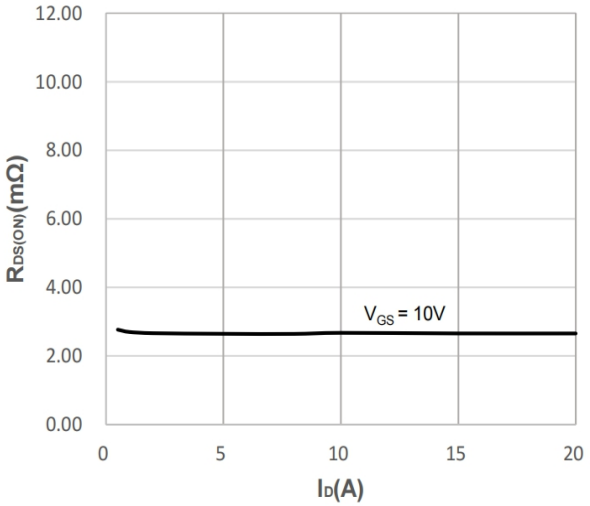


Figure 8: Body Diode Characteristics

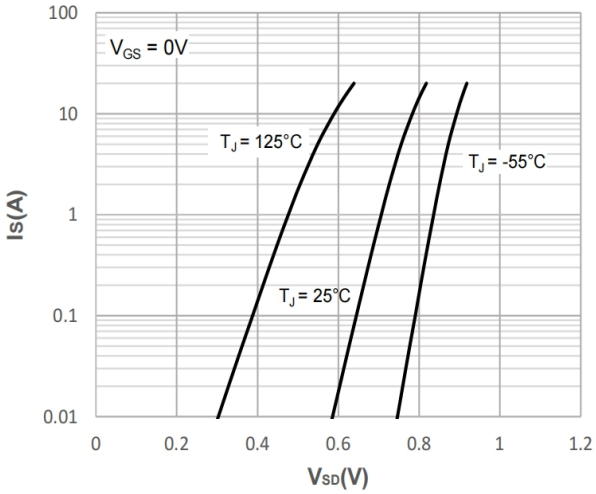


Figure 9: Gate Charge Characteristics

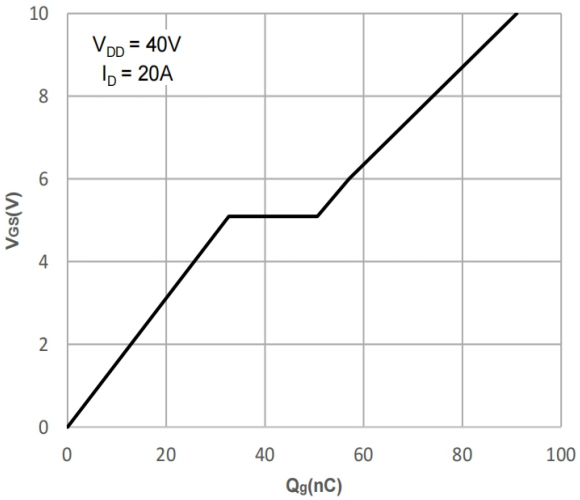
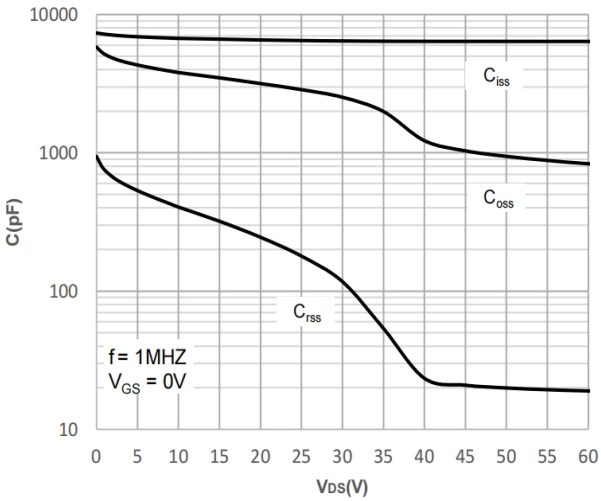


Figure 10: Capacitance Characteristics



RATINGS AND CHARACTERISTIC CURVES

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

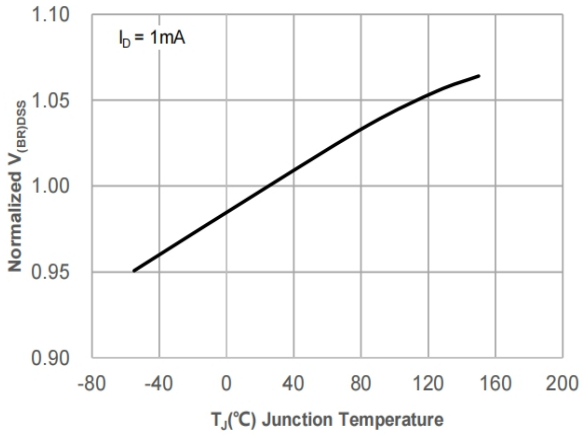


Figure 12: Normalized on Resistance vs. Junction Temperature

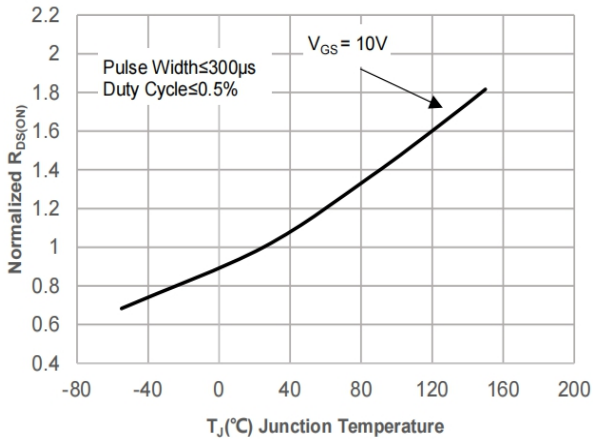


Figure 13: Normalized Threshold Voltage vs. Junction Temperature

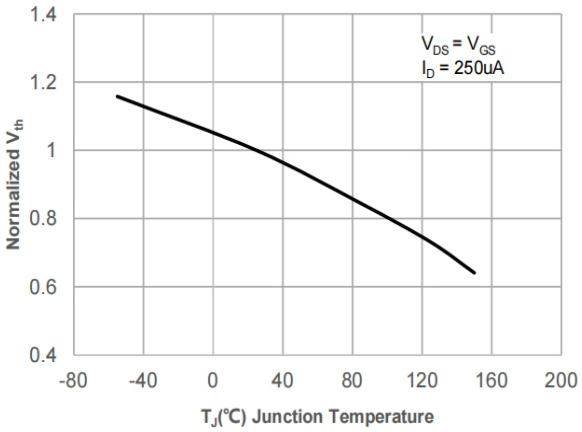


Figure 14: $R_{DS(ON)}$ vs. V_{GS}

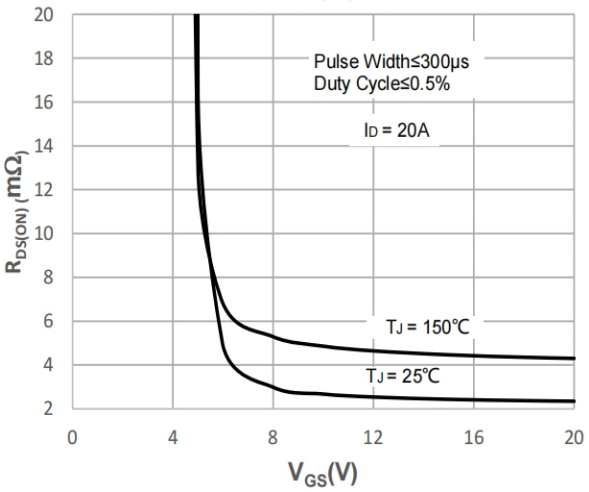
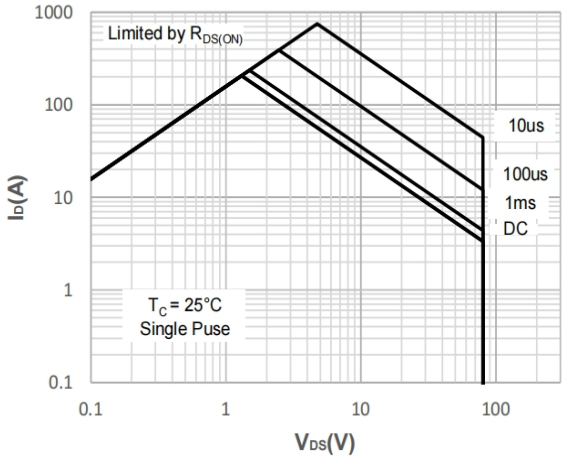
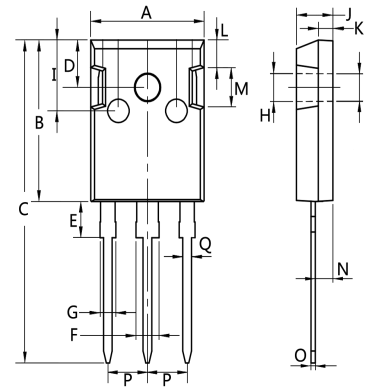


Figure 15: Maximum Safe Operating Area



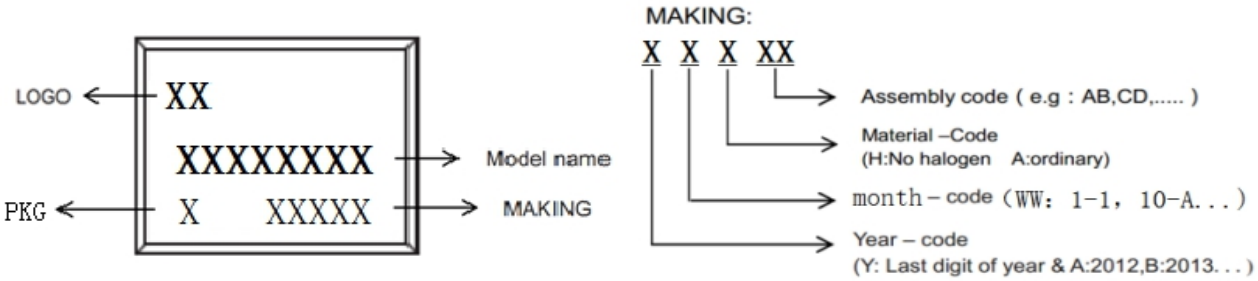
Package Outline Dimensions millimeters

TO-247

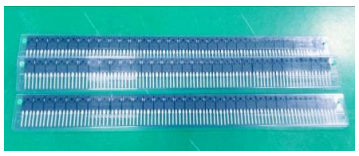


Dim.	Min.	Max.
A	15	16
B	20	21
C	40	42
D	5.5	6.5
E	4	5.5
F	2.5	3.5
G	1.75	2.5
H	3	4
I	8	10
J	4.9	5.1
K	1.9	2.1
L	3	4
M	4.75	5.25
N	2	3
O	0.55	0.65
P	Typ 5.4	
Q	1.17	1.3
All Dimensions in millimeter		

Marking on the body



packing instruction

PKG	最小包装	内盒	外箱
TO-247			
	30pcs/管	600pcs/盒	3000pcs/箱

Notice

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

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