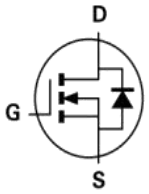
LT80N04AG

N-Channel Enhancement Mode MOSFET

MAIN CHARACTERISTICS

I_D	80A
V_{DSS}	40V
R_{DSON}-typ （@V_{GS}=10V）	5.5mΩ



FEATURES

• Adopt advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

PDFN5x6

APPLICATIONS

• Battery protection
• Load switch
• Uninterruptible power supply

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℃ maximum,10s per JESD 22-B106

Product specification classification

Part Number	Package	Mode Name	Pack
LT80N04AG	PDFN5x6	LT80N04AG	Tape

LT80N04AG

N-Channel Enhancement Mode MOSFET

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	±20	V
Continue Drain Current	I_D	80	A
Pulsed Drain Current (Note1)	I_{DM}	350	A
Power Dissipation	P_D	80	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	750	mJ
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.88	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62	°C/W

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

Electrical Characteristics at Tc=25°C unless otherwise specified

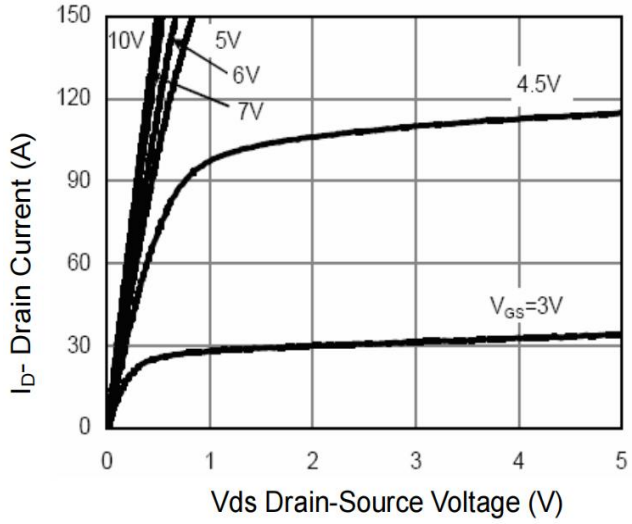
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{GS} = 0 V,I_D = 250 μA	BV_{DSS}	40	-	-	V
Drain-Source Leakage Current	V_{DS} = 40 V, V_{GS} = 0 V	I_{DSS}	-	-	1	μA
Gate Leakage Current	V_{GS} = ± 20 V, V_{DS} = 0 V	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	V_{DS} = V_{GS} , I_D = 250 μA	$V_{GS(th)}$	1.1	-	2.4	V
Drain-Source On-State Resistance	V_{GS} = 10 V, I_D = 30A	$R_{DS(on)}$	-	5.5	7	mΩ
	V_{GS} = 4.5 V, I_D = 20A	$R_{DS(on)}$	-	8	12	mΩ
Forward Transconductance	V_{DS} = 10 V, I_D = 20 A	gfs	15	-	-	S
Input Capacitance	VDS=20V , VGS=0V , f=1MHz	C_{iss}	-	2662	3200	pF
Output Capacitance		C_{oss}	-	322	-	pF
Reverse Transfer Capacitance		C_{rss}	-	246	-	pF
Turn-on Delay Time(Note2)	VDD=20V , VGS=10V , RG=3 Ω , RL=1 Ω	$t_{d(ON)}$	-	12	-	ns
Rise Time(Note2)		t_r	-	11	-	ns
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	39	-	ns
Fall Time(Note2)		t_f	-	12	-	ns
Total Gate Charge(Note2)	VDS=20V , VGS=10V , ID=20A	Q_G	-	54.3	-	nC
Gate to Source Charge(Note2)		Q_{GS}	-	6.9	-	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	14.5	-	nC

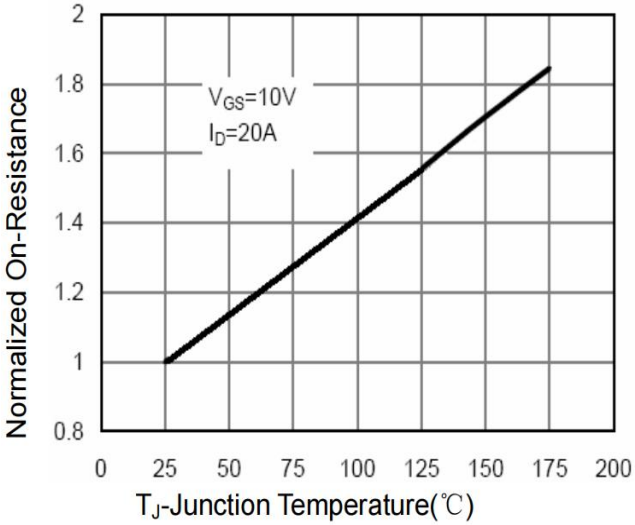
Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified

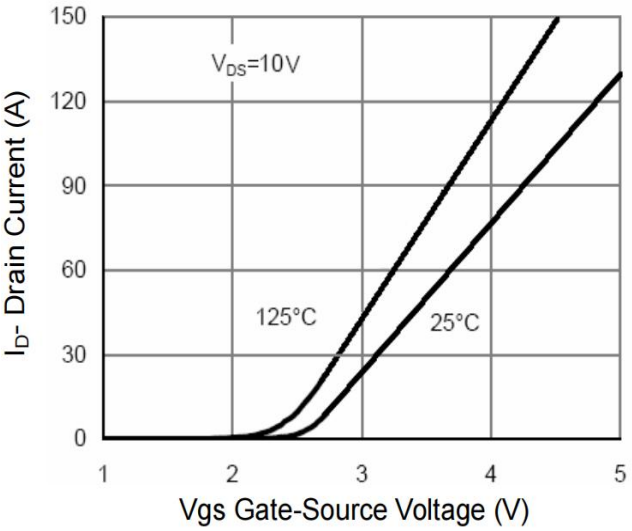
Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current		I_S	-	-	80	A
Drain-Source Diode Forward Voltage	VGS=0V , IS=10A , TJ=25℃	V_{SD}	-	-	1.2	V
Reverse Recovery Time(Note2)	T_J = 25℃, I_F= 20A di / dt = 100 A/μs	trr	-	-	45	ns
Reverse Recovery Charge(Note2)		Qrr	-	-	50	nC

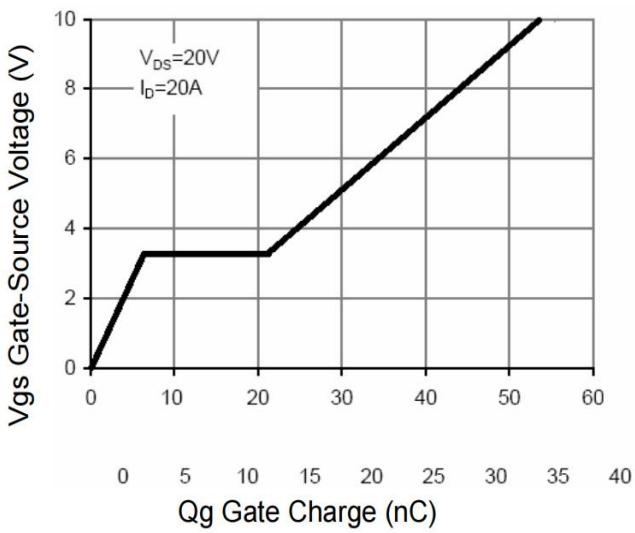
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

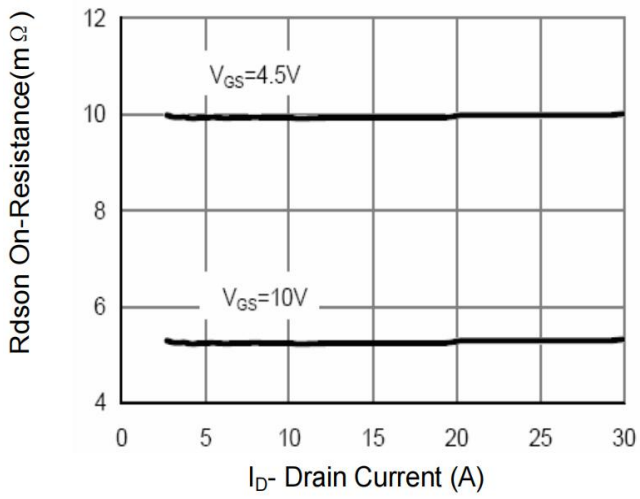
RATINGS AND CHARACTERISTIC CURVES

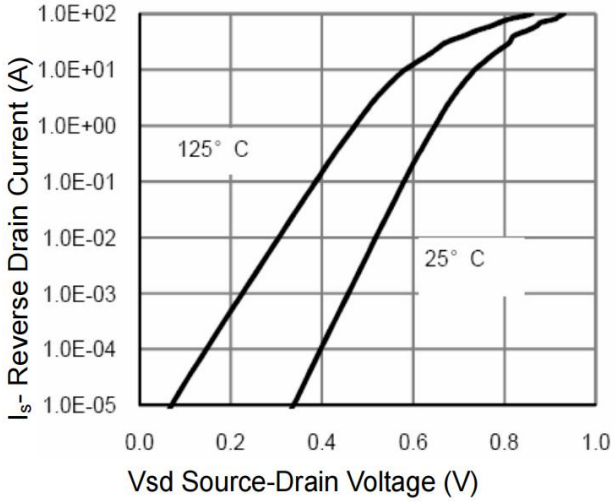




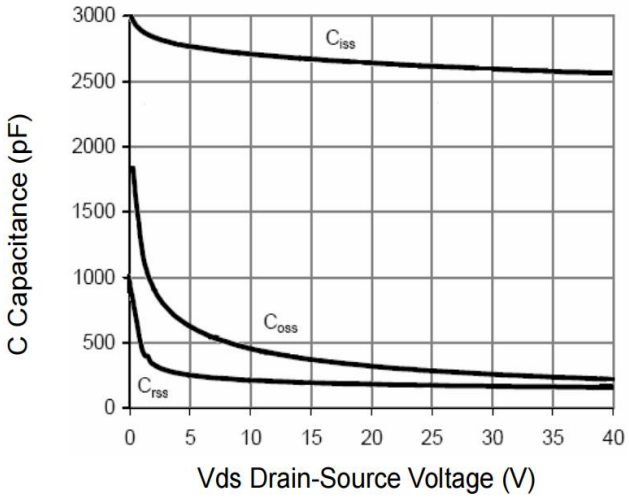


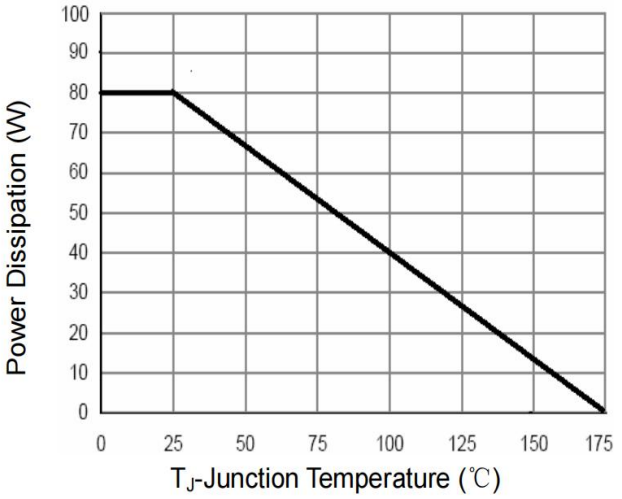


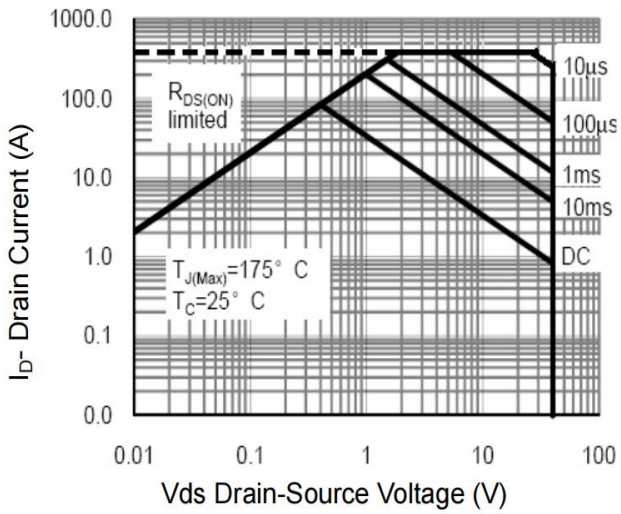


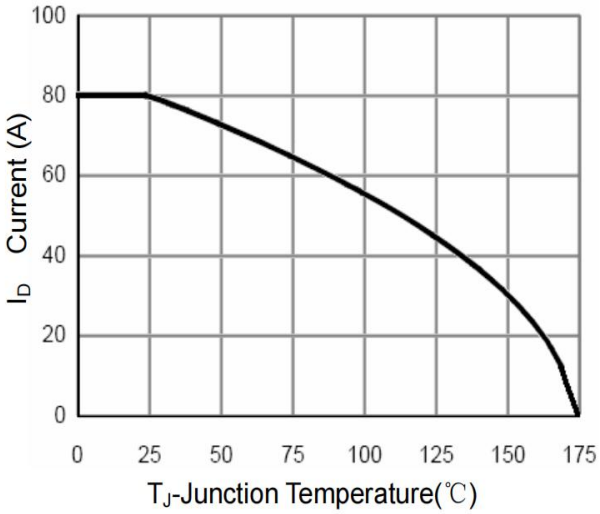


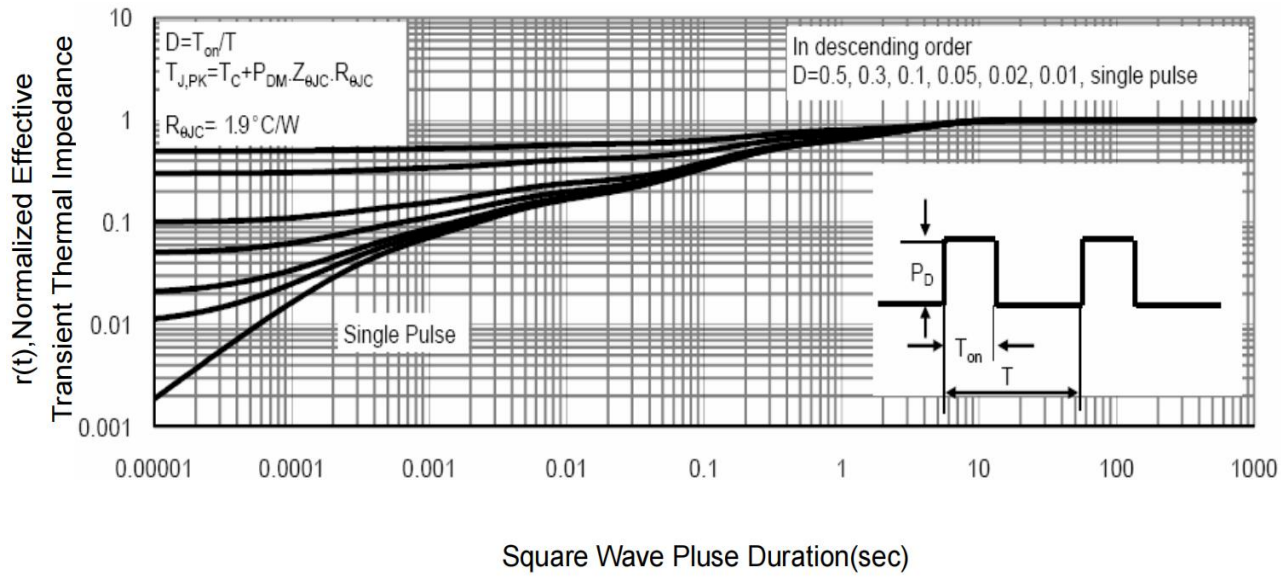
RATINGS AND CHARACTERISTIC CURVES





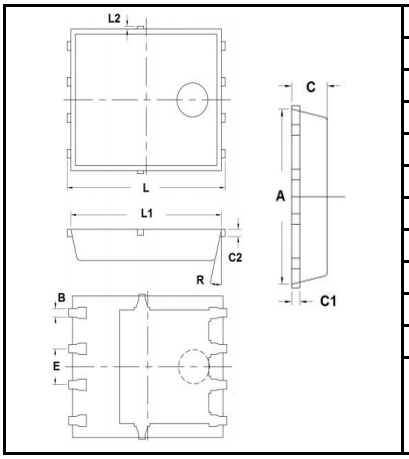






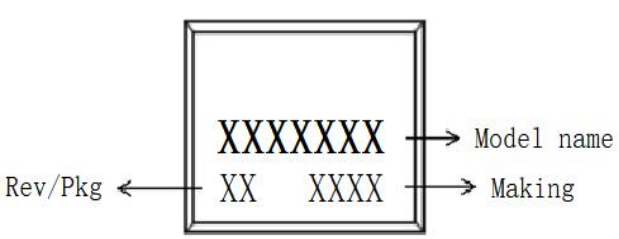
Package Outline Dimensions millimeters

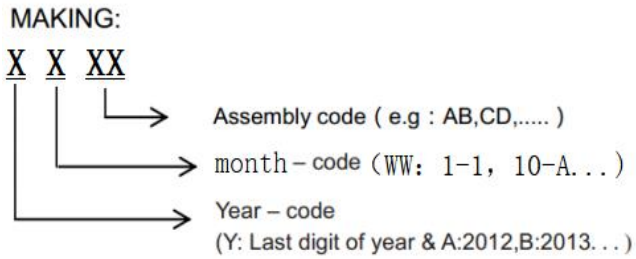
PDFN5*6



Dim.	Min.	Max.
A	4.8	5.2
B	0.25	0.35
C	1	1.2
C1	Typ0.254	
C2	Typ0.254	
E	Typ1.27	
L	6	6.3
L1	5.7	6
L2	Max0.2	
R	Typ13°	
All Dimensions in millimeter		

Marking on the body





packing instruction

PKG	最小包装	内盒	外箱
PDFN5x6			
	5000pcs/盘	10000pcs/盒	50000pcs/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 rated 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 this document.