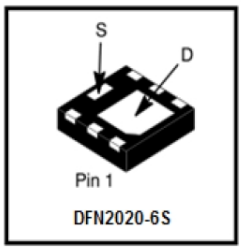
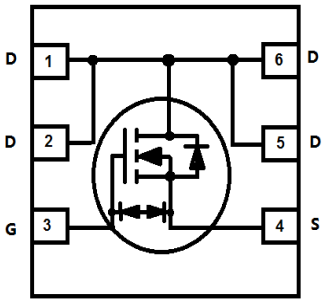
LN2320EDT2AG

N-Channel 20V (D-S) MOSFET , ESD Protection



1. FEATURES

- Low Gate Threshold Voltage
- Fast Switching Speed
- ESD Protected Gate
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



2.APPLICATIONS

- Battery Management Application
- Power Management Functions
- DC-DC Converters

3. ORDERING INFORMATION

Device	Marking	Shipping
LN2320EDT2AG	ED	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain−to−Source Voltage		VDSS	20	V
Gate−to−Source Voltage		VGS	±8	V
Avalanche Current		IAS	11	A
Avalanche energy L=0.1mH		EAS	6	mJ
Continuous Drain Current		ID	8	A
Pulsed Drain Current		IDM	26	A
Maximum Power Dissipation	TA =25°C	PD	1.4	W
	TA =70°C		0.9	
Operating Junction Temperature		TJ	−55 ~+150	ºC
Thermal Resistance-Junction to Ambient(Note1)		RθJA	90	ºC/W
Thermal Resistance-Junction to Case		RθJC	75	ºC/W

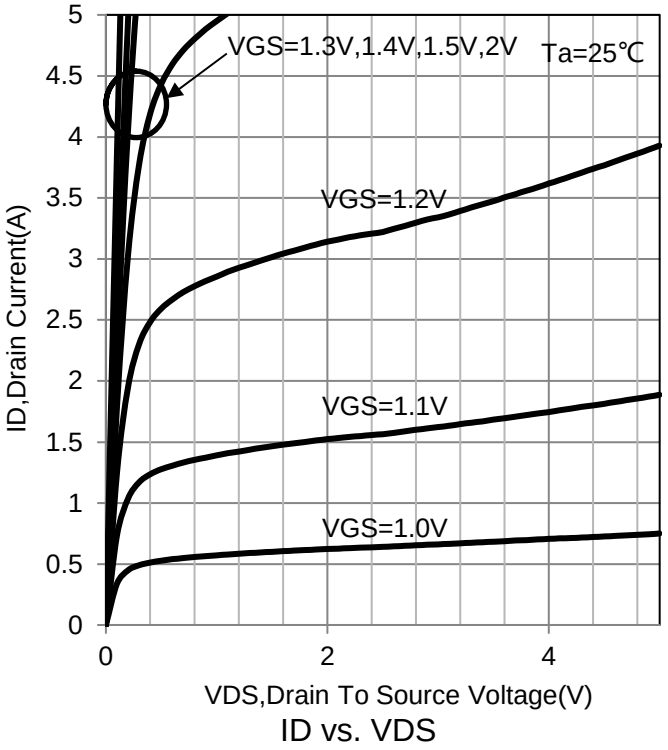
1. The device mounted on 1in ² FR4 board with 2 oz copper

5. ELECTRICAL CHARACTERISTICS

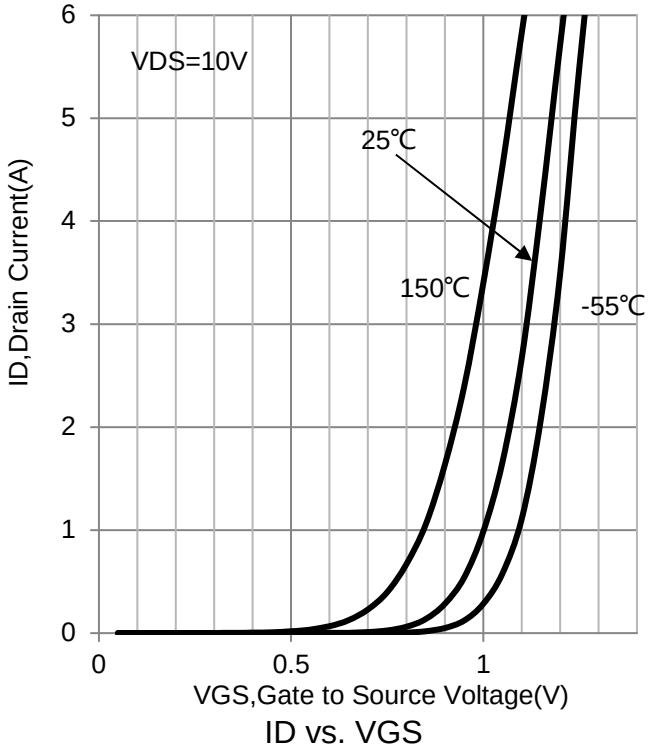
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)		V(BR)DSS	20	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250μA)		VGS(th)	0.4	-	1	V
Gate Leakage Current (VDS =0V, VGS =±8V)		IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =20V, VGS =0V)		IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 2) (VGS =4.5V, ID = 4A) (VGS =2.5V, ID = 4A) (VGS =1.8V, ID = 4A)		RDS(ON)	- - -	15 18 24	22 28 40	mΩ
Diode Forward Voltage (VGS = 0V, IS = 5A)		VSD	-	-	1	V
DYNAMIC						
Total Gate Charge	(VDS =10V, VGS =4.5V, ID =6.5A)	Qg	-	8	-	nC
Gate-Source Charge		Qgs	-	1.4	-	
Gate-Drain Charge		Qgd	-	1.5	-	
Input Capacitance	(VDS =10V, VGS =0V,f=1MHz)	Ciss	-	425	-	pF
Output Capacitance		Coss	-	73	-	
Reverse Transfer Capacitance		Crss	-	48	-	
Turn-On Delay Time	(VDS =10V, RL = 1.5Ω，VGS =5V, RGEN =3Ω)	td(on)	-	250	-	ns
Turn-On Rise Time		tr	-	420	-	
Turn-Off Delay Time		td(off)	-	3950	-	
Turn-Off Fall Time		tf	-	3700	-	

2. Pulse test; pulse width ≤ 300us, duty cycle≤ 2%

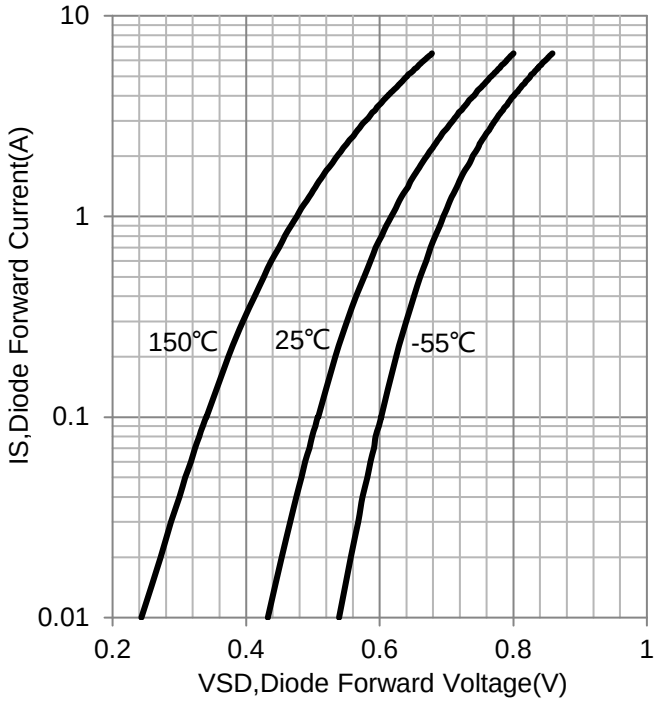
6.ELECTRICAL CHARACTERISTICS CURVES



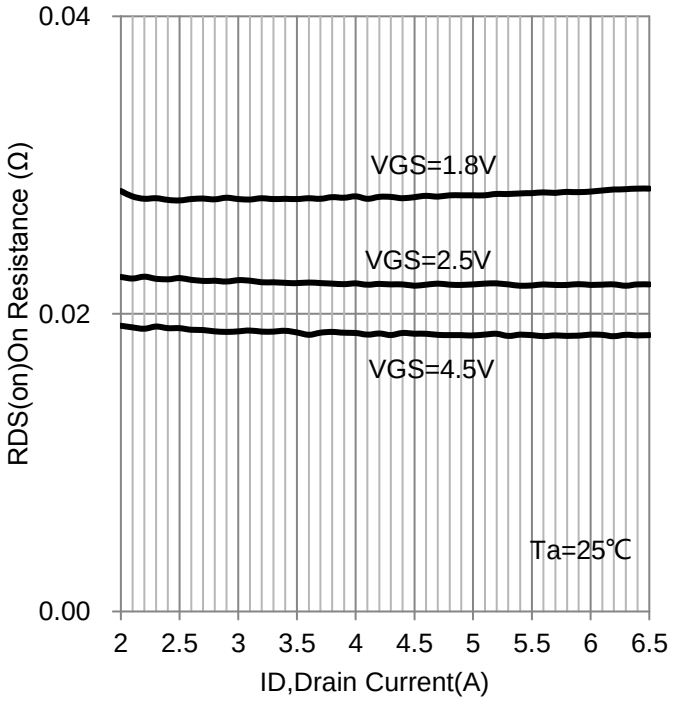
ID vs. VDS



ID vs. VGS

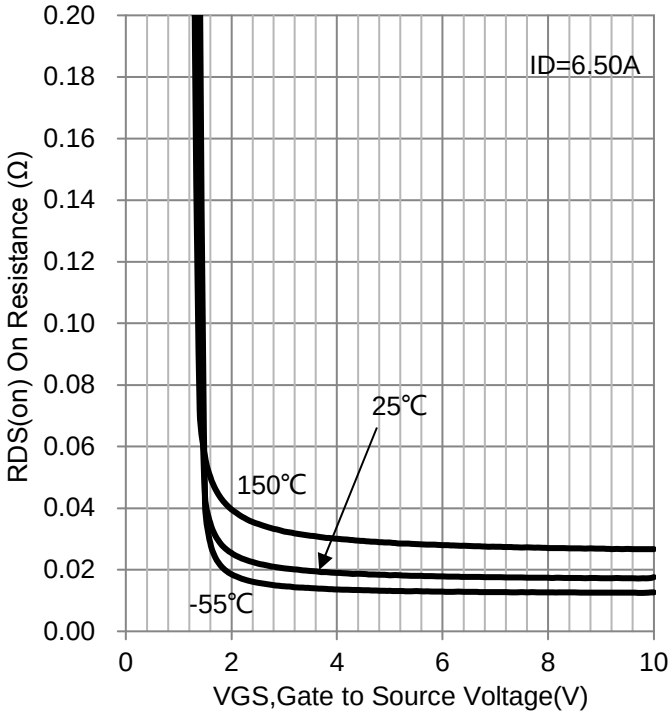


IS vs. VSD

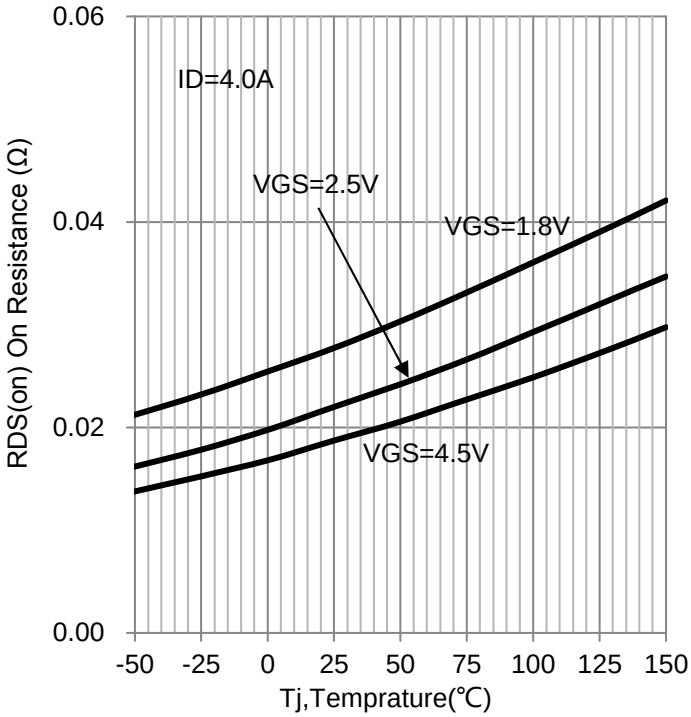


RDS(on) vs. ID

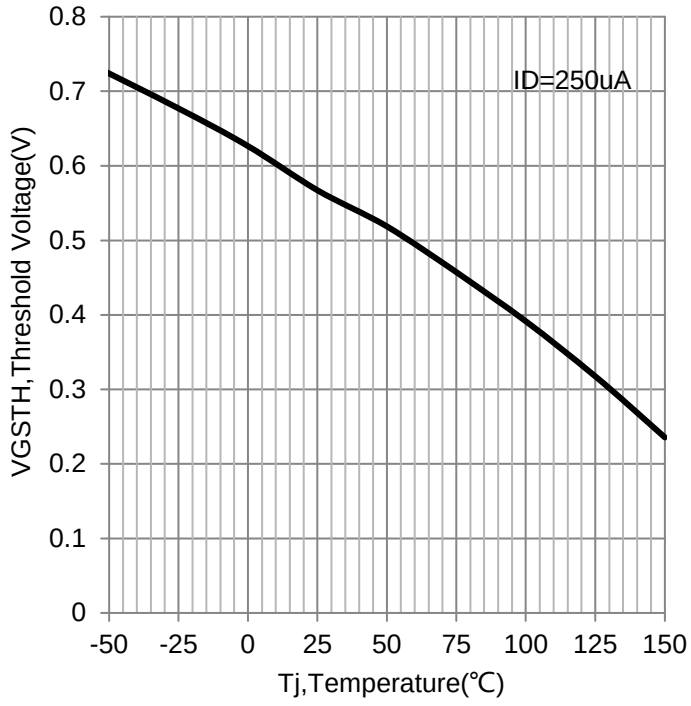
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



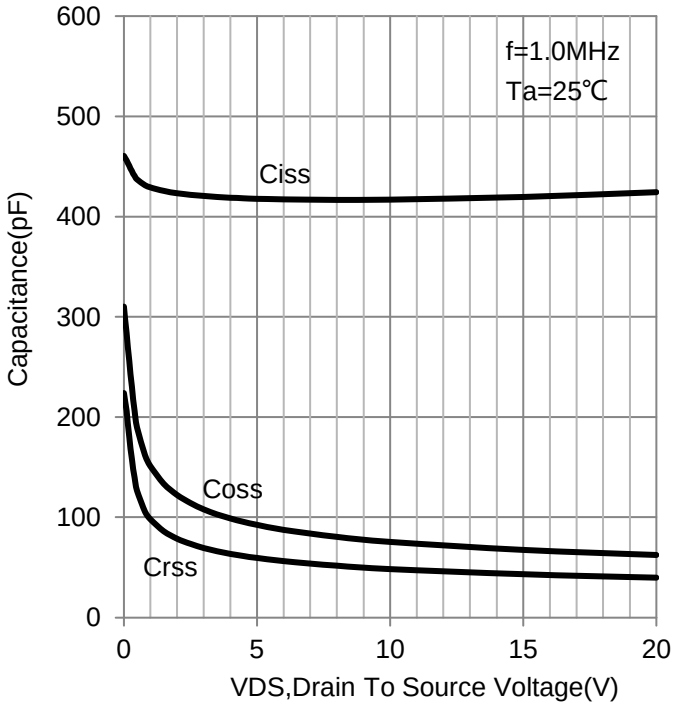
RDS(on) vs. VGS



RDS(on) vs. Tj

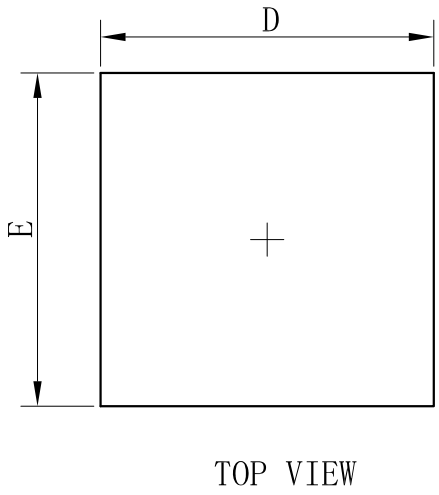


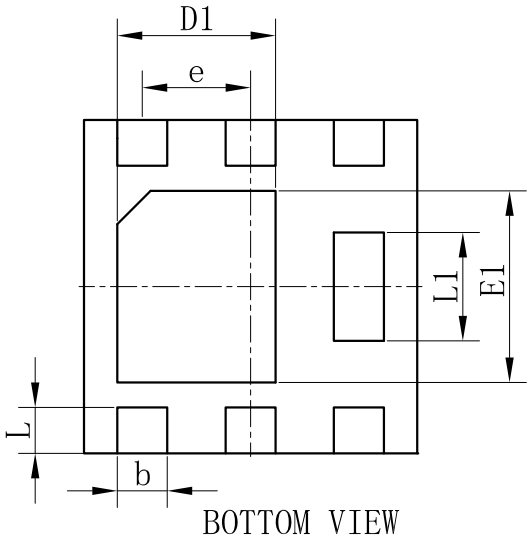
VGSTH vs. Tj



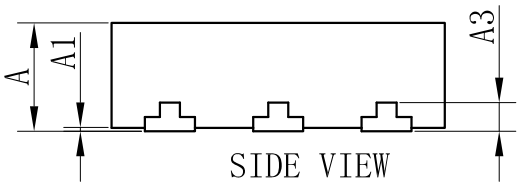
Capacitance

7.OUTLINE AND DIMENSIONS

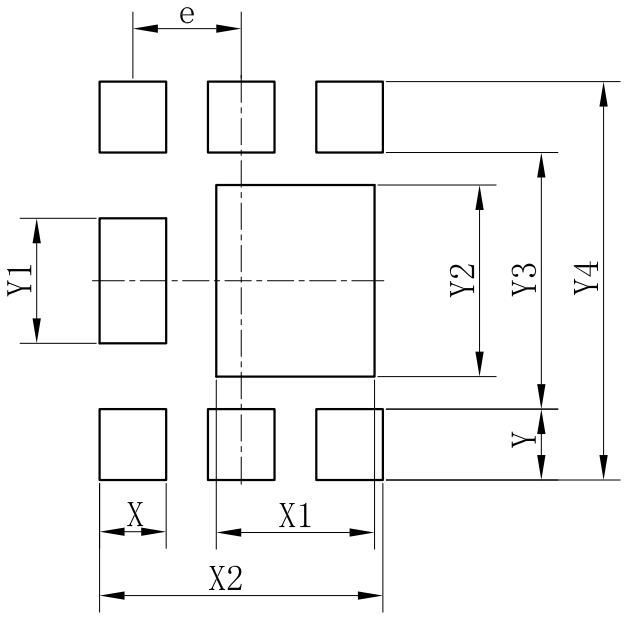




DFN2020-6S			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.01	0.03	0.05
b	0.25	0.30	0.35
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	0.65TYP.		
L	0.23	0.28	0.33
L1	0.60	0.65	0.70
D1	0.90	0.95	1.00
E1	1.10	1.15	1.20
A3	0.152REF.		
All Dimensions in mm			



8.SOLDERING FOOTPRINT



DFN2020-6S	
DIM	(mm)
X	0.40
X1	0.95
X2	1.70
e	0.65
Y	0.425
Y1	0.75
Y2	1.15
Y3	1.54
Y4	2.39

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

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