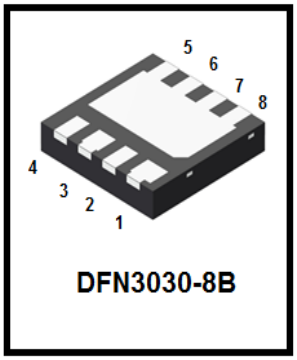
LN8544DT1AG

N-Channel 30-V (D-S) MOSFET

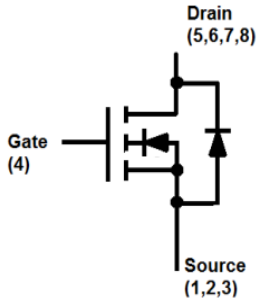


1. FEATURES

- Low Gate Charge
- High Current Capability
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

2. APPLICATION

- DC/DC Converters in Computing, Servers, and POL
- Isolated DC/DC Converters in Telecom and Industrial



3. ORDERING INFORMATION

Device	Marking	Shipping
LN8544DT1AG	854	3000/Tape&Reel

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

Parameter		Symbol	Limits	Unit
Drain−to−Source Voltage		VDSS	30	V
Gate−to−Source Voltage		VGS	±20	V
Avalanche Current		IAS	31	A
Avalanche energy L=0.1mH		EAS	48	mJ
Continuous Drain Current(Note 1)	TC =25°C	ID	47	A
	TC =70°C		38	
	TA =25°C		16	
	TA =70°C		13	
Pulsed Drain Current		IDM	64	A
Maximum Power Dissipation(Note 1)	TC =25°C	PD	20	W
	TC =70°C		13	
	TA =25°C		2.5	
	TA =70°C		1.6	
Operating Junction Temperature		TJ	−55 ~+150	ºC
Storage Temperature Range		Tstg	−55 ~+150	
Thermal Resistance-Junction to Ambient(Note 1)		RθJA	50	ºC/W
Thermal Resistance-Junction to Case(Note 1)		RθJC	6	

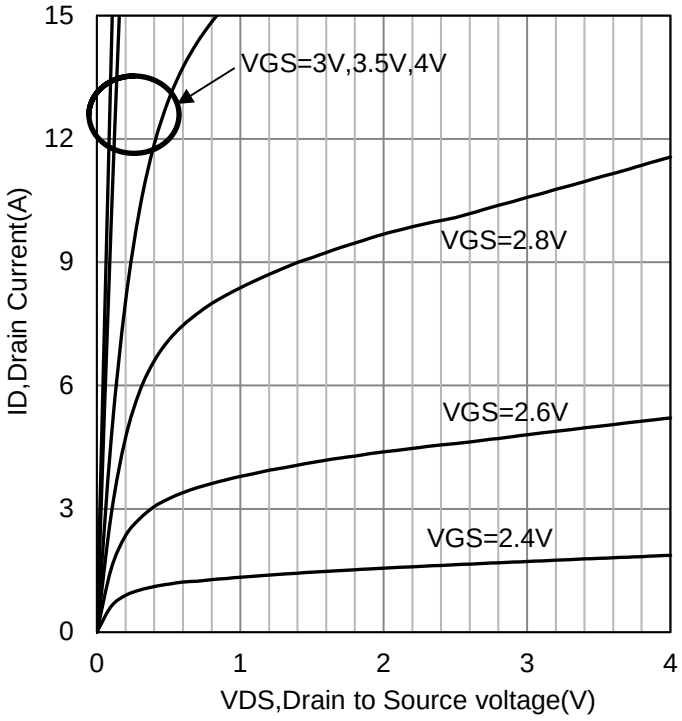
1.The device mounted on 1in ² FR4 board with 2 oz copper

5. ELECTRICAL CHARACTERISTICS

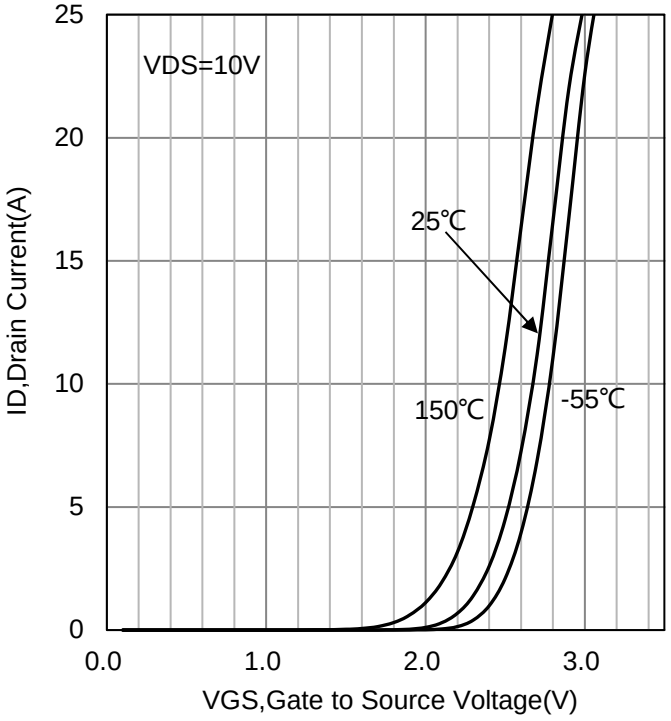
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)		V(BR)DSS	30	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = 250 μA)		VGS(th)	1	-	2.1	V
Gate Leakage Current (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 30 V, VGS =0V)		IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 2) (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 16 A)		RDS(on)	- -	3.7 5.4	5.6 7.6	mΩ
Diode Forward Voltage (IS = 1.0 A, VGS = 0 V)		VSD	-	0.7	1.2	V
Dynamic						
Total Gate Charge (VDS = 15 V, VGS = 10 V, ID = 20 A)		Qg	-	54	-	nC
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 20 A)	Qg	-	27	-	
Gate-Source Charge		Qgs	-	9.5	-	
Gate-Drain Charge		Qgd	-	11	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V,F= 1MHz)	Ciss	-	2450	-	pF
Output Capacitance		Coss	-	393	-	
Reverse Transfer Capacitanc		Crss	-	129	-	
Turn-On Delay Time	(VDD = 15 V, RL = 15 Ω,VGEN = 10 V, RG = 3 Ω)	td(on)	-	23	-	ns
Rise Time		tr	-	16	-	
Turn-Off Delay Time		td(off)	-	73	-	
Fall Time		tf	-	12	-	

2.Pulse test: pulse width≤300us, duty cycle≤2%, Guaranteed by design, not subject to production testing.

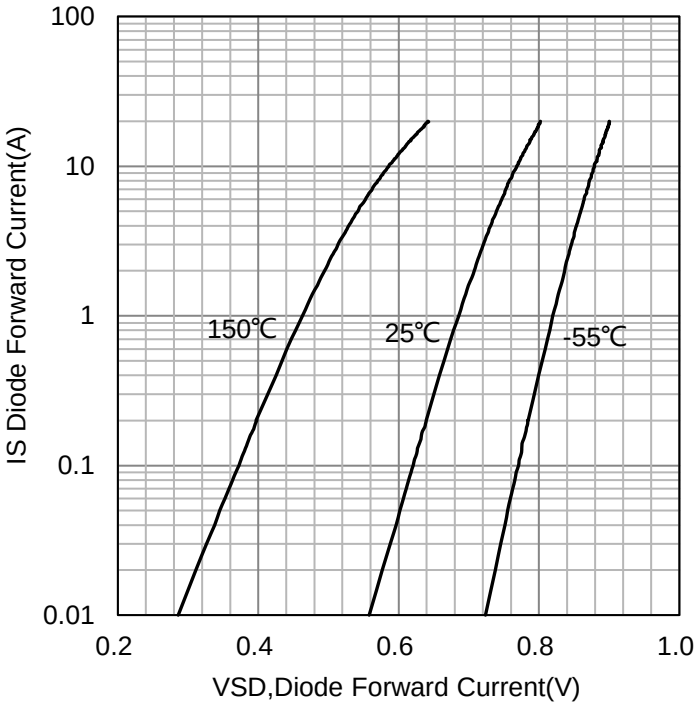
6. ELECTRICAL CHARACTERISTICS CURVES



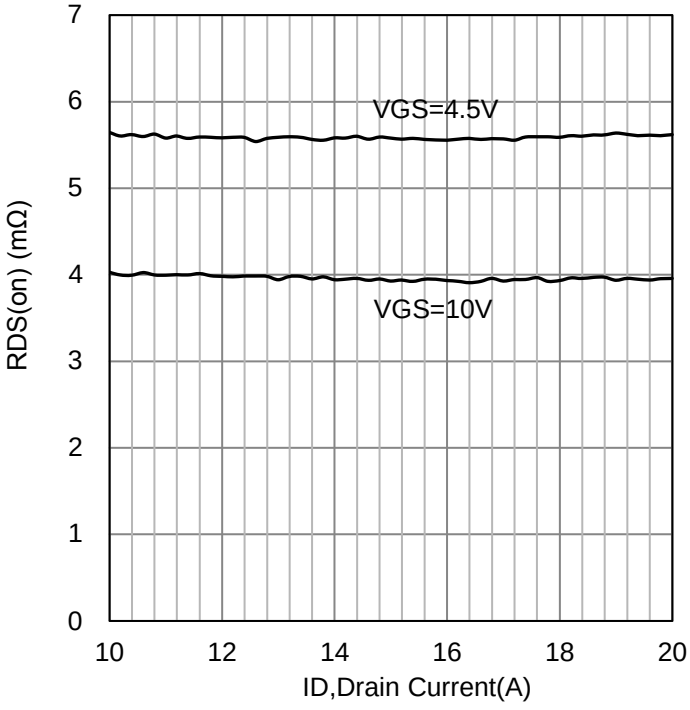
ID vs. VDS



ID vs. VGS

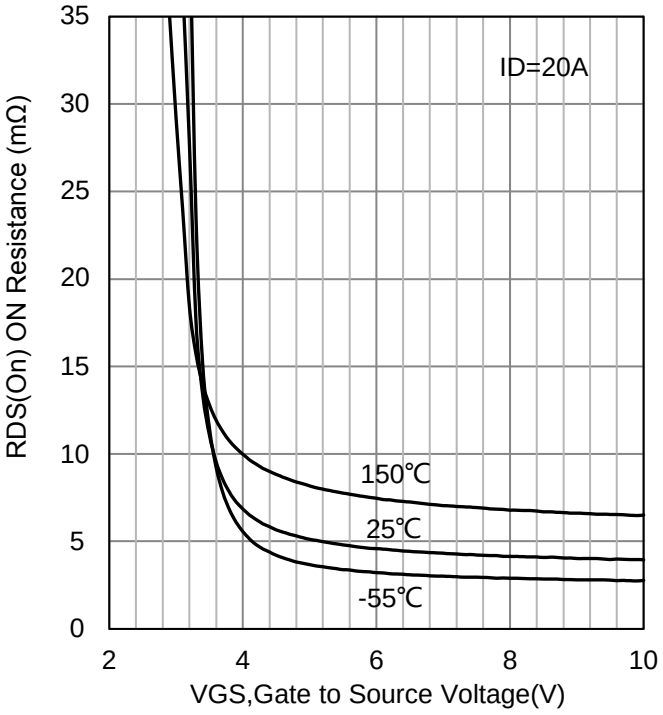


IS vs. VSD

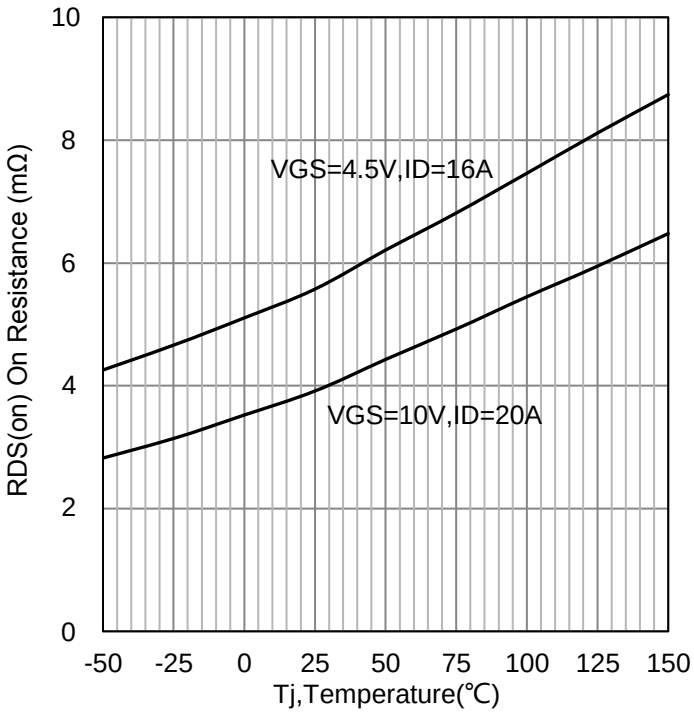


RDS(on) vs. ID

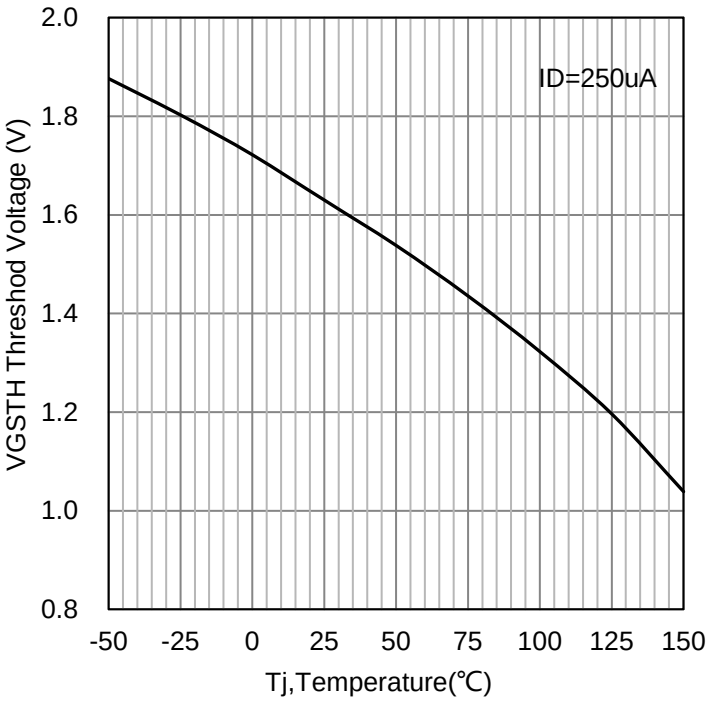
6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



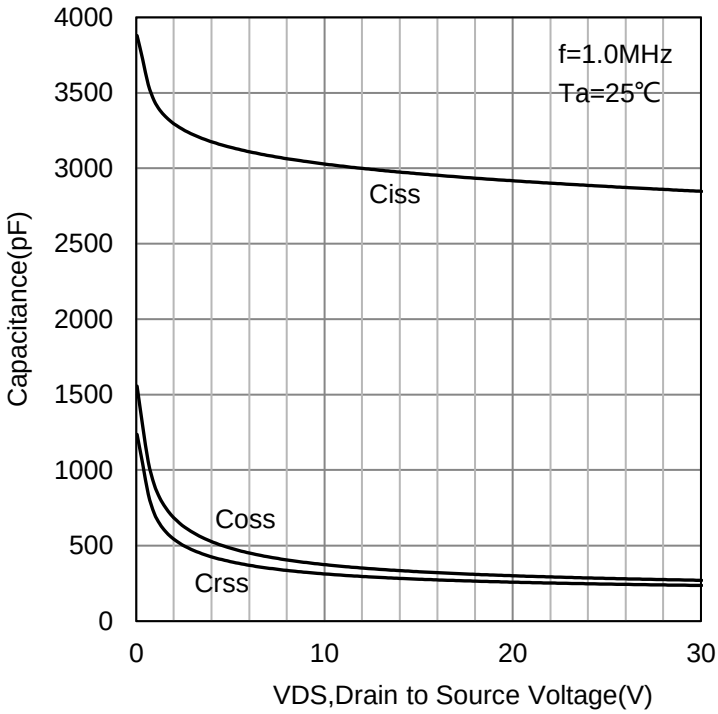
RDS(on) vs. VGS



RDS(on) vs. Tj

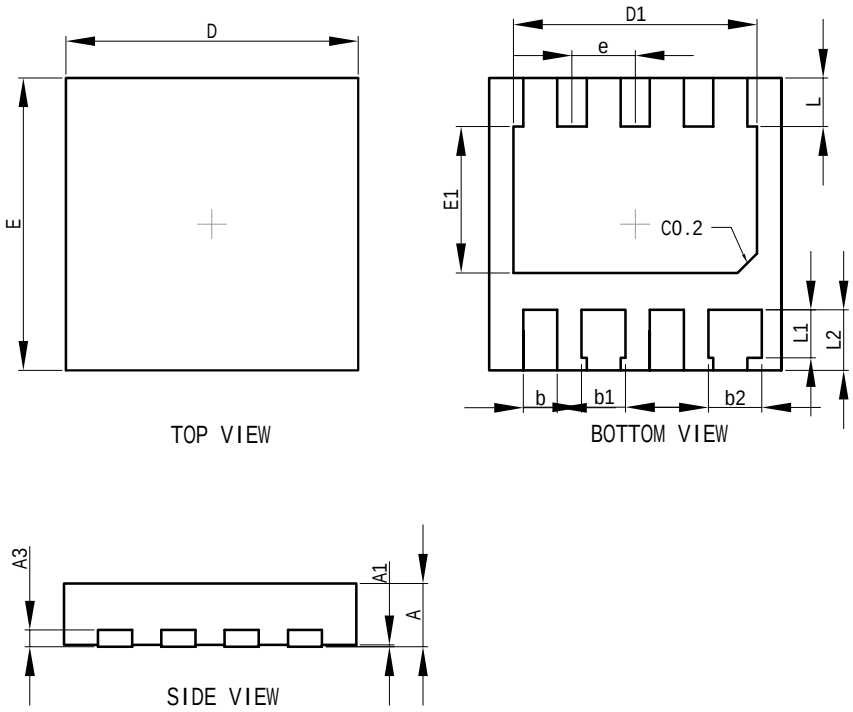


VGSTH vs. Tj



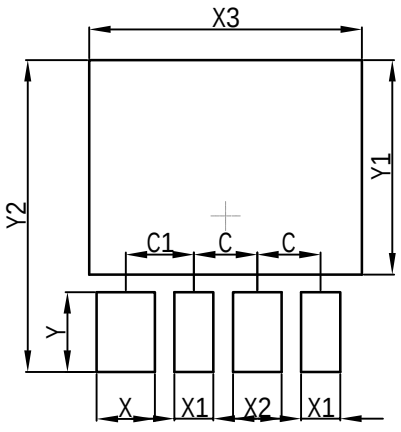
Capacitance

7.OUTLINE AND DIMENSIONS



DFN3030-8B			
Dim	Min	Nor	Max
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.30	0.35	0.40
b1	0.40	0.45	0.50
b2	0.50	0.55	0.60
D	2.95	3.00	3.05
E	2.95	3.00	3.05
D1	2.45	2.50	2.55
E1	1.45	1.50	1.55
e	0.65BSC		
L	0.45	0.50	0.55
L1	0.44	0.49	0.54
L2	0.57	0.62	0.67
A3	0.152REF.		
All Dimensions in mm			

8.SOLDERING FOOTPRINT



DFN3030-8B	
Dim	(mm)
C	0.65
C1	0.70
X	0.60
X1	0.40
X2	0.50
X3	2.80
Y1	2.20
Y2	3.20
Y	0.82

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.

- Before you use our Products for new Project, you are requested to carefully read this document and fully under--stand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC’s Products against warning, caution or note contained in this document.

- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products,please confirm the latest information with a LRC sales represe--ntative.