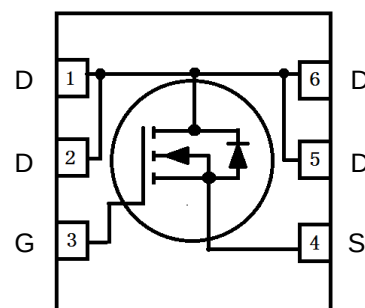
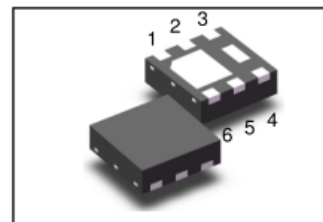


S-LN2604DT2AG

60V N-Channel Enhancement MOSFET

1. FEATURES

- $V_{DS} = 60\text{ V}$
 $R_{DS(ON)} \leq 35\text{ m}\Omega, V_{GS}@10\text{ V}, I_{DS}@5\text{ A}$
 $R_{DS(ON)} \leq 40\text{ m}\Omega, V_{GS}@4.5\text{ V}, I_{DS}@4\text{ A}$
- Low $R_{DS(ON)}$ trench technology
- Low thermal impedance
- Fast switching speed
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



2.APPLICATIONS

- DC/DC Conversion
- Power Routing
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
S-LN2604DT2AG	04D	4000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^\circ\text{C}$ unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		V_{DS}	60	V
Gate-to-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	10	A
Avalanche energy $L=0.1\text{ mH}$		E_{AS}	5	mJ
Continuous Drain Current(Note 1)	$T_A = 25^\circ\text{C}$	I_D	7	A
	$T_A = 70^\circ\text{C}$		4	
Pulsed Drain Current (Note 2)		I_{DM}	28	A
Power Dissipation(Note 1)	$T_A = 25^\circ\text{C}$	P_D	2	W
	$T_A = 70^\circ\text{C}$		1.5	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Junction-to-Ambient(Note 3)	$R_{\theta JA}$	60	$^\circ\text{C/W}$
Junction-to-Case	$R_{\theta JC}$	20	$^\circ\text{C/W}$

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

2.Pulse width limited by maximum junction temperature.

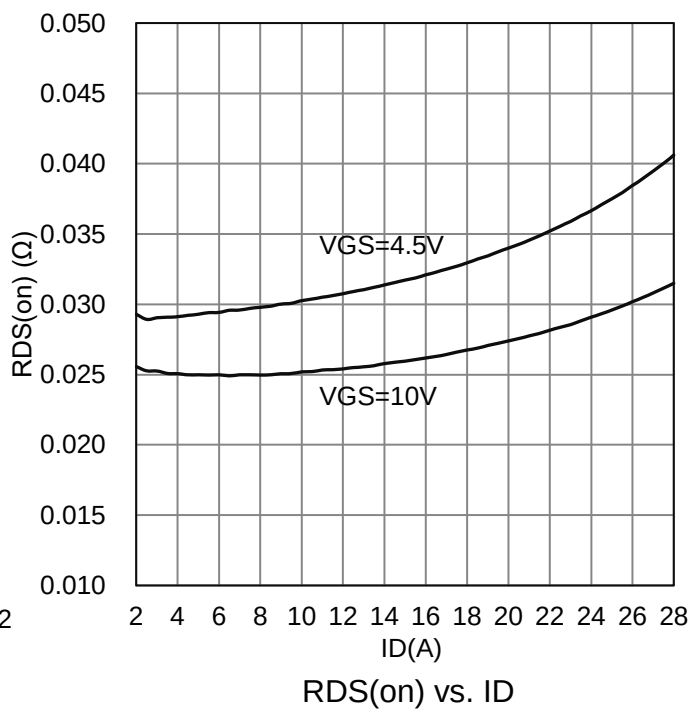
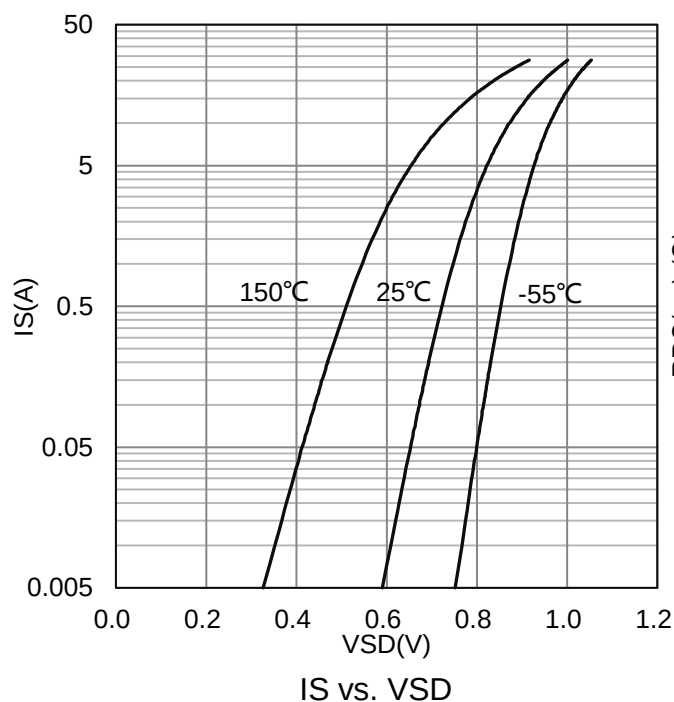
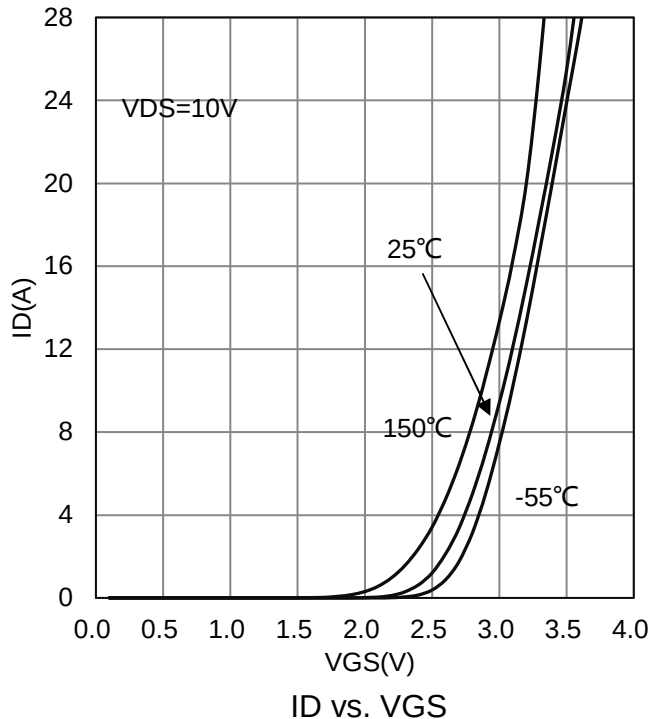
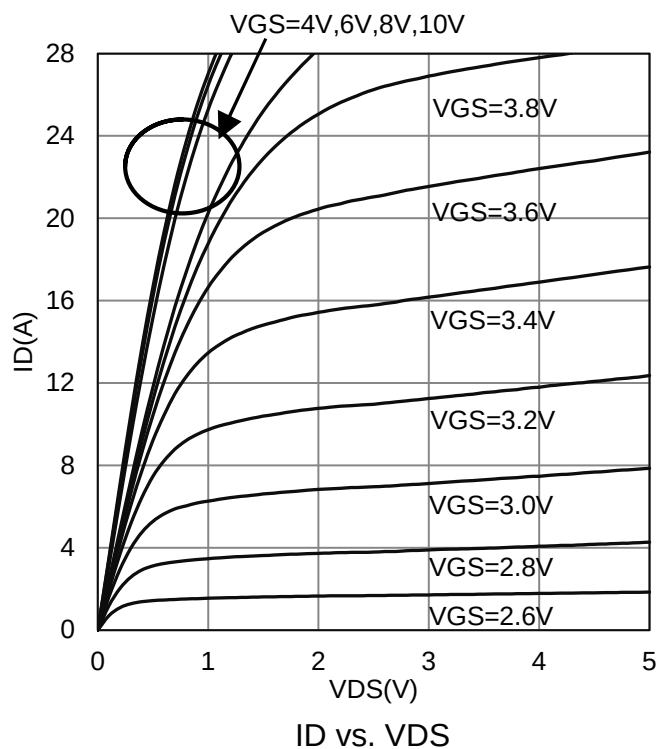
6. ELECTRICAL CHARACTERISTICS

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain–Source Breakdown Voltage (VGS = 0, ID = 250μA)		V(BR)DSS	60	-	-	V
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 μA)		VGS(th)	1	1.9	3	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	± 10	uA
Zero Gate Voltage Drain Current (VDS = 48 V, VGS = 0 V)		IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 7 A) (VGS = 4.5 V, ID = 5 A)		RDS(on)	- -	23 32	35 40	mΩ
Diode Forward Voltage(Note 3) (IS = 1.9 A, VGS = 0 V)		VSD	-	0.78	1.5	V
Dynamic(Note 4)						
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 6 A)	Qg	-	9	-	nC
Gate-Source Charge		Qgs	-	3.2	-	
Gate-Drain Charge		Qgd	-	3	-	
Turn-On Delay Time	(VDS = 15 V, RL=1.4 Ω,ID =6 A,VGEN = 10 V, RGEN = 6 Ω)	td(on)	-	6	-	ns
Rise Time		tr	-	6	-	
Turn-Off Delay Time		td(off)	-	33	-	
Fall Time		tf	-	11	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	Ciss	-	1280	-	pF
Output Capacitance		Coss	-	65	-	
Reverse Transfer Capacitance		Crss	-	53	-	
Gate Resistance (VDS=0V ,VGS=0V, f=1.0MHz)		Rg	-	0.74	-	Ω

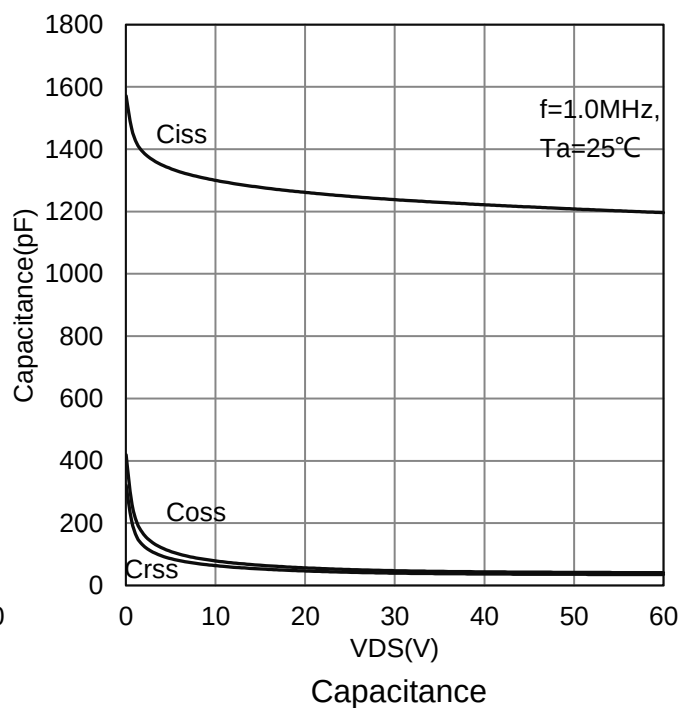
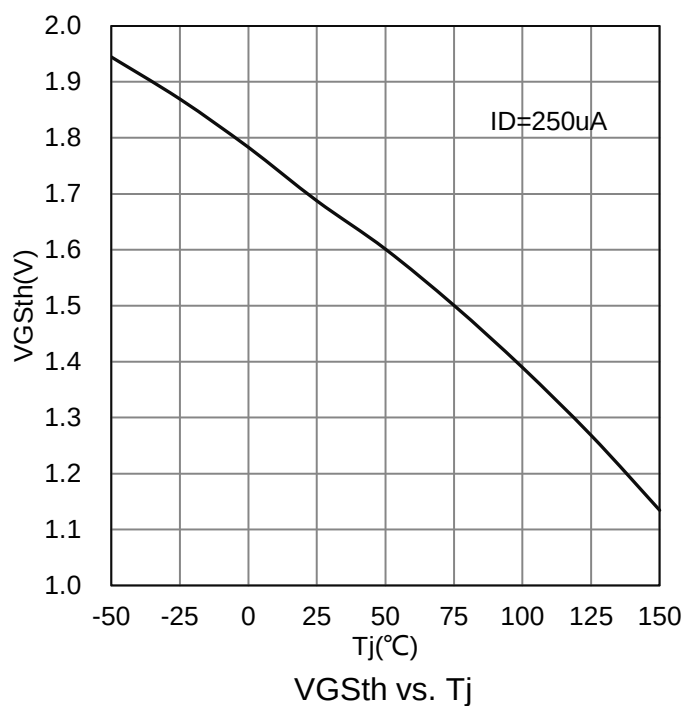
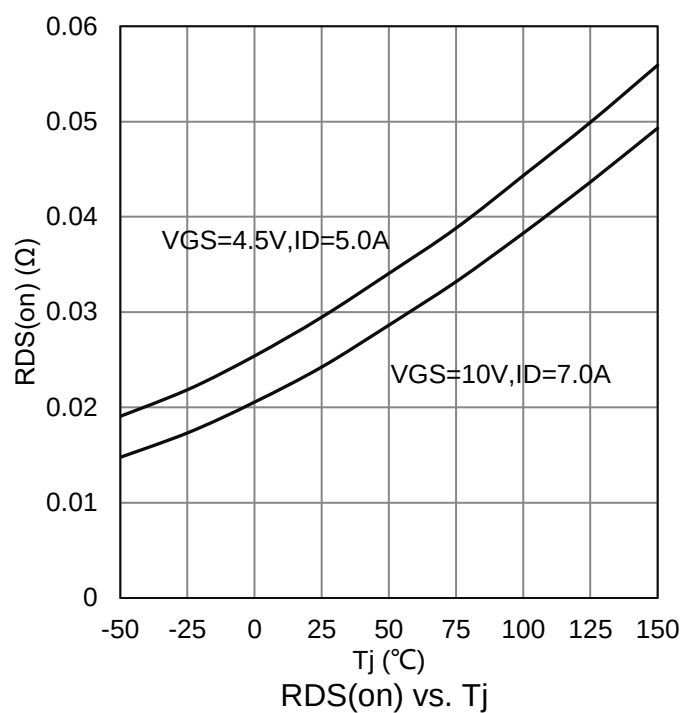
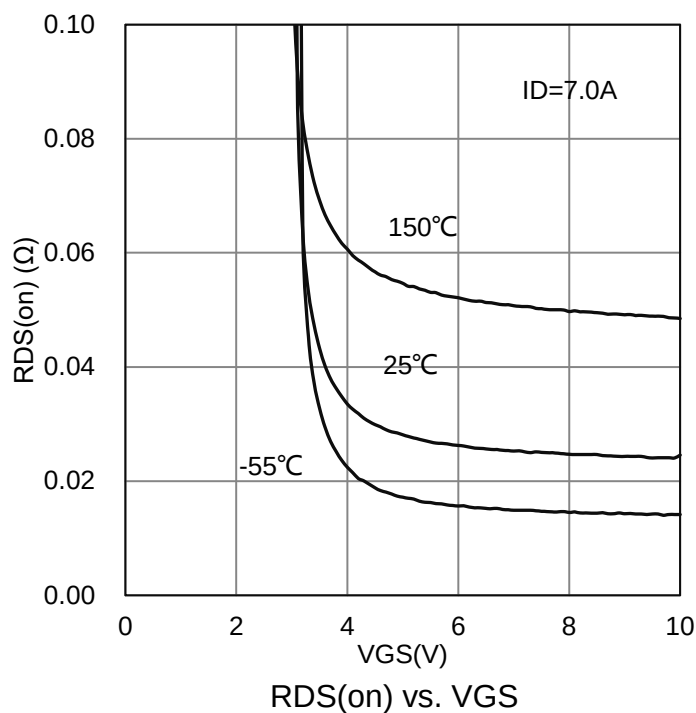
3. Pulse test: PW ≤ 300us duty cycle ≤ 2%.

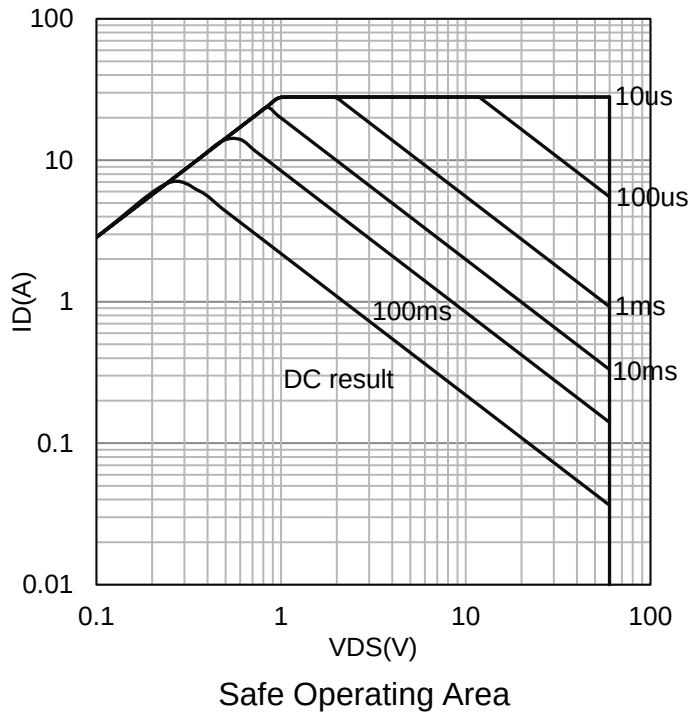
4. Guaranteed by design, not subject to production testing.

7. ELECTRICAL CHARACTERISTICS CURVES

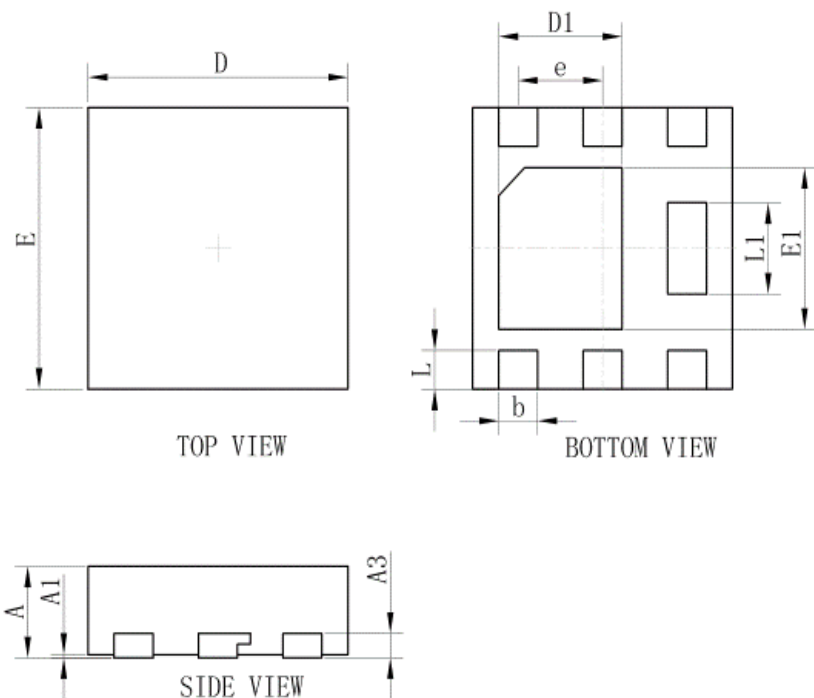


7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



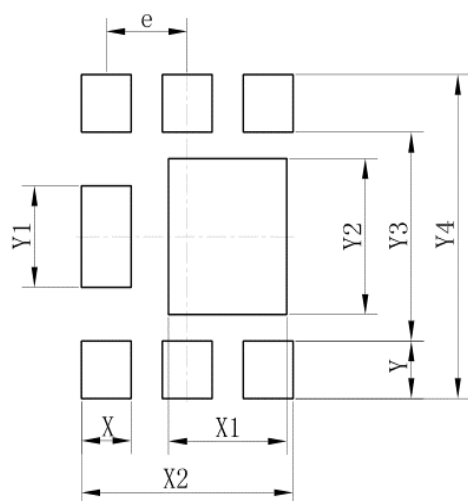
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

8.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	0.65
D1	0.90	0.95	1.00
E1	1.10	1.15	1.20
A3	0.152REF		
All Dimensions in mm			

9.SOLDERING FOOTPRINT



DFN2020-6S	
Dim	(mm)
X	0.40
X1	0.95
X2	1.70
e	0.65
Y	0.43
Y1	0.75
Y2	1.15
Y3	1.54
Y4	2.39

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