

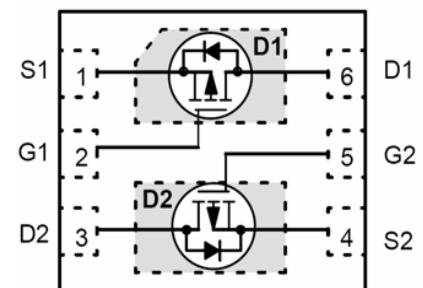
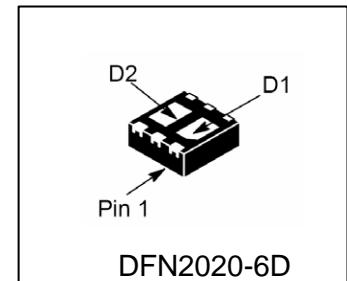
LDP2010DT1G

S-LDP2010DT1G

20V P-Channel Enhancement-Mode MOSFET

1. FEATURES

- VDS = -20V
- RDS(ON),VGS@-4.5V,IDS@-4.7A≤70mΩ
- RDS(ON),VGS@-2.5V,IDS@-1.0A≤80mΩ
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.
- ESD rating of class 0 (<100V)per Human Body Model



2. APPLICATIONS

- Advanced trench process technology
- High density cell design for ultra low on-resistance.

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LDP2010DT1G	P14	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	-20	V
Gate-to-Source Voltage – Continuous	VGS	±12	V
Drain Current			A
– Continuous TA = 25°C	ID	-4.7	
– Pulsed (Note 1)	IDM	-20	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Power Dissipation	PD	1.1	W
Thermal Resistance, Junction-to-Ambient(Note 2)	R _{θJA}	110	°C/W
Junction and Storage temperature	T _{J,Tstg}	-55~+150	°C

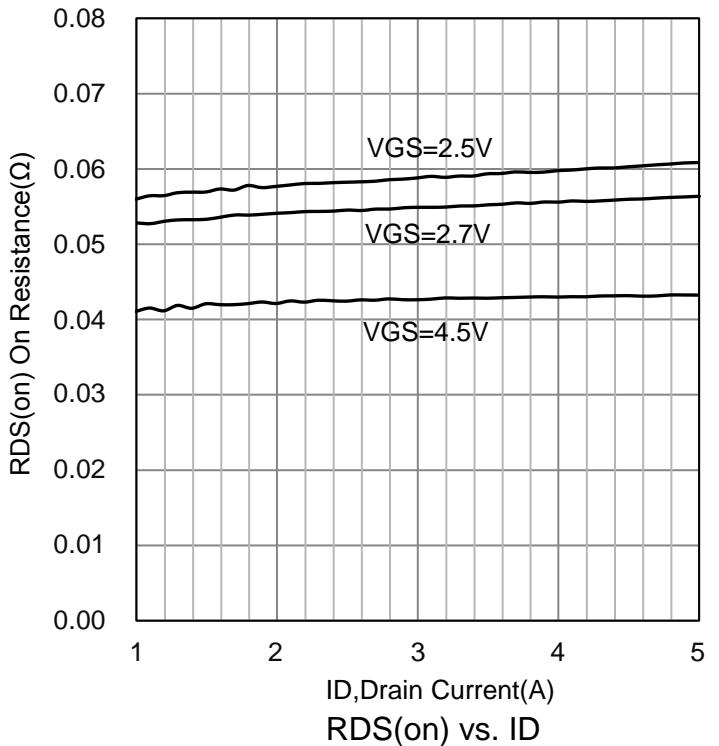
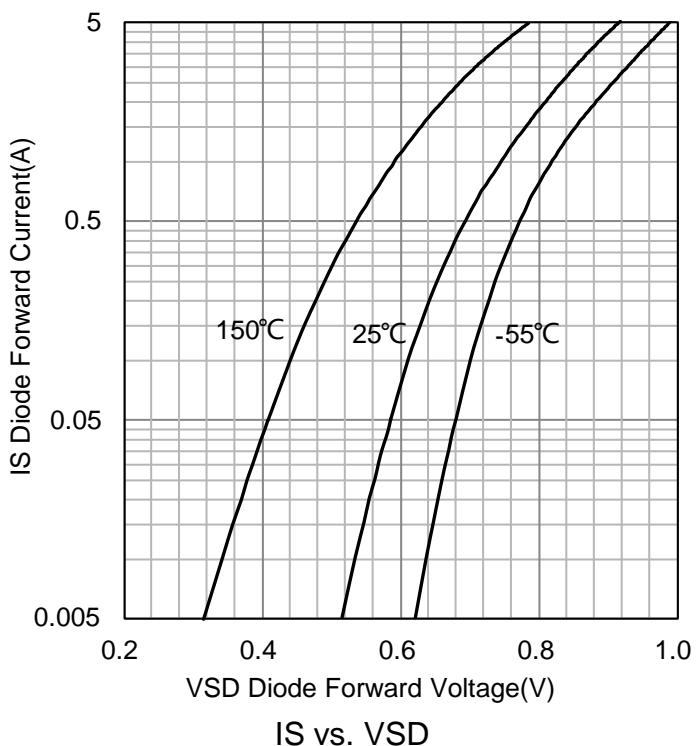
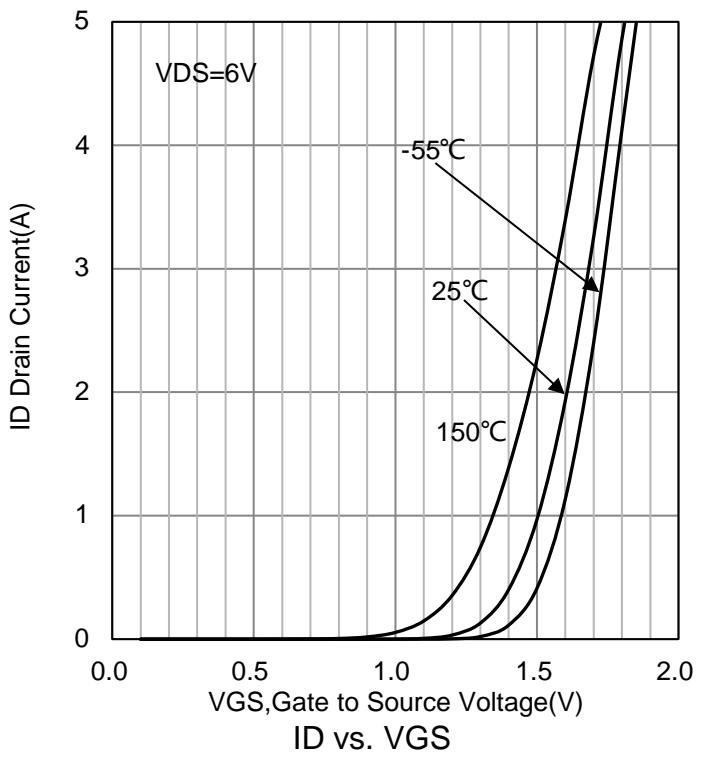
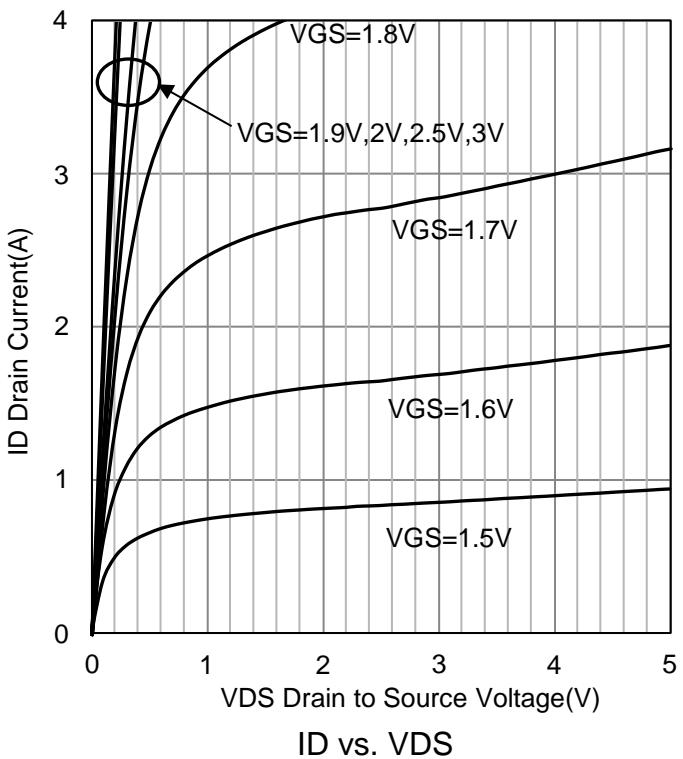
1.Repetitive Rating: Pulse width limited by the maximum junction temperature.

2.1-in² 2oz Cu PCB board.

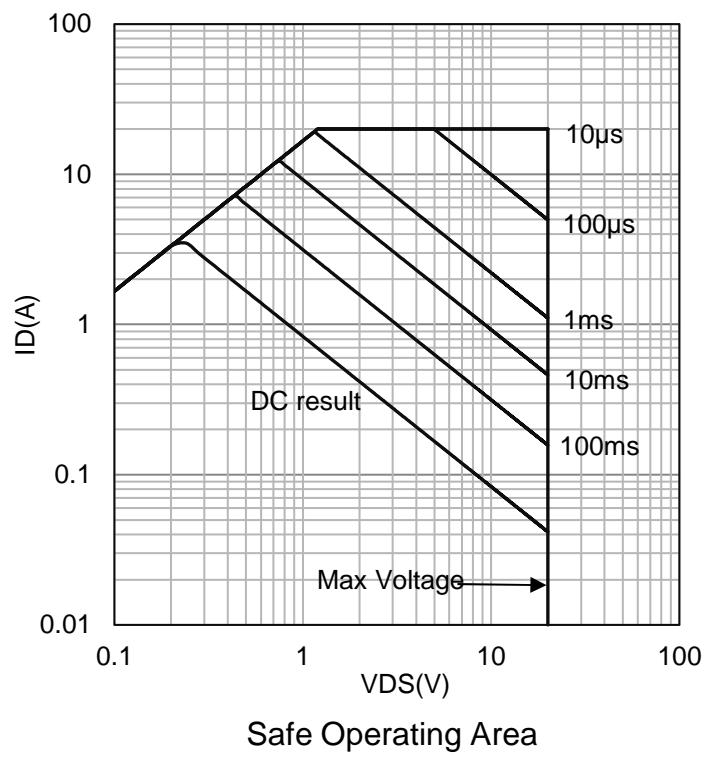
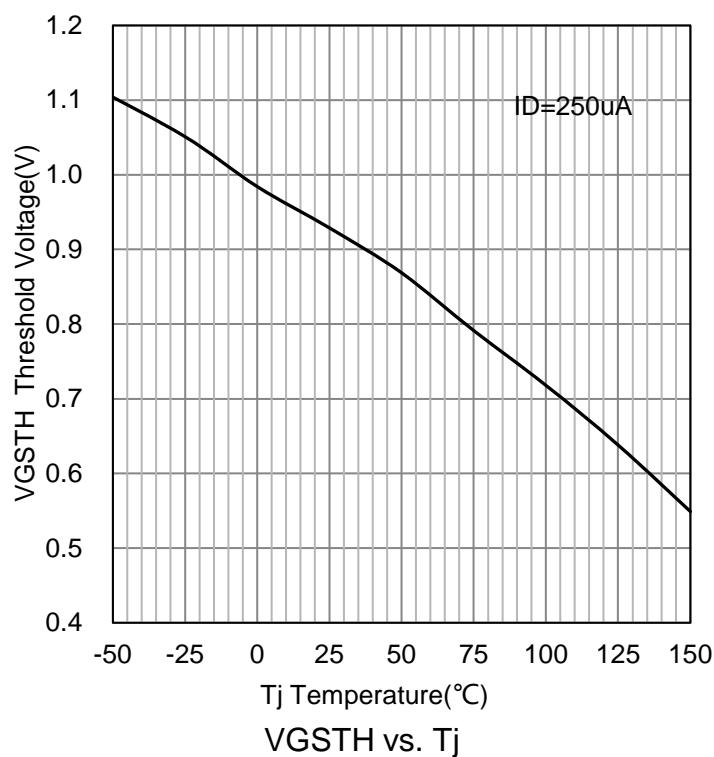
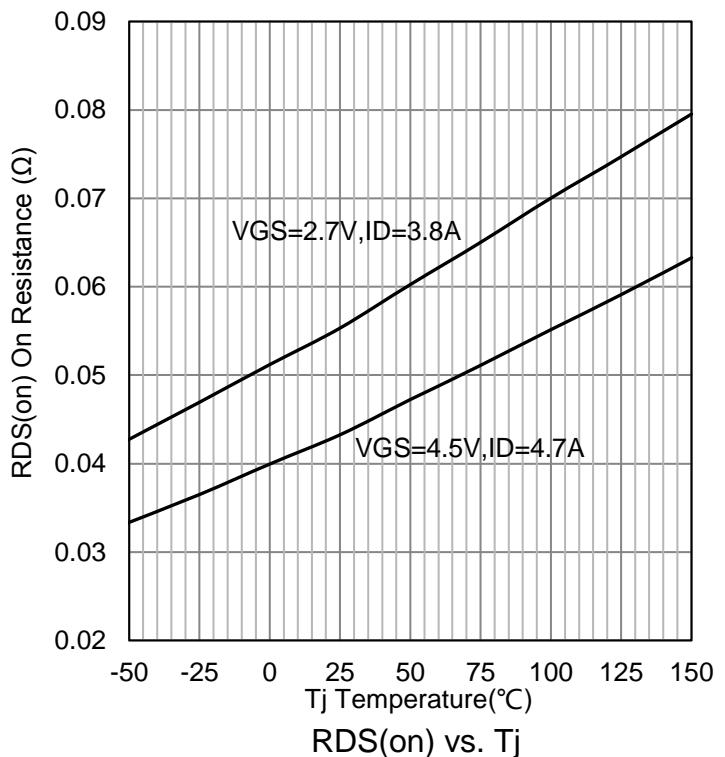
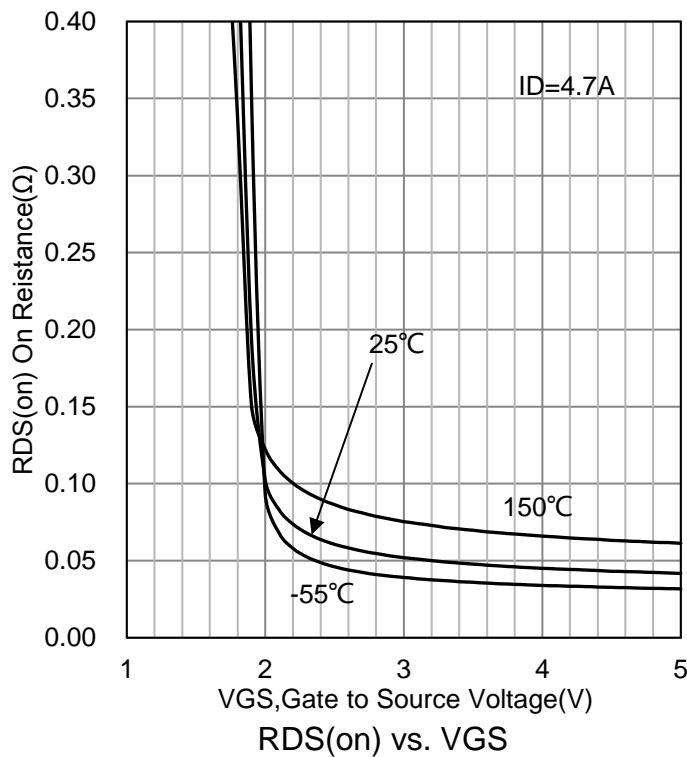
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0, ID = -250µA)	VBRDSS	-20	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = -250µA)	VGS(th)	-0.6	-0.85	-1.4	V
Zero Gate Voltage Drain Current (VGS = 0, VDS = -20 V)	IDSS	-	-	-1	µA
Gate-Body Leakage Current, Forward (VGS = 12 V)	IGSSF	-	-	100	nA
Gate-Body Leakage Current, Reverse (VGS = -12 V)	IGSSR	-	-	-100	nA
Static Drain-Source On-State Resistance (VGS = -4.5V, ID = -4.7A) (VGS = -2.7V, ID = -3.8A) (VGS = -2.5V, ID = -1.0A)	RDS(on)	-	58 63 75	70 75 80	mΩ
Dynamic					
Total Gate Charge (VDS = -10 V, VGS = -4.5 V, ID = -1 A)	Qg	-	7.5	-	nC
Gate to Source Charge	Qgs	-	1.1	-	
Gate to Drain Charge	Qgd	-	2	-	
Turn-on Delay Time (VDS=-10V, ID =-1A, RL=10Ω, VGS=-4.5V, RG=6.2Ω)	td(on)	-	19	-	nS
Rise Time	tr	-	26	-	
Turn-Off Delay Time	td(off)	-	96	-	
Fall Time	tf	-	42	-	
Input Capacitance (VDS=-10 V, VGS=0 V, f=1MHz)	Ciss	-	800	-	pF
Output Capacitance	Coss	-	85	-	
Reverse Transfer Capacitance	Crss	-	78	-	
Source-Drain DIODE Ratings and Characteristics(TA= 25° C)					
Reverse Recovery Time (IF=-0.9A, di/dt=13A/µ s)	trr	-	14	-	nS
Reverse Recovery Charge (IF=-0.9A, di/dt=13A/µ s)	Qrr	-	0.5	-	nC

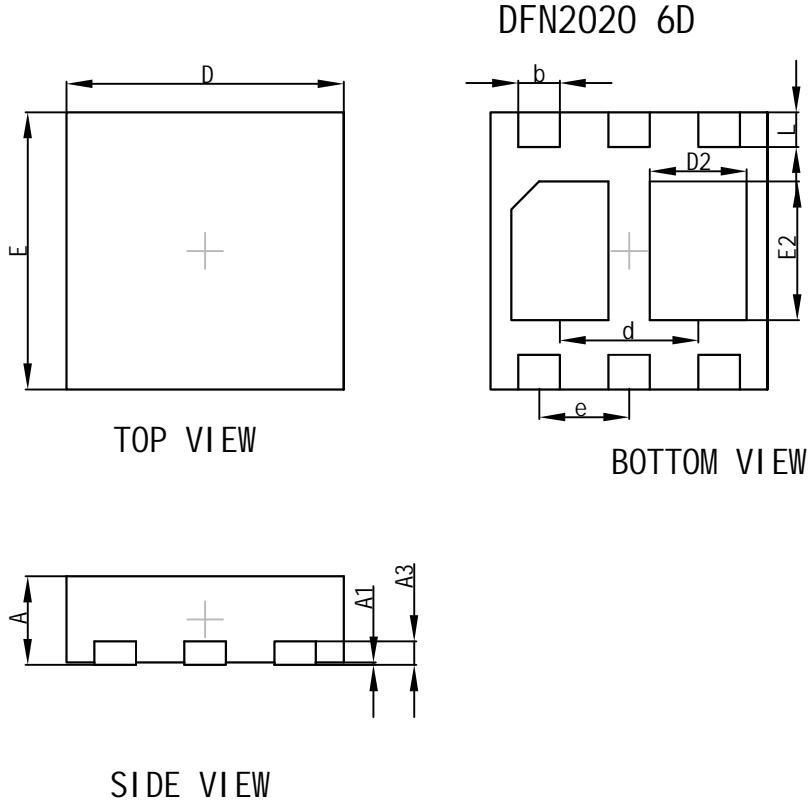
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS (Unit:mm)

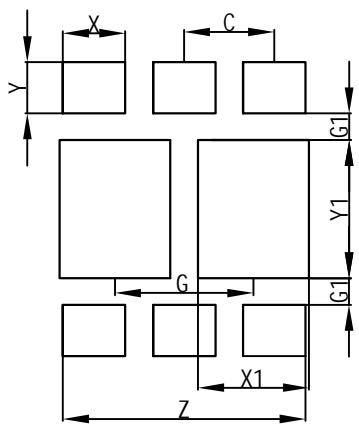


DFN2020 6D			
Dim	Min	Typ	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	-	0.65	-
L	0.20	0.25	0.30
b	0.25	0.30	0.35
d	-	1.00	-
A	0.60	0.65	0.70
A1	0	0.02	0.05
A3	-	0.152	-
E2	0.95	1.00	1.05
D2	0.65	0.70	0.75

All Dimensions in mm

9.SOLDERING FOOTPRINT

DFN2020 6D



Dimensions	(mm)
X	0.45
Y	0.37
X1	0.80
Y1	1.00
C	0.65
G	1.00
G1	0.19
Z	1.75



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