

P2340D

P-Channel 20-V Enhancement MOSFET

1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
P2340D	PD0	4000/Tape&Reel

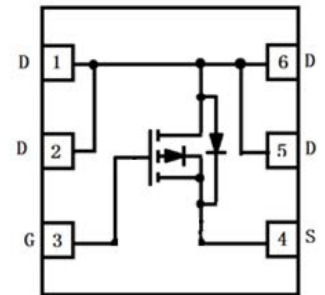
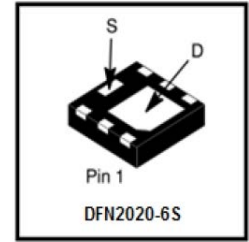
4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	-20	V
Gate-to-Source Voltage		VGS	±12	V
Continuous Drain Current	TA =25°C	ID	-6	A
	TA =75°C		-5.3	
Pulsed Drain Current (Note 2)		IDM	-24	
Avalanche Current		IAS	23	
Avalanche Energy(L=0.1mH)		EAS	26.45	mJ
Power Dissipation	TA =25°C	PD	1.9	W
Operating Junction Temperature		TJ,TSTG	-55 ~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	65	°C/W
Maximum Junction-to-Case	RθJC	12	°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.



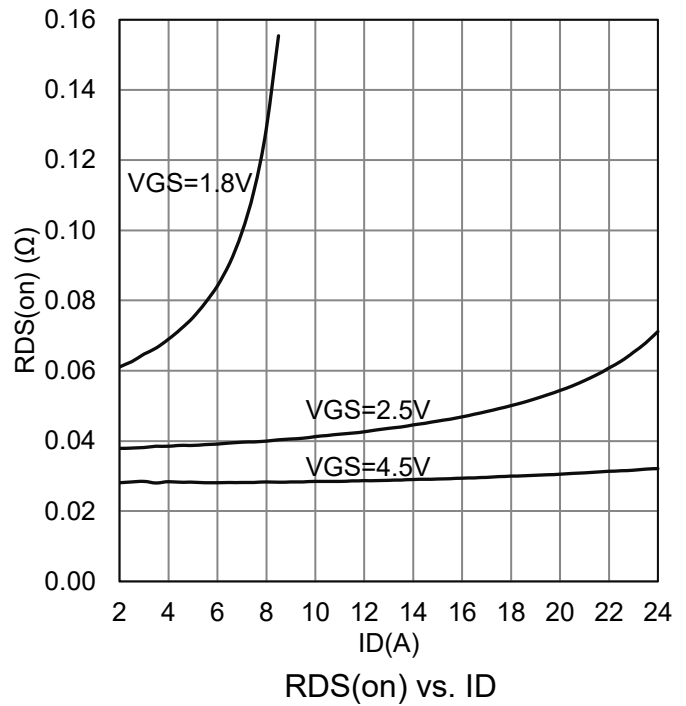
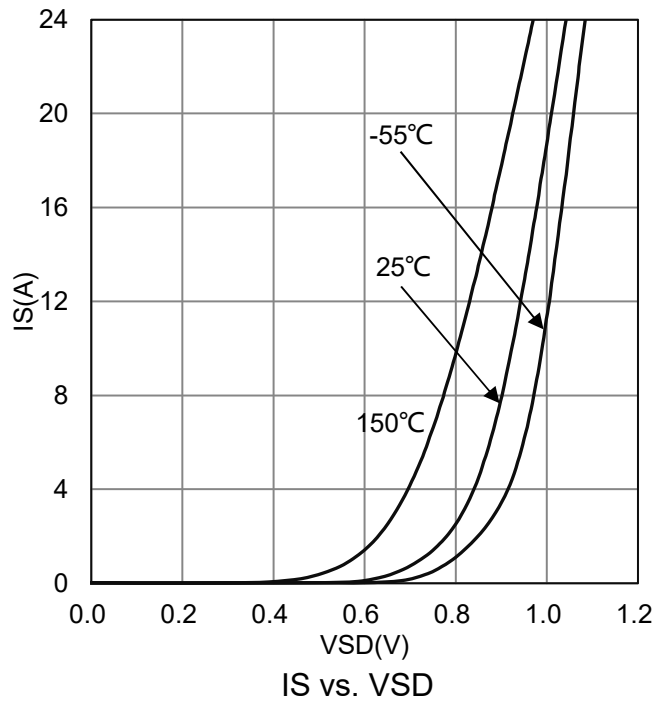
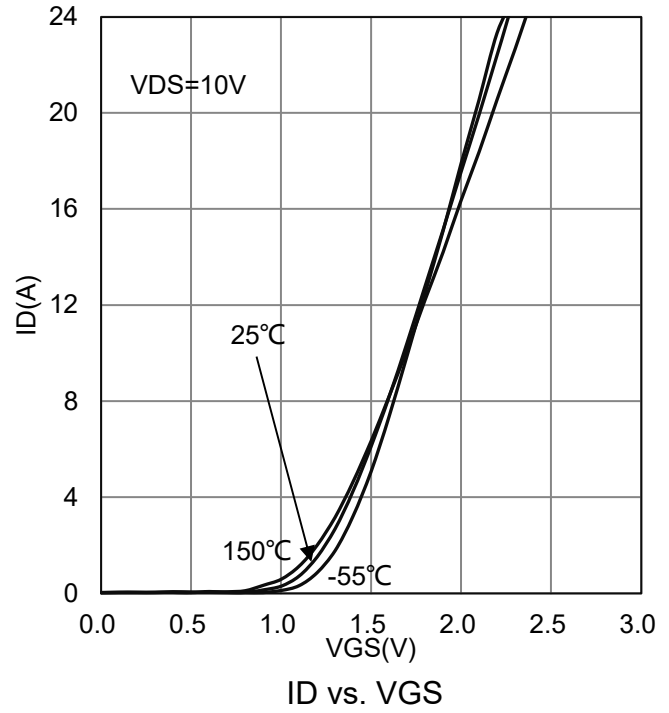
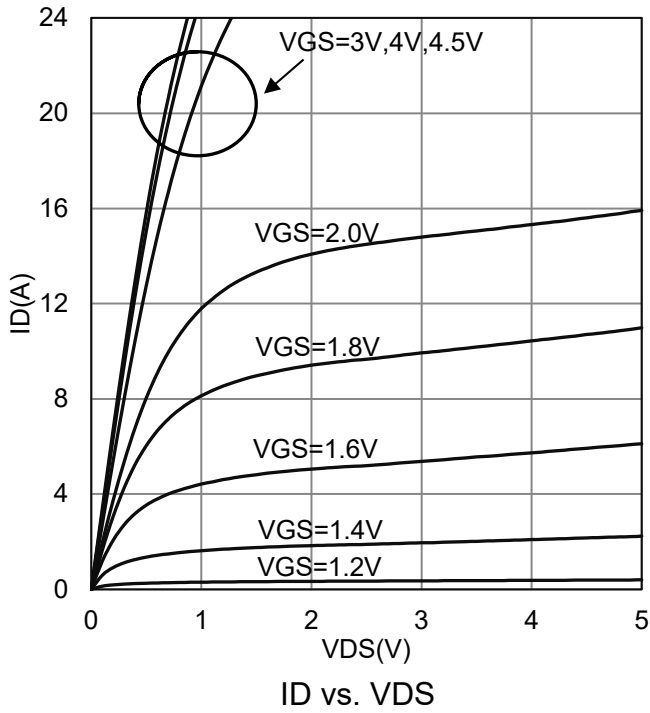
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0 V , ID = -250 μA)	V(BR)DSS	-20	-	-	V
Gate-Source Threshold Voltage (VDS = VGS , ID = -250 μA)	VGS(th)	-0.55	-0.7	-1	V
Gate-Body Leakage Current (VDS = 0 V, VGS = ±12 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -20 V, VGS = 0 V)	IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3) (VGS = -4.5 V, ID = -3 A) (VGS = -2.5 V, ID = -3 A) (VGS = -1.8 V, ID = -3 A)	RDS(on)	-	26 37 61	40 51 100	mΩ
Diode Forward Voltage (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.5	V
Dynamic					
Total Gate Charge	Qg	-	7.7	-	nC
Gate-Source Charge	Qgs	-	1	-	
Gate-Drain Charge	Qgd	-	2.2	-	
Input Capacitance	Ciss	-	672	-	pF
Output Capacitance	Coss	-	78	-	
Reverse Transfer Capacitance	Crss	-	65	-	
Turn-On Delay Time	td(on)	-	5.7	-	ns
Rise Time	tr	-	8	-	
Turn-Off Delay Time	td(off)	-	165	-	
Fall Time	tf	-	78	-	

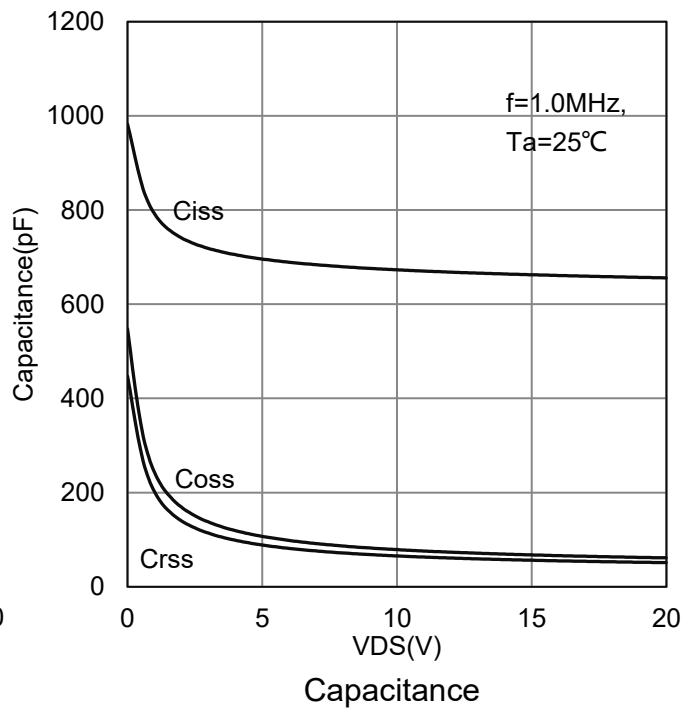
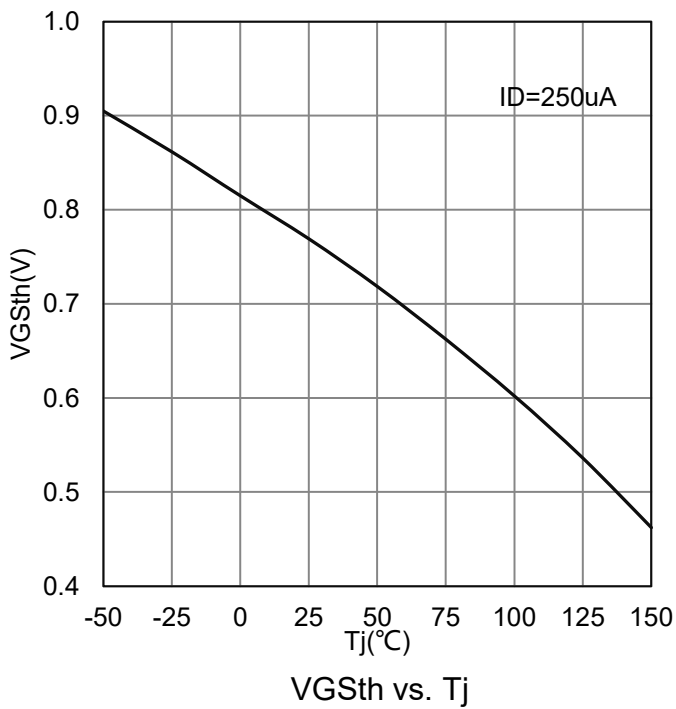
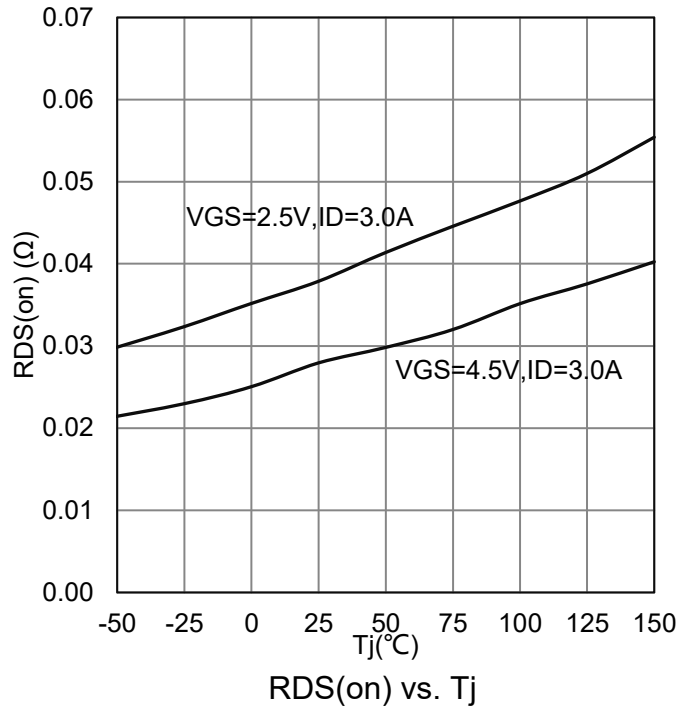
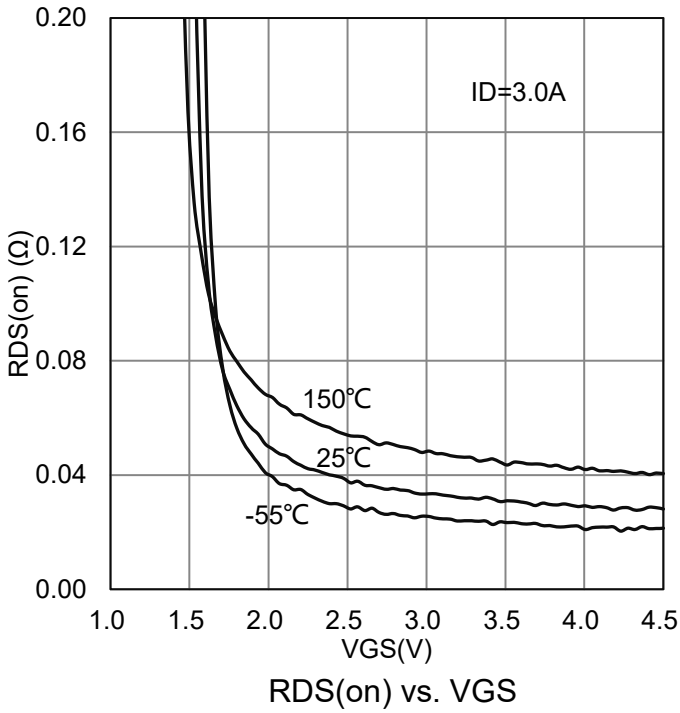
3.Pulse test: PW ≤ 300μs duty cycle ≤ 2%.



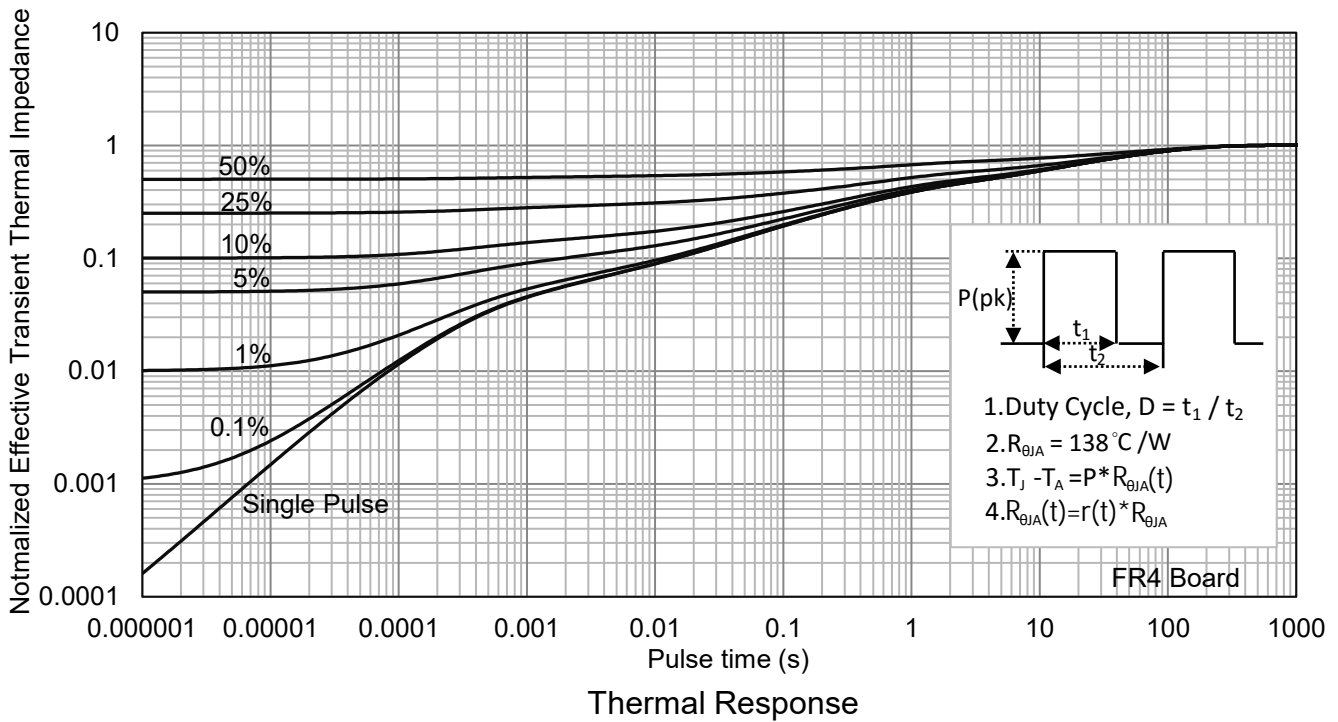
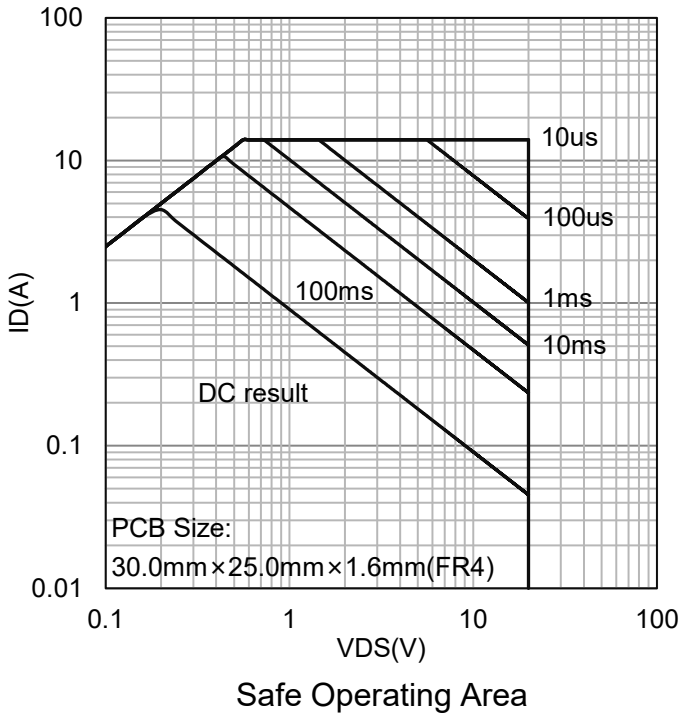
7. ELECTRICAL CHARACTERISTICS CURVES

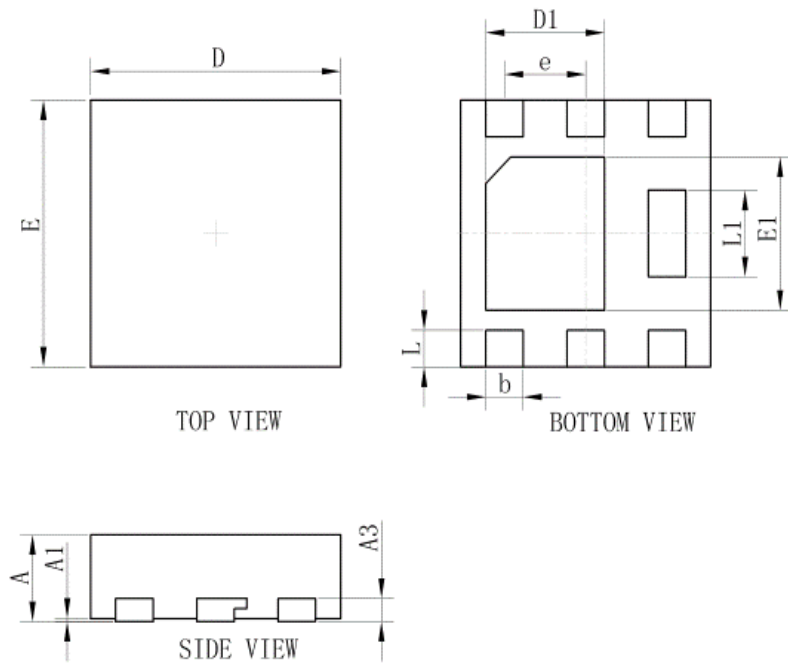


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

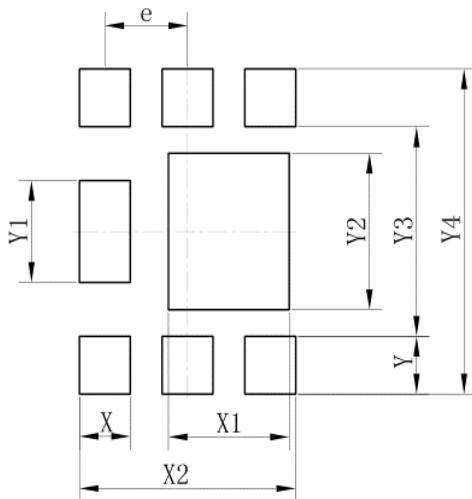


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



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	0.70
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

