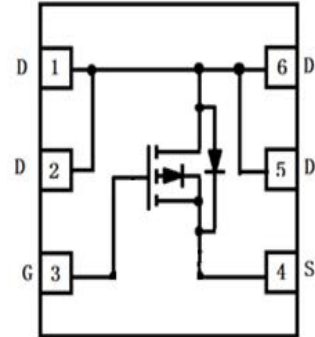
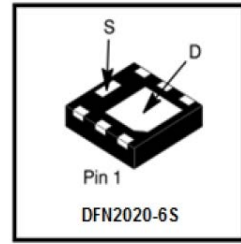


# P2615D

## P-Channel 60-V (D-S) MOSFET



### 1. FEATURES

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

### 2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
P2615D	5DT	4000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	-60	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 1)	ID	TA = 25°C	-5
		TA = 70°C	-3
Pulsed Drain Current(Note 2)	IDM	-20	A
Continuous Source Current (Diode Conduction)(Note 1)	IS	-5	A
Power Dissipation(Note 1)	PD	TA = 25°C	1.9
		TA = 70°C	1
Operating and Storage Temperature Range	TJ,Tstg	-55~+150	°C

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Maximum Junction-to-Ambient (Note 1)	RθJA	t ≤ 10S	45
		Steady State	95

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



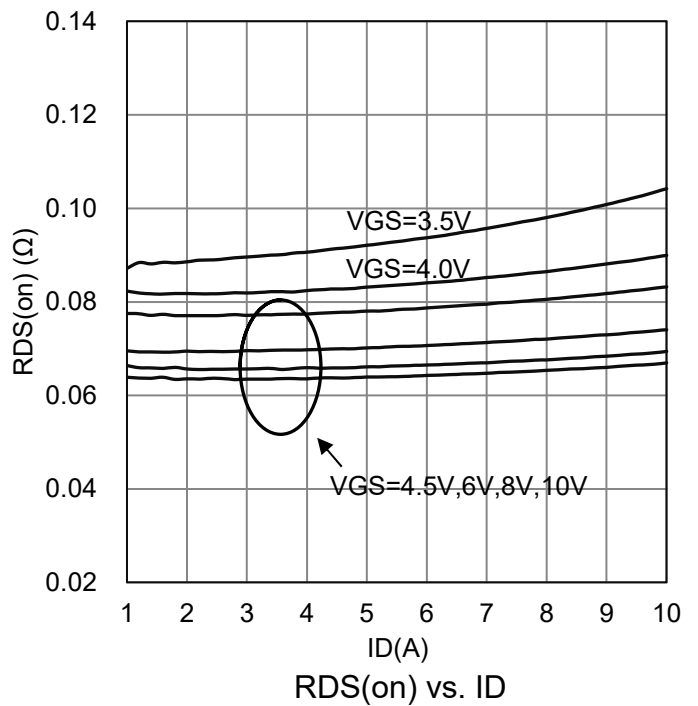
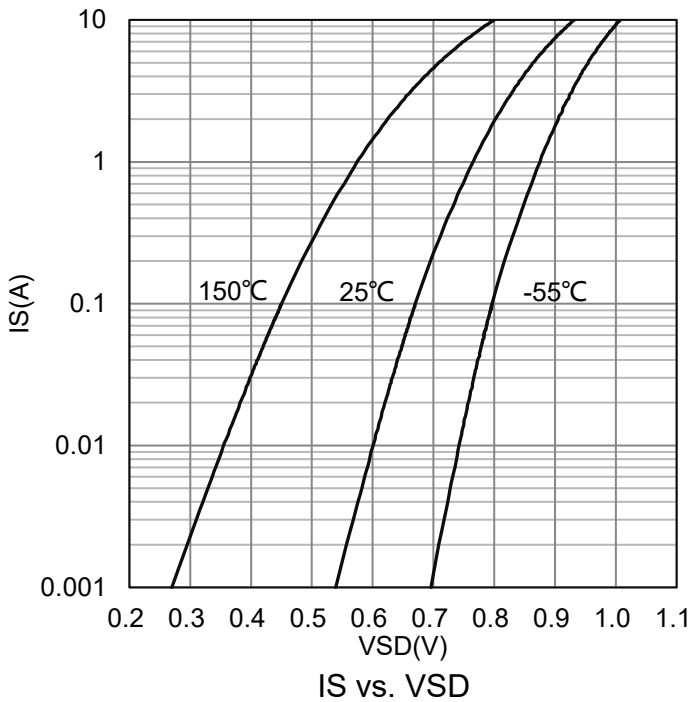
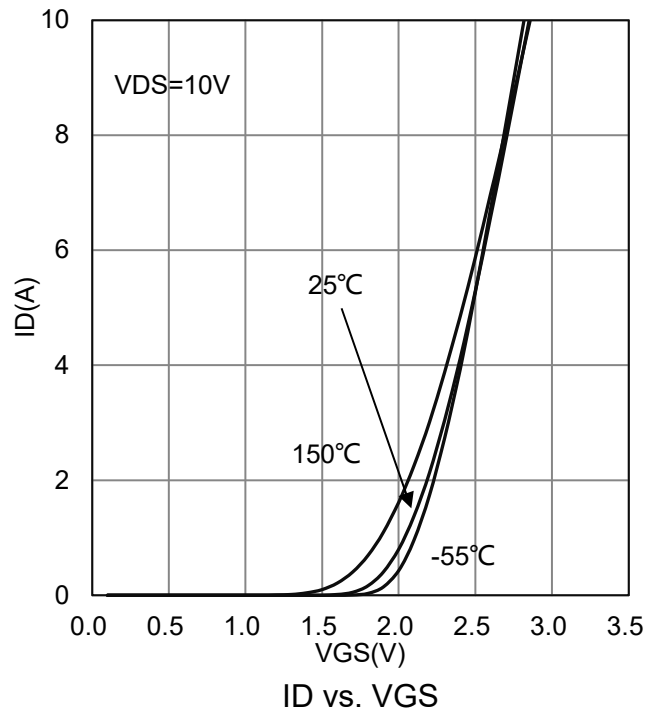
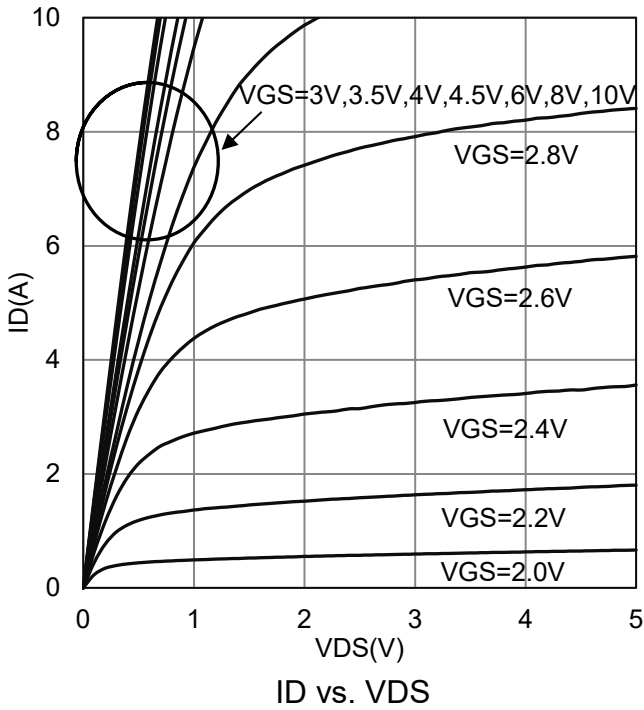
**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C )**

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
<b>STATIC</b>						
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-60	-	-	V	
Gate-Source Threshold Voltage (VGS = VDS , ID = -250μA)	VGS(th)	-1	-	-	V	
Gate-to–Source Leakage Current (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±10	μA	
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) (VDS = -48 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	-1 -10	μA	
Static Drain–Source On–State Resistance(Note 3) (VGS = -10 V, ID = -4 A ) (VGS = -4.5 V, ID = -3.2 A)	RDS(on)	-	-	82 100	mΩ	
Forward Diode Voltage(Note 3) (IS = -2.1 A, VGS = 0 V)	VSD	-	-0.83	-	V	
<b>DYNAMIC</b>						
Total Gate Charge	(VDS = -30 V, VGS = -4.5 V, ID = -4 A)	Qg	-	8.8	-	nC
Gate-to–Source Charge		Qgs	-	2.2	-	
Gate-to–Drain Charge		Qgd	-	3.5	-	
Turn–On Delay Time	(VDS=-30 V, RL=7.5 Ω, ID=-4 A, VGEN =-10 V, RGEN= 6 Ω)	td(on)	-	7	-	ns
Turn–On Rise Time		tr	-	5	-	
Turn–Off Delay Time		td(off)	-	37	-	
Turn–Off Fall Time		tf	-	14	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1104	-	pF
Output Capacitance		Coss	-	66.7	-	
Reverse Transfer Capacitance		Crss	-	55.5	-	
Gate-Resistance (VGS = 0 V, VDS=0V, f=1MHz)	Rg	-	6.8	-	Ω	

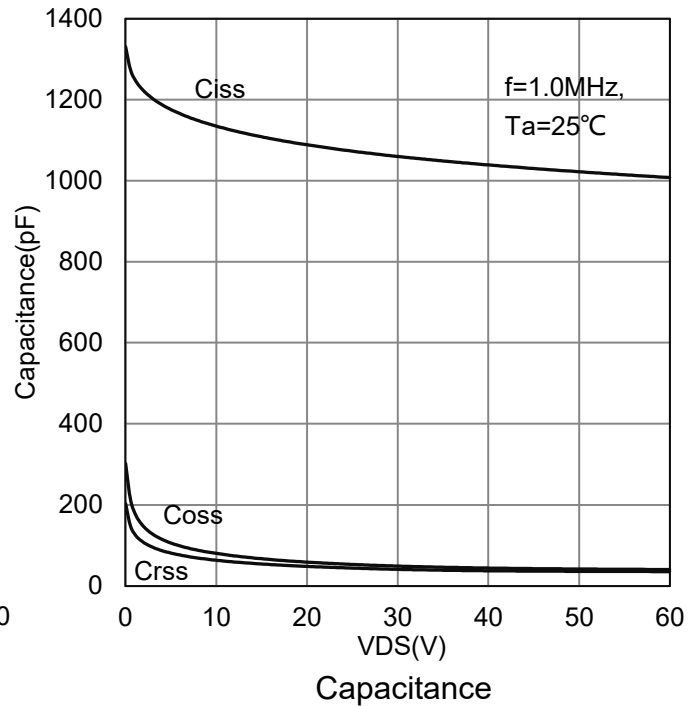
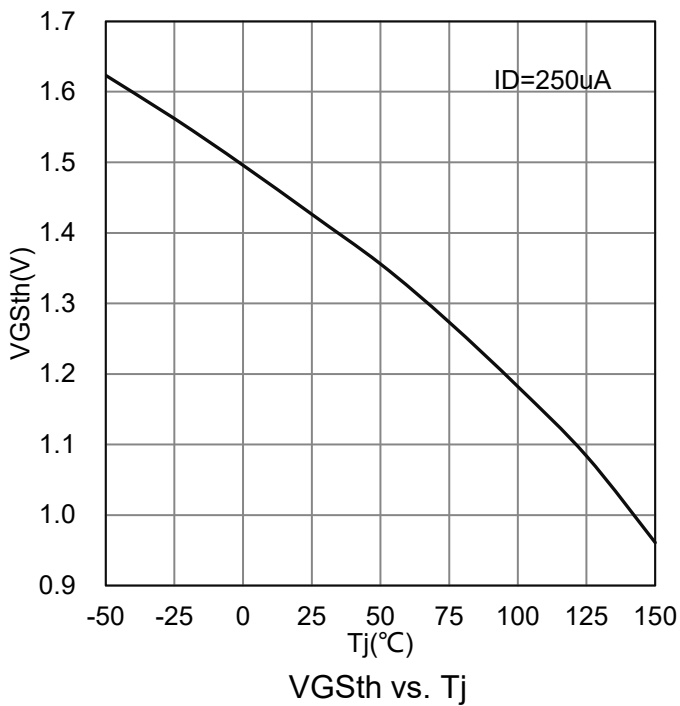
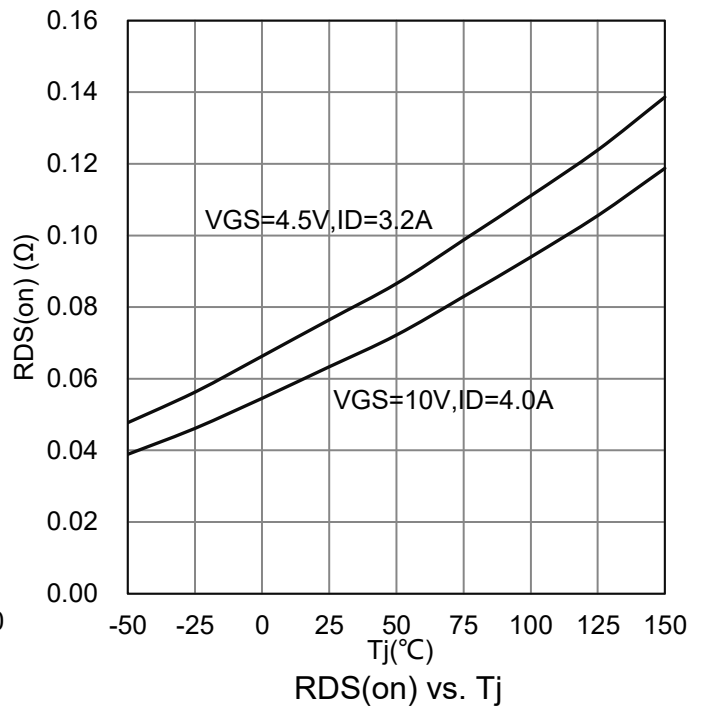
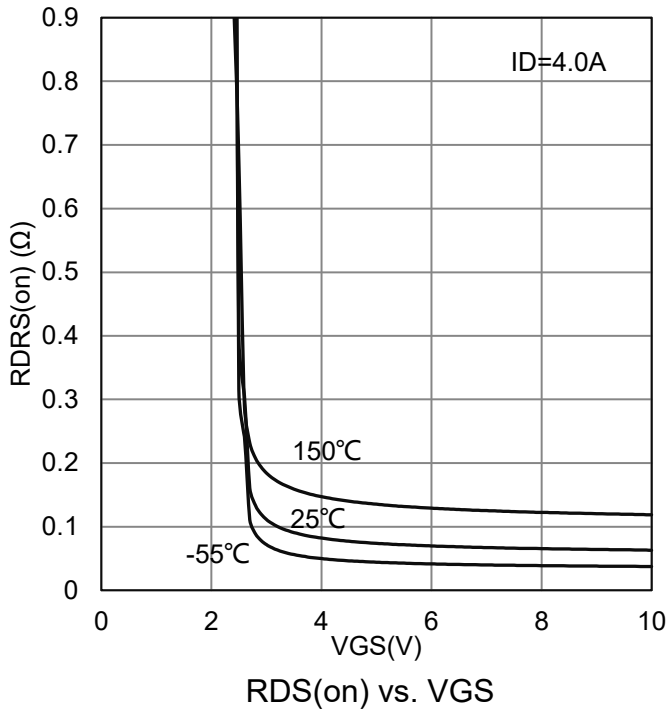
3.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

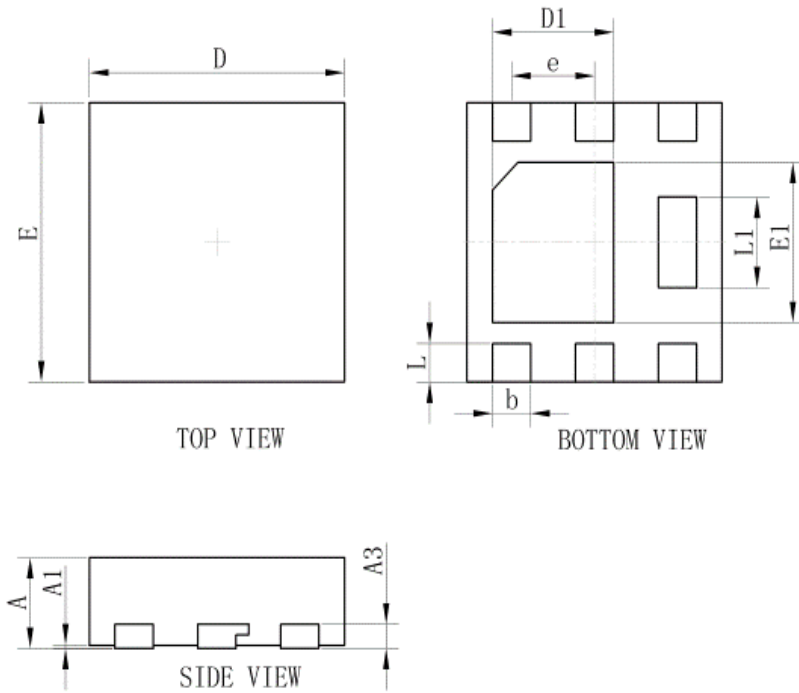


**7. ELECTRICAL CHARACTERISTICS CURVES**

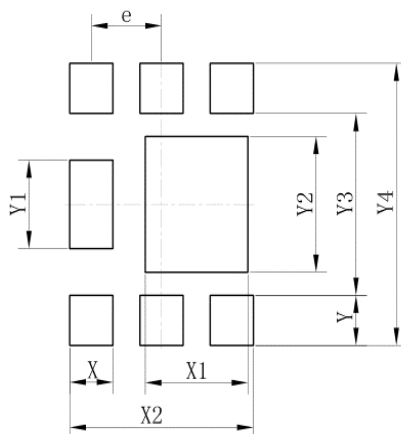


**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



**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

