

20V P-Channel MOSFET

1. FEATURES

- VDS = -20V
RDS(ON) ≤ 17mΩ (max.) VGS = -4.5V
RDS(ON) ≤ 25mΩ (max.) VGS = -2.5V
- 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

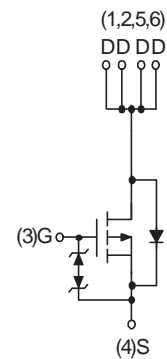
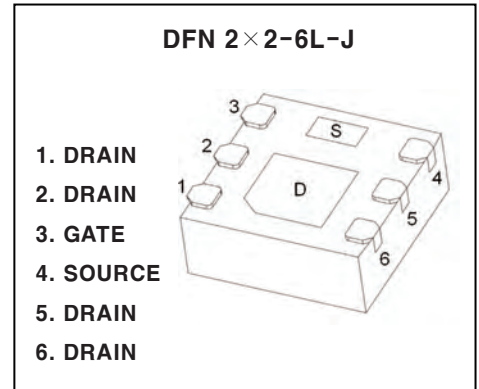
3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
FTK2217DFN22	2217B	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	VDS	-20	V	
Gate-Source Voltage	VGS	±12		
Continuous Drain Current (Note1)	ID	-9.9	A	
Pulsed Drain Current (Note2)	IDM	-39.6		
Continuous Source Current (Diode Conduction) (Note1)	IS	-2		
Power Dissipation (Note1)	PD	TA = 25°C	2.5	W
		TA = 70°C	1.9	
Operating Junction and Storage Temperature Range	TJ , Tstg	-55~+150	°C	
Maximum Junction-to-Ambient (Note1)	RqJA	t ≤ 10 sec	50	°C/W
		Steady State	80	

Note: 1. Surface Mounted on 1" x 1" FR4 Board.
2. Pulse width limited by maximum junction temperature



P-Channel MOSFET



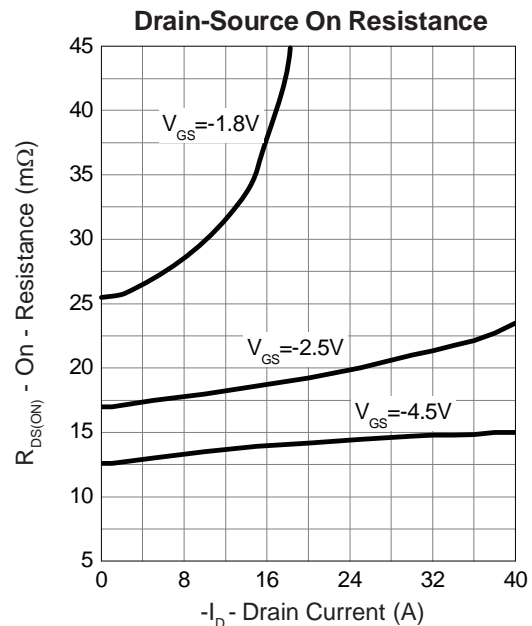
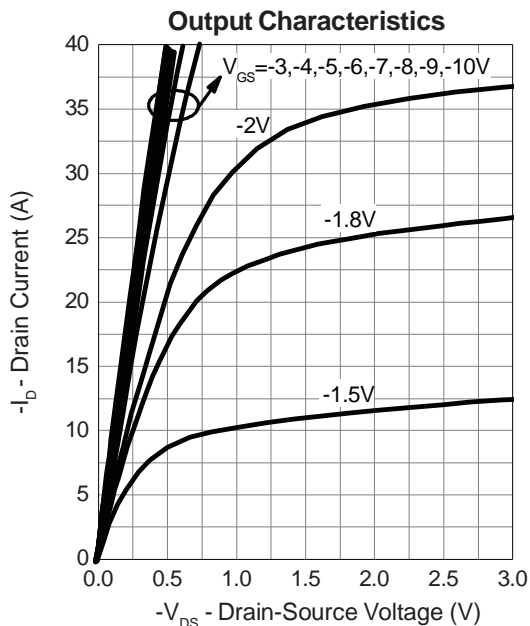
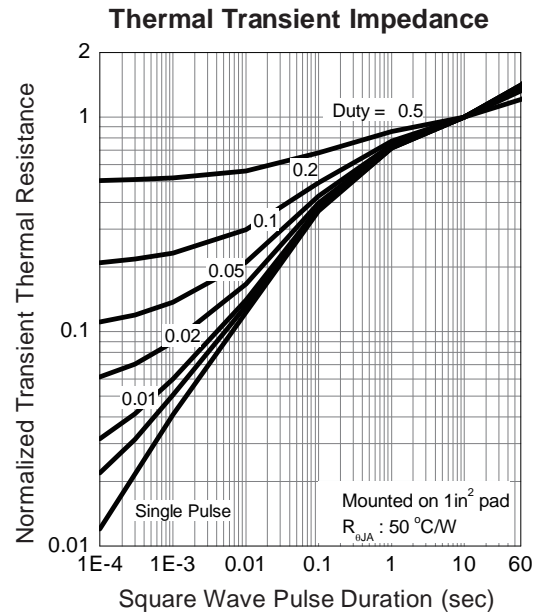
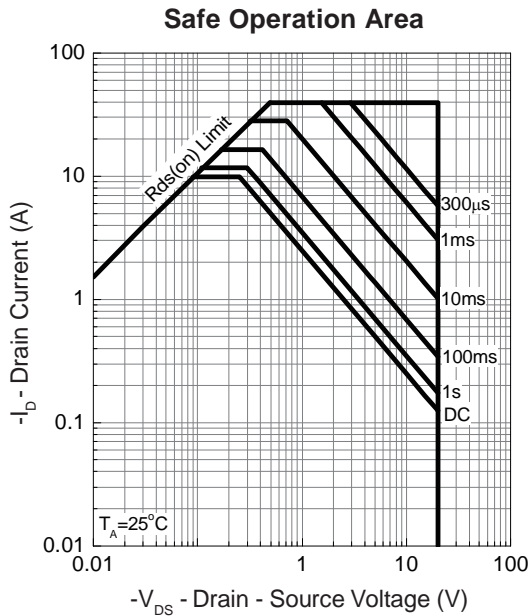
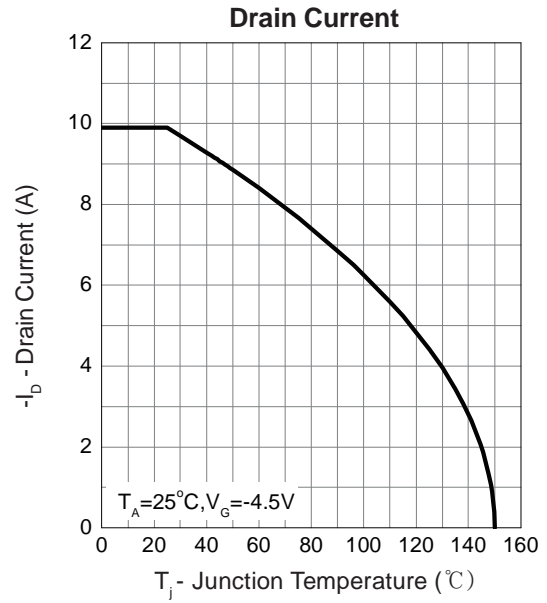
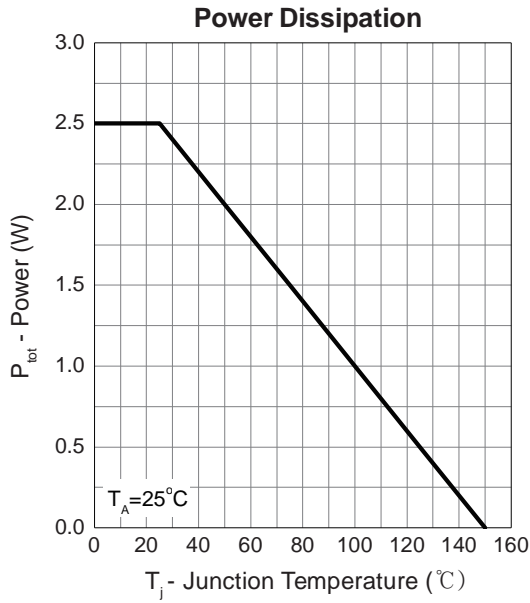
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0V, ID = -250 μ A)	V(BR)DSS	-20	-	-	V	
Gate Threshold Voltage (VDS = VGS, ID = -250 μ A)	VGS(th)	-0.4	-	-1.0	V	
Gate Leakage Current (VDS = 0V, VGS = \pm 12V)	IGSS	-	-	\pm 100	nA	
Zero Gate Voltage Drain Current (VDS = -16V, VGS = 0V)	IDSS	-	-	-1	μ A	
On-State Drain Current (Note 3) (VDS = -5V, VGS = -4.5V)	ID(on)	-12	-	-	A	
Drain-Source On-Resistance (VGS = -4.5V; ID = -9.9A)	RDS(ON) (Note 3)	-	13	17	m	
Drain-Source On-Resistance (VGS = -2.5V; ID = -6.3A)		-	18	25		
Diode Forward Voltage (Note 3) (IS = -1.0A, VGS = 0V)	VSD	-	-0.7	-1.0	V	
Forward Transconductance (Note 3) (VDS = -15 V, ID = -7A)	gfs	-	8	-	S	
Dynamic (Note 4)						
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -9.9 A)	Qg	-	20.0	-	nC
Gate-Source Charge		Qgs	-	0.8	-	
Gate-Drain Charge		Qgd	-	7.6	-	
Turn-On Delay Time	(VDS = -10 V, RL = 1.4 Ω , ID = -7 A, VGEN = -4.5 V, RGEN = 6 Ω)	td(on)	-	8	-	ns
Rise Time		tr	-	13	-	
Turn-Off Delay Time		td(off)	-	25	-	
Fall Time		tf	-	170	-	
Input Capacitance	(VDS = -10V, VGS = 0 V, f = 1 MHz)	Ciss	-	1608	-	pF
Output Capacitance		Coss	-	294	-	
Reverse Transfer Capacitance		Crss	-	257	-	

Note: 3. Pulse test: PW \leq 300 μ s, duty cycle \leq 2%.

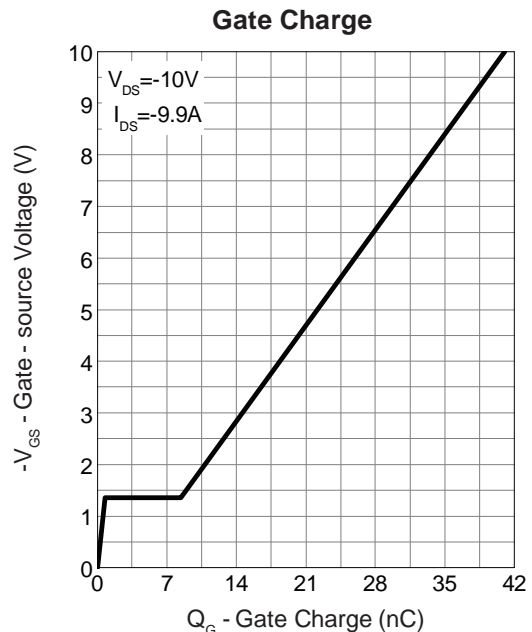
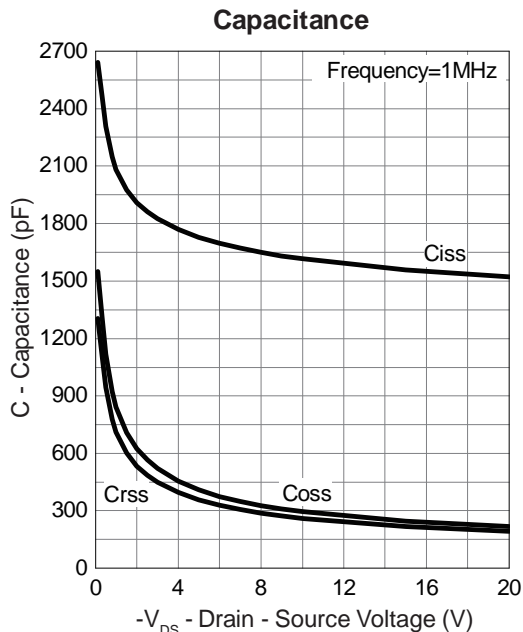
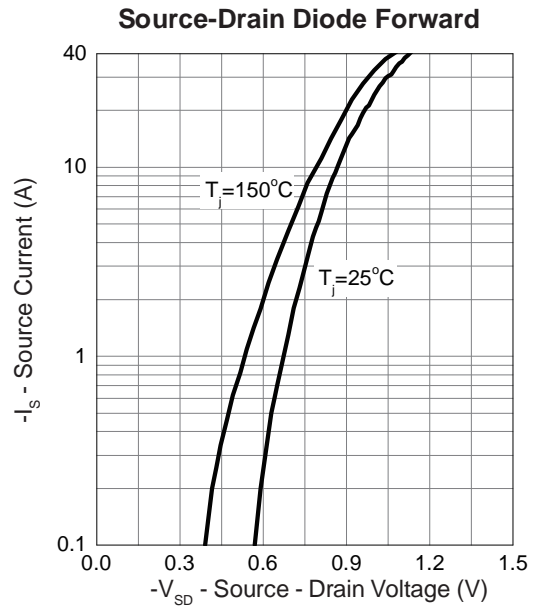
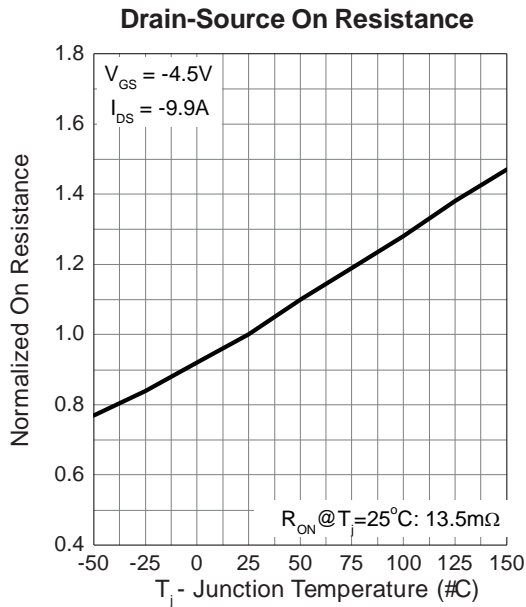
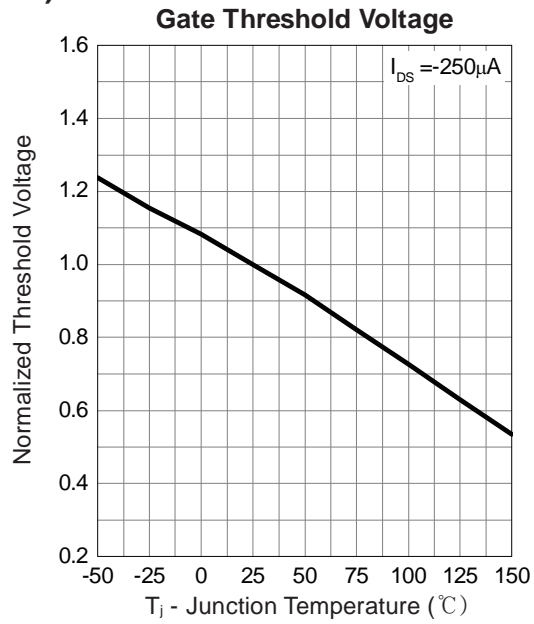
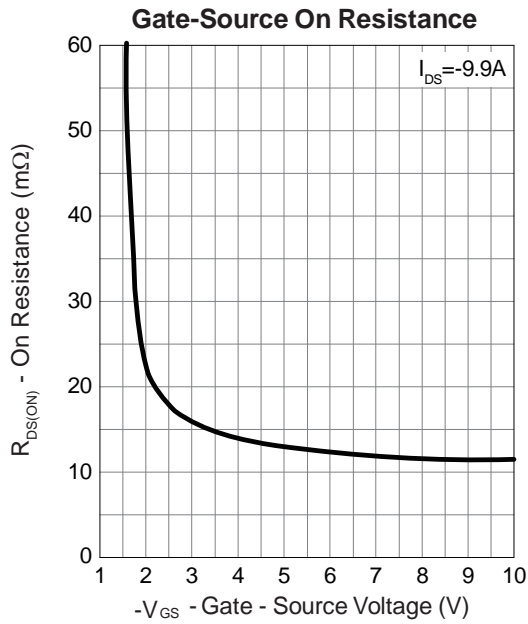
4. Guaranteed by design, not subject to production testing.

6. ELECTRICAL CHARACTERISTICS CURVES

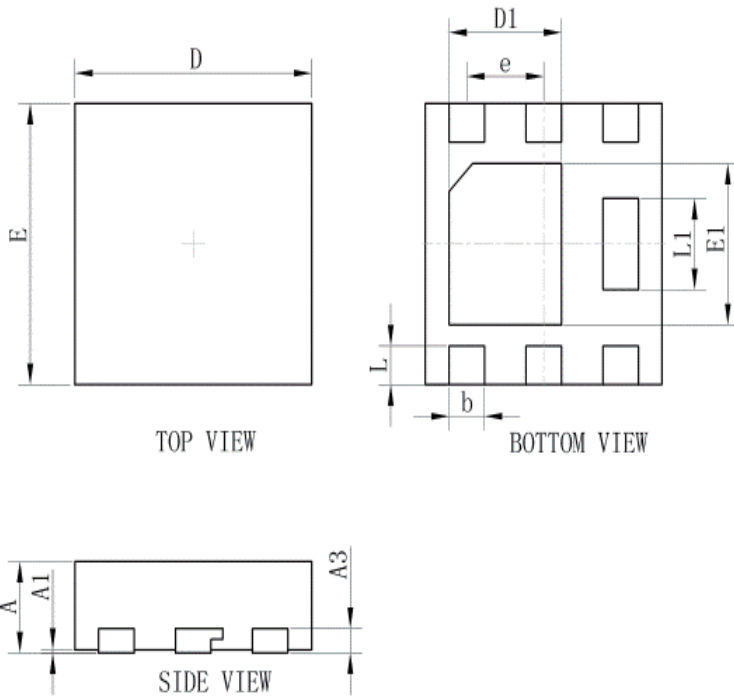




6.ELECTRICAL CHARACTERISTICS CURVES(Con.)

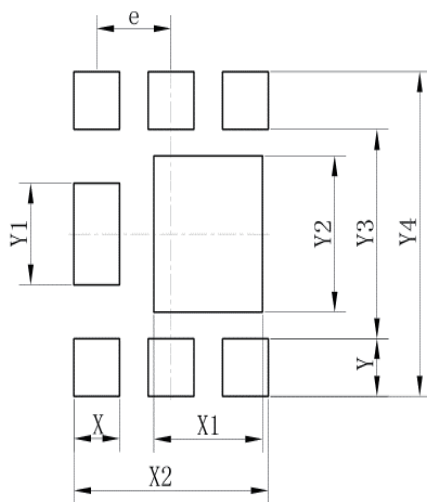


7. OUTLINE AND DIMENSIONS



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			

8. 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