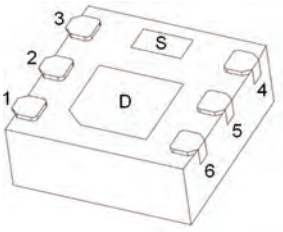
20V N-Channel MOSFET

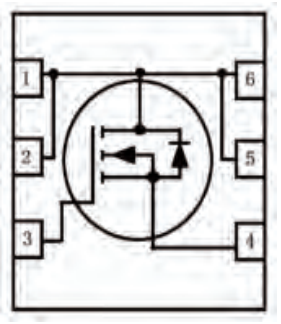
DFN 2×2-6L-J



1. DRAIN
2. DRAIN
3. GATE
4. SOURCE
5. DRAIN
6. DRAIN

1. FEATURES

- VDS =20V
  RDS(ON)≤ 10.5mΩ ,VGS@4.5V,IDS@10A
  RDS(ON)≤ 12.5m ,VGS@2.5V,IDS@8A
- 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

- Power Routing
- Level Shifting and Driver Circuits

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
FTK2324DFN22	AN	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	20	V
Gate-Source Voltage		VGS	± 8	
Continuous Drain Current(Note 1)	TA = 25℃	ID	14	A
	TA = 70℃		11	
Pulsed Drain Current(Note 2)		IDM	60	
Continuous Source Current (Diode Conduction)(Note 1)		IS	2.9	
Power Dissipation(Note 1)	TA = 25℃	PD	3	W
	TA = 70℃		1.9	
Operating Junction and Storage Temperature Range		TJ , Tstg	-55~+150	℃

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

5. THERMAL CHARACTERISTICS

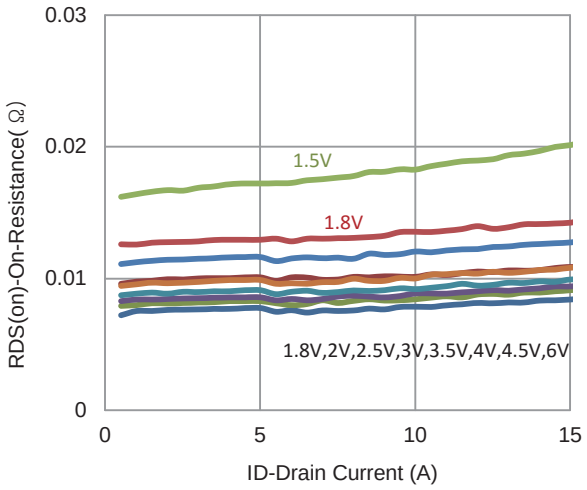
Parameter		Symbol	Max	Unit
Maximum Junction-to-Ambient (Note 1)	t≤ 10S	RθJA	40	ºC/W
	Steady State		90	

6. ELECTRICAL CHARACTERISTICS (Ta= 25℃)

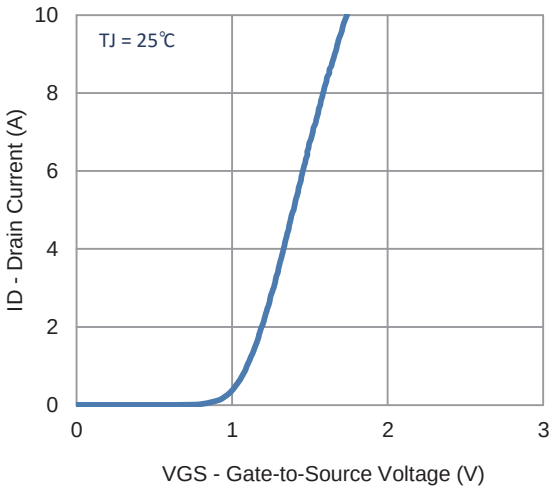
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Gate-Source Threshold Voltage (VDS =VGS , ID =250μA		VGS(th)	0.4	-	-	V
Gate-Body Leakage (VDS =0V, VGS =±8V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 16 V, VGS = 0 V) (VDS = 16 V, VGS = 0 V, TJ = 55°C)		IDSS	- -	- -	1 10	μA
On-State Drain Current(Note 3) (VDS = 5 V, VGS = 4.5 V)		ID(ON)	20	-	-	A
Drain-Source On-Resistance(Note 3) (VGS = 4.5 V, ID = 10 A) (VGS = 2.5 V, ID = 8 A)		RDS(ON)	- -	- -	10.5 12.5	mΩ
Forward Transconductance(Note 3) (VDS = 15 V, ID = 10 A)		gfs	-	5	-	S
Diode Forward Voltage(Note 3) (IS = 1.4 A, VGS = 0 V)		VSD	-	0.74	-	V
DYNAMIC(Note 4)						
Total Gate Charge	(VDS = 10 V, VGS = 4.5 V,ID = 10 A)	Qg	-	20	-	nC
Gate-Source Charge		Qgs	-	3.6	-	
Gate-Drain Charge		Qgd	-	5.5	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1920	-	pF
Output Capacitance		Coss	-	160	-	
Reverse Transfer Capacitance		Crss	-	143	-	
Turn-On Delay Time	(VDS = 10 V, RL = 1 Ω,ID = 10 A,VGEN = 4.5 V, RGEN = 6 Ω)	td(on)	-	6	-	ns
Turn-On Rise Time		tr	-	14	-	
Turn-Off Delay Time		td(off)	-	84	-	
Turn-Off Fall Time		tf	-	24	-	

Note: 3. Pulse test; pulse width≤ 300μs, duty cycle≤ 2%.
4. Guaranteed by design, not subject to production testing.

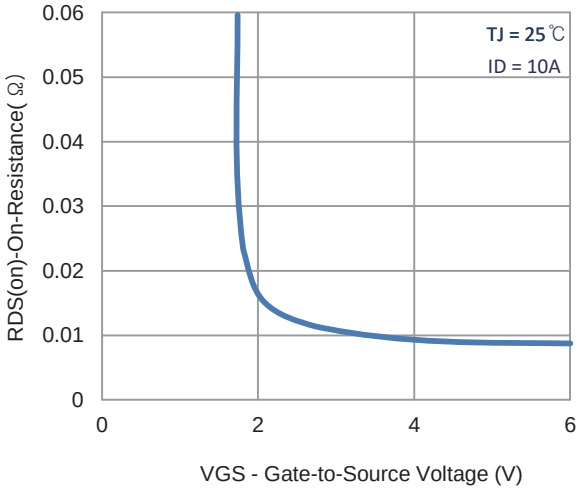
7。ELRCTRICAL CHARACTERISTICS CURVES



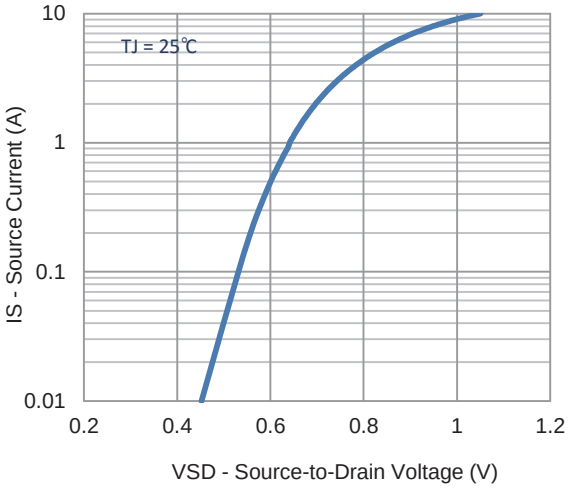
1. On-Resistance vs. Drain Current



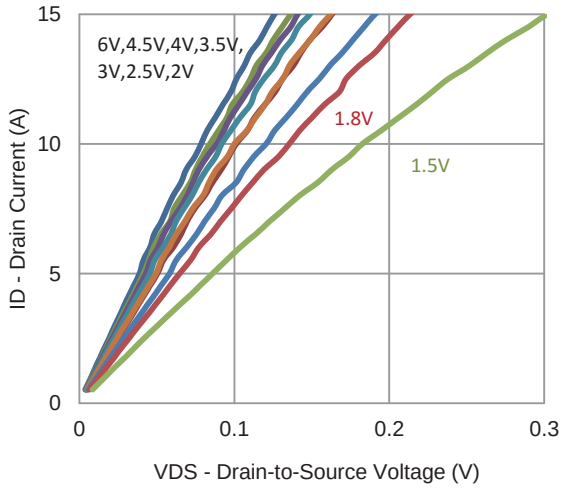
2. Transfer Characteristics



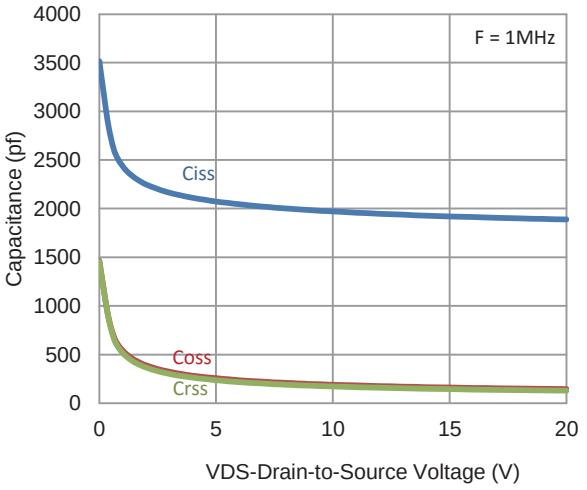
3. On-Resistance vs. Gate-to-Source Voltage



4. Drain-to-Source Forward Voltage

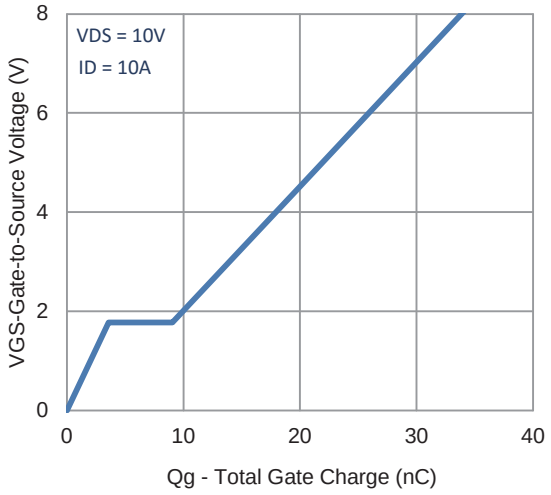


5. Output Characteristics

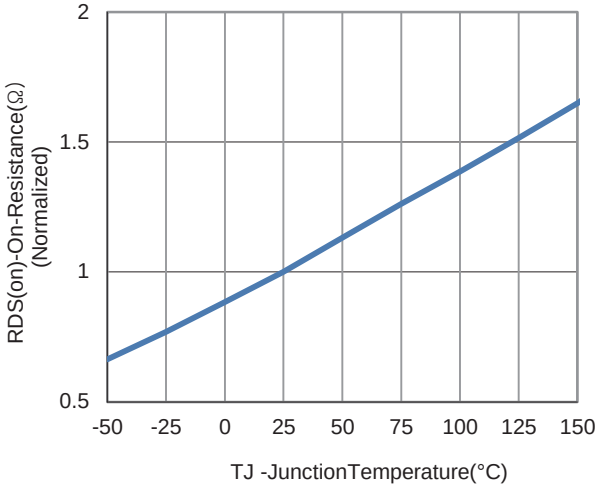


6. Capacitance

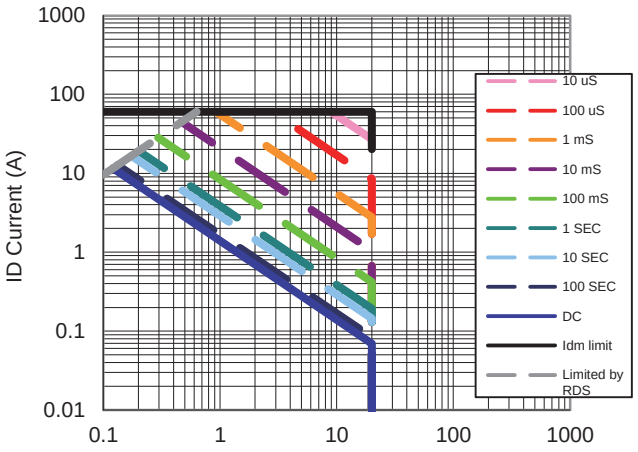
7。ELRCTRICAL CHARACTERISTICS CURVES(Con.)



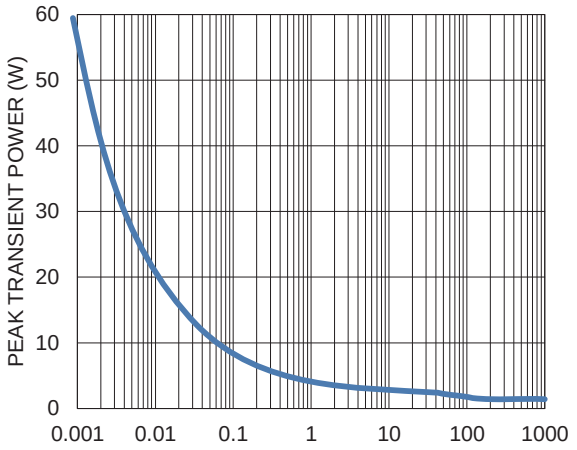
7. Gate Charge



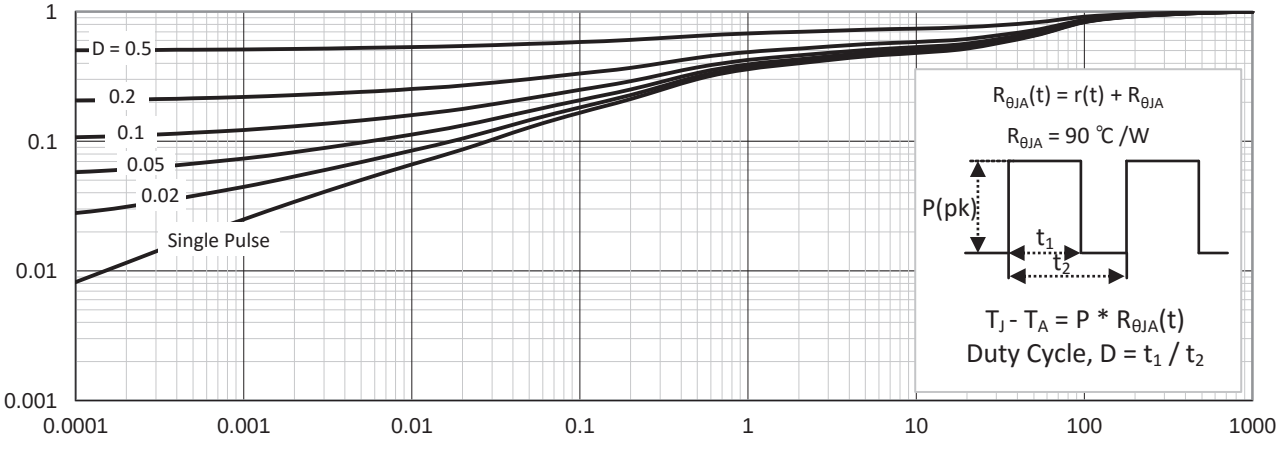
8. Normalized On-Resistance Vs Junction Temperature



9. Safe Operating Area

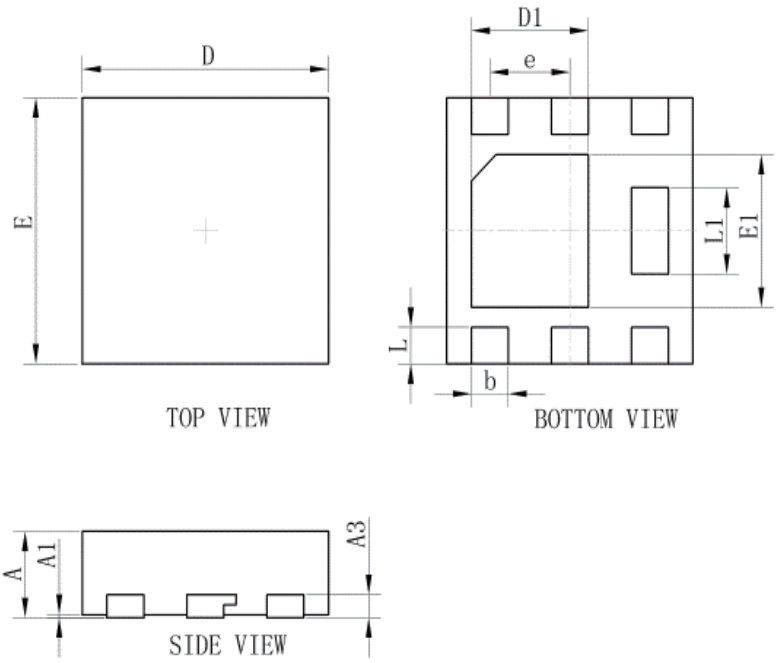


10. Single Pulse Maximum Power Dissipation



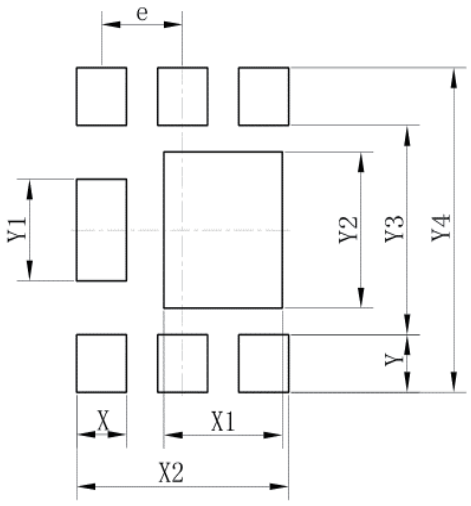
11. Normalized Thermal Transient Junction to Ambient

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