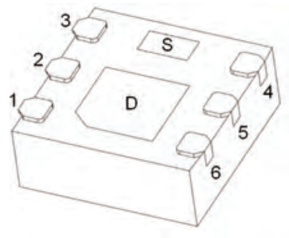
20V N-Channel MOSFET

DFN 2×2-6L-J

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

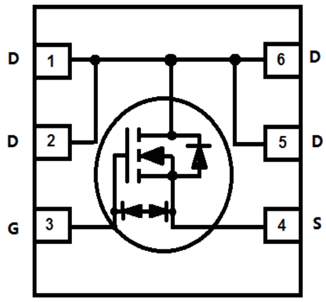


1. FEATURES

- Low Gate Threshold Voltage
- Fast Switching Speed
- ESD Protected Gate
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

2. APPLICATIONS

- Battery Management Application
- Power Management Functions
- DC-DC Converters



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
FTK2320DFN22	ED	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain−to−Source Voltage		VDSS	20	V
Gate−to−Source Voltage		VGS	±10	V
Continuous Drain Current		ID	8	A
Pulsed Drain Current		IDM	26	A
Maximum Power Dissipation	TA =25°C	PD	1.4	W
	TA =70°C		0.9	
Operating Junction Temperature		TJ	−55 ~ +150	ºC
Thermal Resistance-Junction to Ambient(Note1)		RΘJA	90	ºC/W

1. The device mounted on 1in ² FR4 board with 2 oz copper

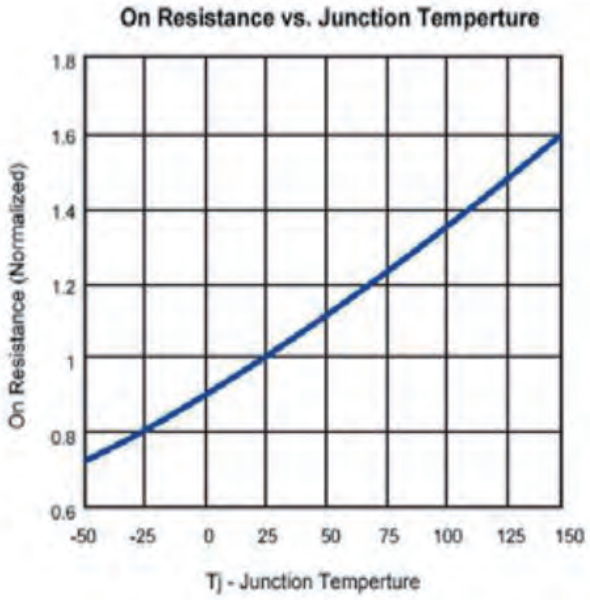
5. ELECTRICAL CHARACTERISTICS

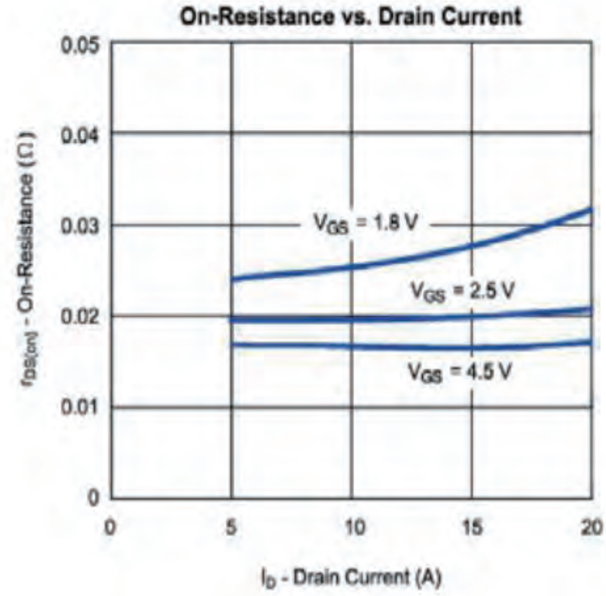
Characteristic	Conditions	Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS =0V, ID =250µA)		V(BR)DSS	20	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250µA)		VGS(th)	0.4	-	1	V
Gate Leakage Current (VDS =0V, VGS =±10V)		IGSS	-	-	±10	µA
Zero Gate Voltage Drain Current (VDS =20V, VGS =0V)		IDSS	-	-	1	µA
Drain-Source On-Resistance(Note 2) (VGS =4.5V, ID = 4A) (VGS =2.5V, ID = 4A) (VGS =1.8V, ID = 4A)		RDS(ON)	- - -	15 18 24	22 26 40	m
Diode Forward Voltage (VGS = 0V, IS = 5A)		VSD	-	-	1	V
DYNAMIC						
Total Gate Charge	(VDS =10V, VGS =4.5V, ID =6.5A)	Qg	-	10	-	nC
Gate-Source Charge		Qgs	-	0.9	-	
Gate-Drain Charge		Qgd	-	3	-	
Input Capacitance	(VDS =10V, VGS =0V,f=1MHz)	Ciss	-	150	-	pF
Output Capacitance		Coss	-	95	-	
Reverse Transfer Capacitance		Crss	-	25	-	
Turn-On Delay Time	(VDS =10V, RL = 1.5 , VGS =5V, RGEN =3)	td(on)	-	250	-	ns
Turn-On Rise Time		tr	-	420	-	
Turn-Off Delay Time		td(off)	-	3950	-	
Turn-Off Fall Time		tf	-	3700	-	

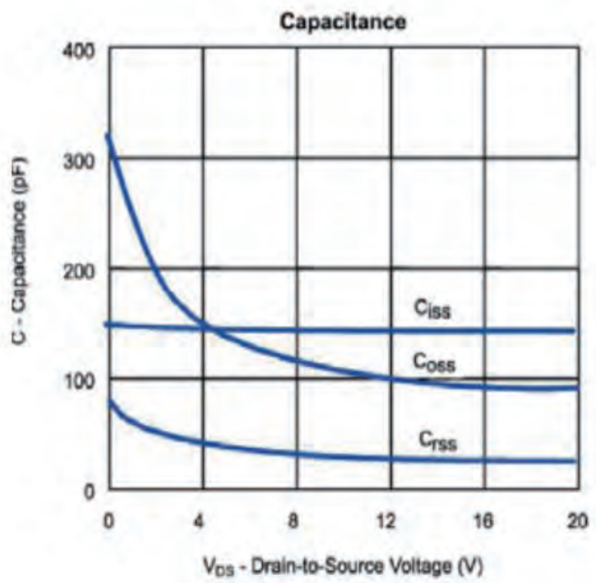
2. Pulse test; pulse width ≤ 300us, duty cycle≤ 2%

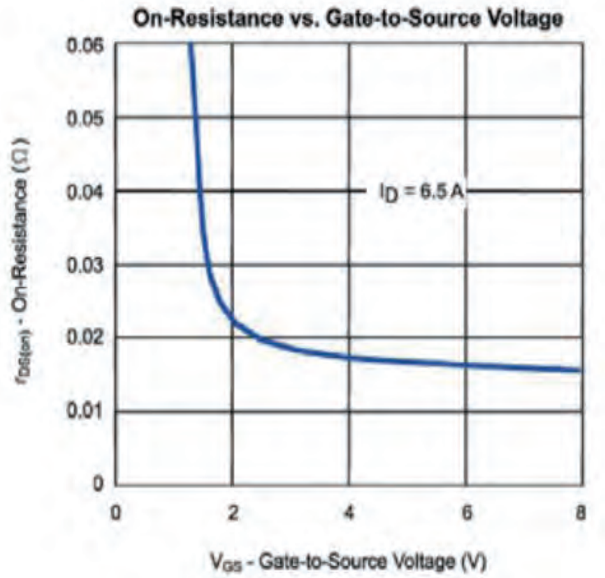
3. Matsuki Electric/ Force mos reserves the right to improve product design, functions and reliability without notice.

6.ELECTRICAL CHARACTERISTICS CURVES

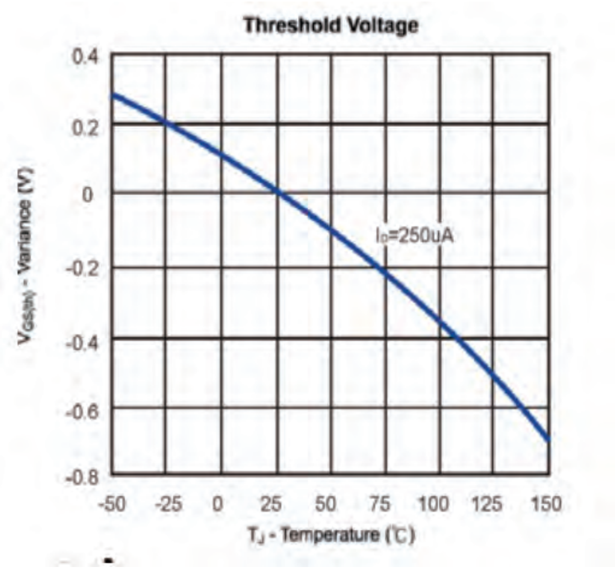


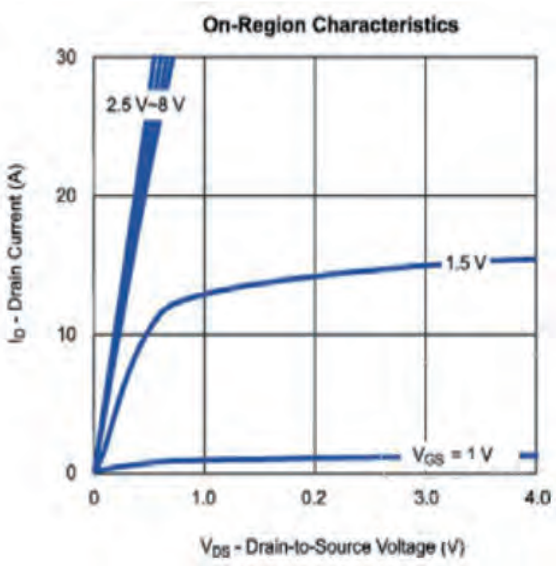


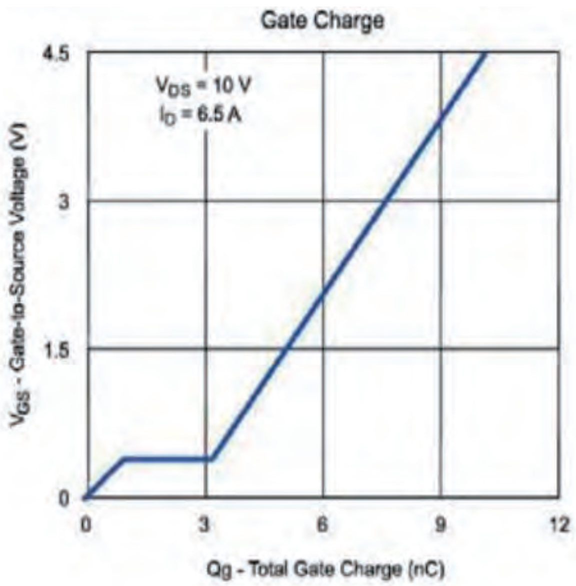


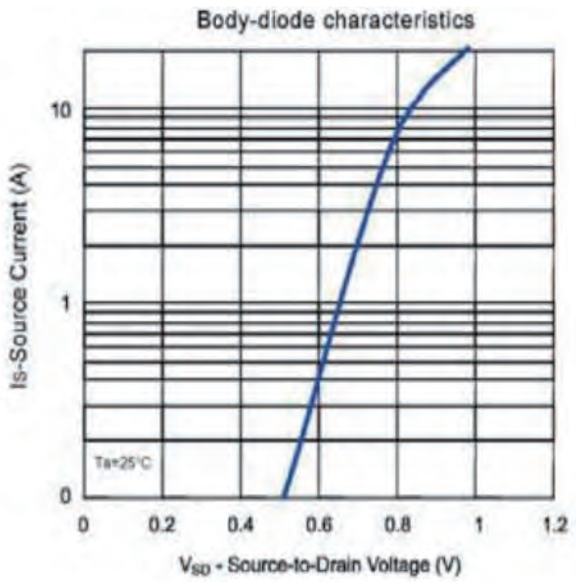


6.ELECTRICAL CHARACTERISTICS CURVES(Con.)









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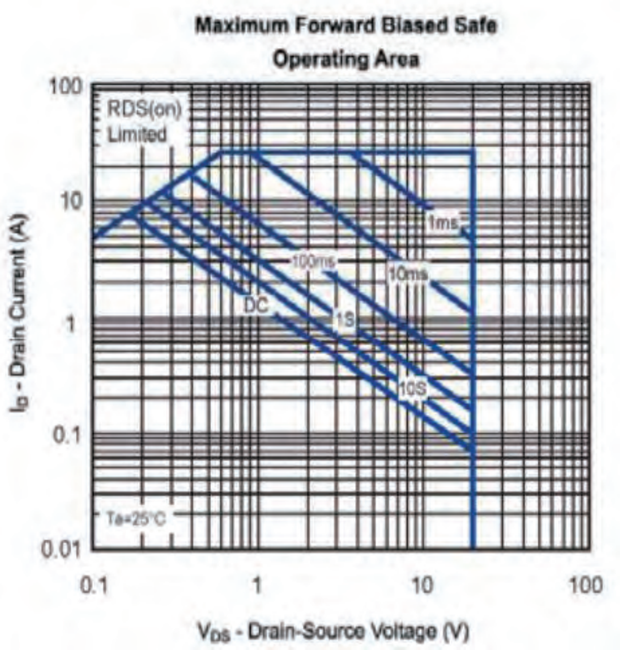
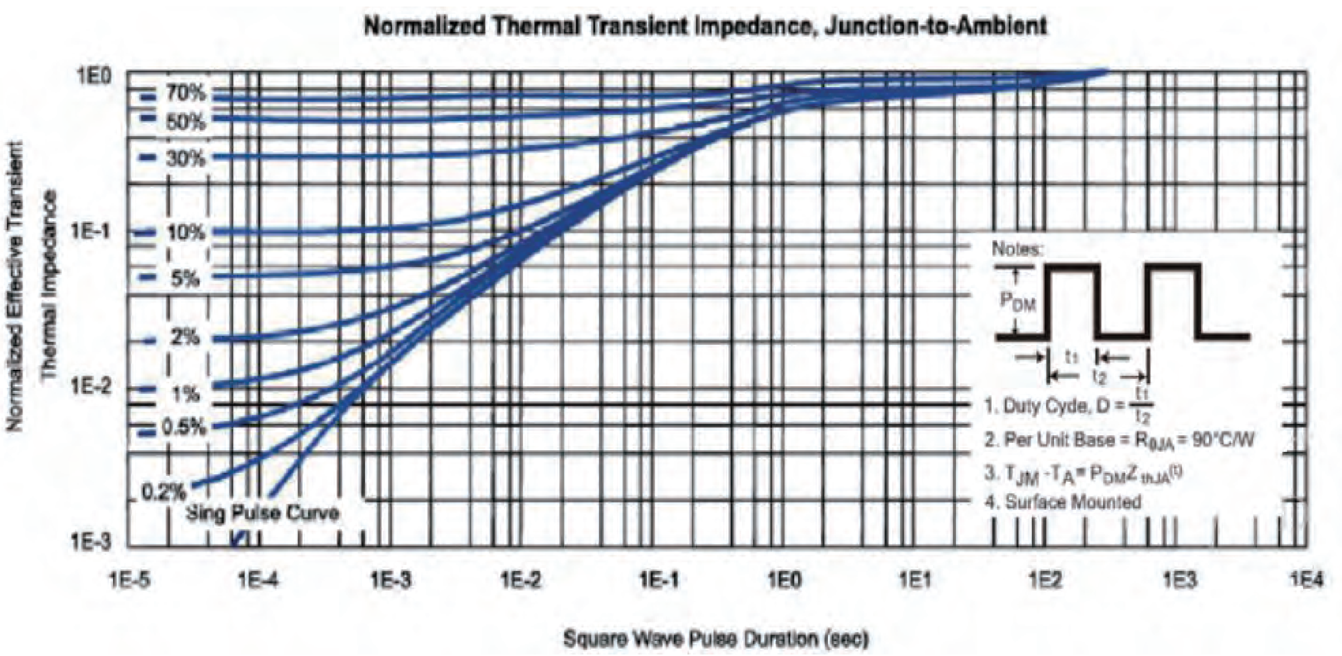
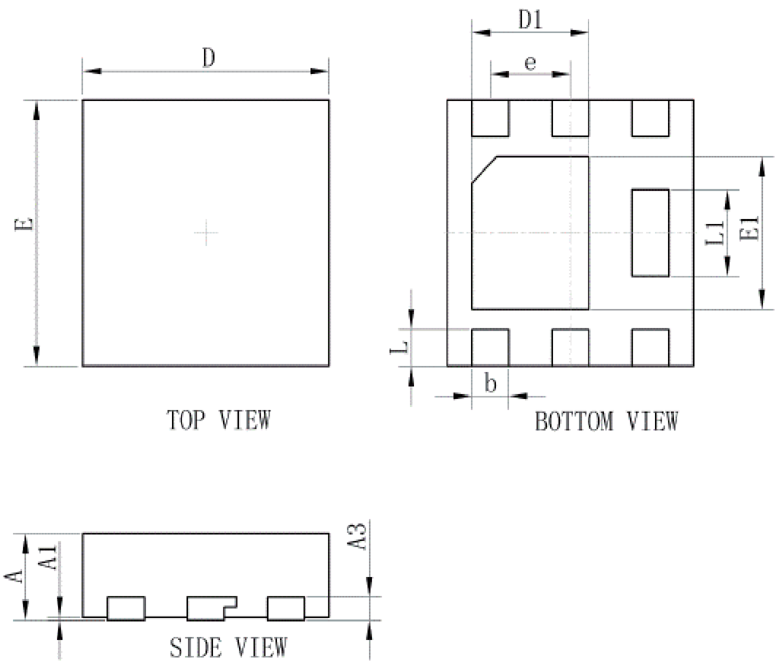


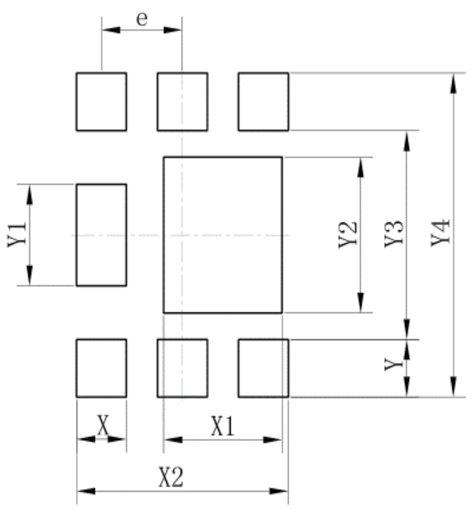


7.OUTLINE AND DIMENSIONS



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