

20V,6mΩ,N-Channel MOSFET

Features

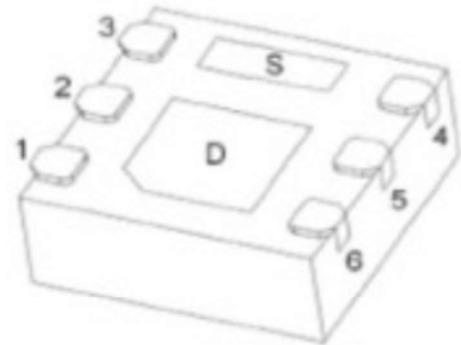
- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handling Capability
- Surface Mount Package
- 20V,6mΩ,N-Channel MOSFET

V(BR)DSS	RDS(on)TYP	ID
20V	5.8mΩ@ 4.5V	15A
	6.5mΩ@ 3.8V	
	7.2mΩ@ 3.1V	
	8.6mΩ@ 2.5V	

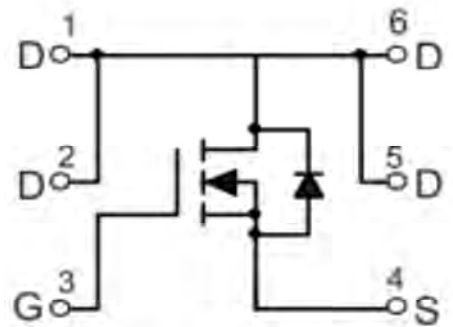
Mechanical Data

- Case:DFN22-6L Plastic Package
- Packaging: 3kpcs/Real
30kpcs/Box
360kpcs/Carton

DFN22-6L



Equivalent Circuit



Maximum Ratings & Thermal Characteristics

Tamb=25°C, unless otherwise specified

Parameter	Symbol	Value	Units
Drain-Source voltage	V _{DSS}	20	V
Gate -Source voltage	V _{GSS}	±10	V
Continuous Drain Current (TC=25°C)	I _D	18	A
Pulsed Drain Current (Note1)	I _{DM}	52	A
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to +150	°C
Maximum lead temperatur for solderi purposes, 1/8" from case for 5 seconds	T _L	260	°C
Junction-to-Ambient (Note2)	RθJA	250	°C/W



FTK2004DFN22

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Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BVDSS	VGS=0V, ID=250μA	20	-	-	V
Zero Gate Voltage Drain Current	IDSS	VDS=16V, VGS=0V	-	-	1	μA
Gate-body Leakage	IGSS	VDS=0V, VGS=±10V	-	-	±100	nA

ON CHARACTERISTICS

Gate Threshold Voltage(note3)	VGS(th)	VDS=VGS, ID=250μA	0.5	0.7	1	V
Static drain-Source on-resistance(note3)	RDS(ON)	VGS=4.5V, ID=4A	-	5.8	7.5	mΩ
		VGS=3.8V, ID=4A	-	6.5	8	
		VGS=3.1V, ID=4A	-	7.2	9	
		VGS=2.5V, ID=4A	-	8.6	12	
Diode Forward Voltage(note3)	VSD	IS=1.25A, VGS=0V	-	-	1.2	V

DYNAMIC CHARACTERISTICS(NOTE4)

Input capacitance	Ciss	VDS=10V, VGS=0V, f=1.0MHz	-	1920	-	pF
Output capacitance	Coss		-	275	-	
Reverse transfer capacitance	Crss		-	233	-	

SWITCHING CHARACTERISTICS

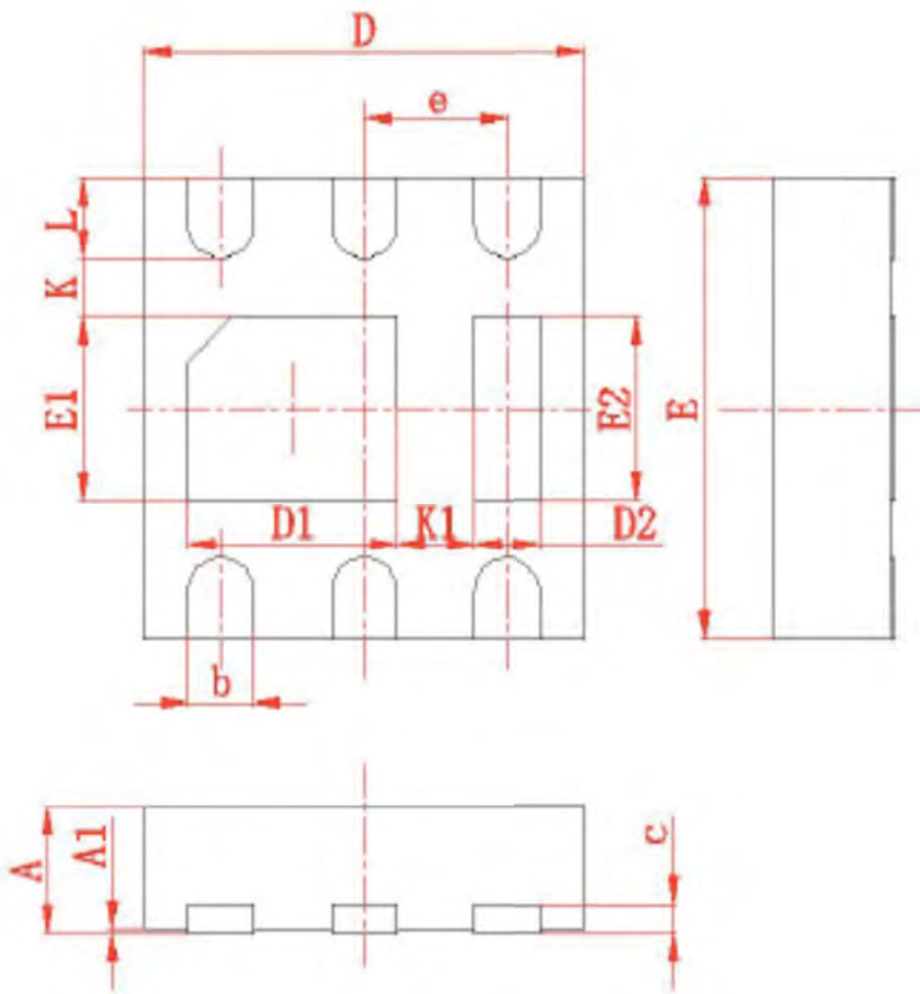
Turn-On Delay Time	td(ON)	VDD = 10V, VGS=5V, RGEN= 3Ω RL=1.35Ω	-	2.2	-	ns
Rise Time	tr		-	5.9	-	
Turn-Off Delay Time	td(OFF)		-	40	-	
Fall Time	tf		-	90	-	
Total Gate Charge	Qg	VDS =10V , ID=7A , VGS=4.5V	-	18	-	nC
Gate-Source Charge	Qgs		-	22	-	
Gate-Drain Charge	Qgd		-	5.6	-	

Notes:

1. Repetitive Rating : Pulse width limited by maximum junction emperature
2. Surfaced mounted on FR4 board using 1 square inch pad size, 1oz single-sie copper
3. Pulse Test : Pulse width ≤ 300us, Duty cycle ≤ 2%
4. Guaranteed by design, not subject to production

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Package Outline Dimensions



Dim	Millimeters
A	0.75±0.05
A1	>0.05
D	2.0±0.1
D1	0.95±0.05
D2	0.3±0.05
E	2.0±0.1
E1	0.8±0.05
E2	0.8±0.05
K	>0.25
K1	>0.35
e	>0.65
b	0.3±0.05
c	>0.127
L	0.35±0.05