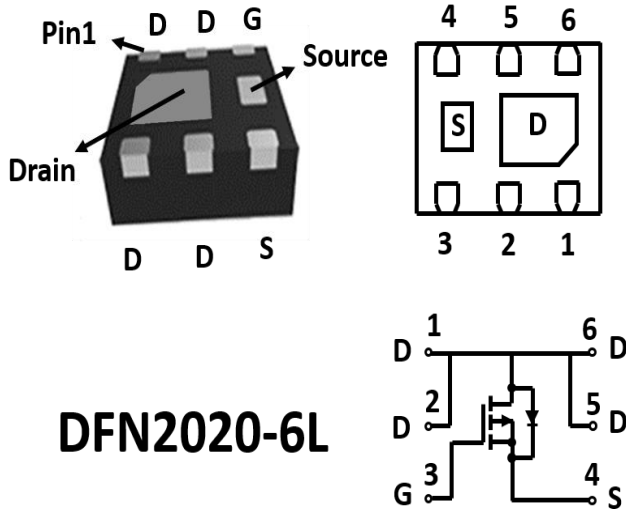


P-Channel Enhancement Mode Field Effect Transistor



DFN2020-6L

Product Summary

- V_{DS} -16V
- I_D -8A
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) <25 mohm
- $R_{DS(ON)}$ (at $V_{GS}=-2.5V$) <32 mohm
- $R_{DS(ON)}$ (at $V_{GS}=-1.8V$) <52 mohm

General Description

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Applications

- Battery charge
- Load switching in Cellular handset
- Ultraportable applications

■ Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Maximum	Unit
Drain-source Voltage	V_{DS}	-16	V
Gate-source Voltage	V_{GS}	± 10	V
Drain Current	I_D	$T_A=25^\circ C$	-8
		$T_A=70^\circ C$	-6.4
Pulsed Drain Current ^A	I_{DM}	-32	A
Total Power Dissipation @ $T_A=25^\circ C$	P_D	2.5	W
Thermal Resistance Junction-to-Ambient ^B	$R_{\theta JA}$	50	°C/W
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	15	
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJQ4666C	F2	..G66C	3000	15000	60000	7" reel



YJQ4666C

■ Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250μA	-16			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V, T _C =25°C			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±10V, V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250μA	-0.4	-0.62	-1.0	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -4.5V, I _D =-8A		20	25	mΩ
		V _{GS} = -2.5V, I _D =-5.6A		26	32	
		V _{GS} = -1.8V, I _D =-2A		35	52	
Diode Forward Voltage	V _{SD}	I _S =-8A, V _{GS} =0V		-0.7	-1	V
Maximum Body-Diode Continuous Current	I _S				-8	A
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1MHZ		990		pF
Output Capacitance	C _{oss}			168		
Reverse Transfer Capacitance	C _{rss}			107		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-8A		8.6		nC
Gate Source Charge	Q _{gs}			1.6		
Gate Drain Charge	Q _{gd}			2.2		
Turn-on Delay Time	t _{D(on)}	V _{GS} =-4.5V, V _{DD} =-10V, I _D =-1A, R _{GEN} =2.5Ω		12		ns
Turn-on Rise Time	t _r			54		
Turn-off Delay Time	t _{D(off)}			15		
Turn-off Fall Time	t _f			9		

A. Pulse Test: Pulse Width ≤ 300μs, Duty cycle ≤ 2%.

B. R_{θJA} is the sum of the junction-to-case and case-to-ambient thermal resistance, where the case thermal reference is defined as the solder mounting surface of the drain pins. R_{θJC} is guaranteed by design, while R_{θJA} is determined by the board design. The maximum rating presented here is based on mounting on a 1 in 2 pad of 2oz copper.



■ Typical Performance Characteristics

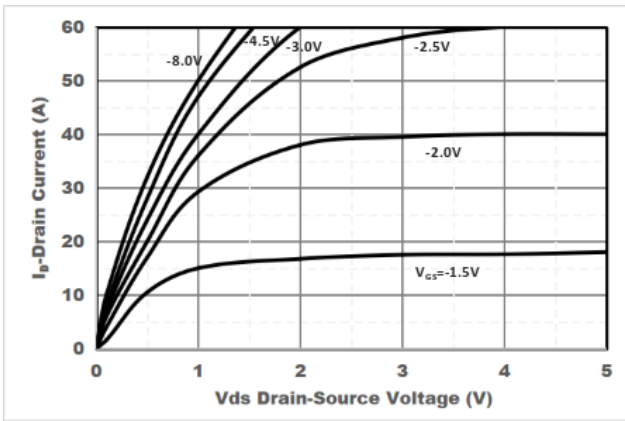


Figure1. Output Characteristics

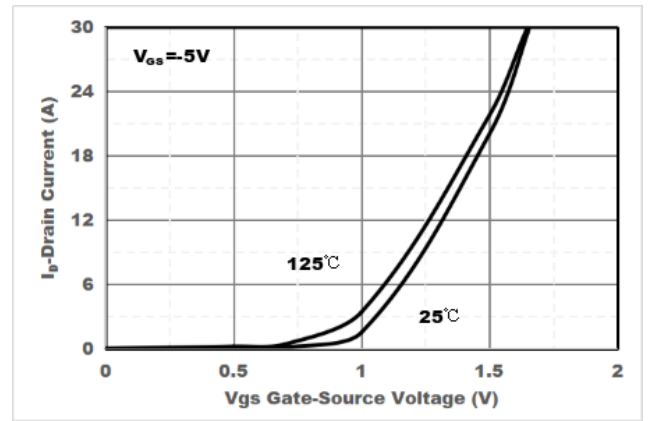


Figure2. Transfer Characteristics

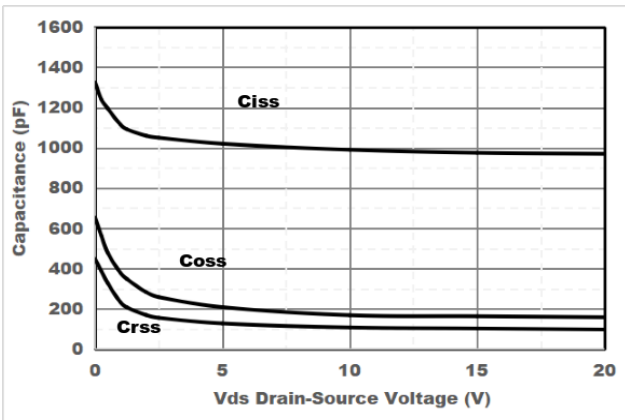


Figure3. Capacitance Characteristics

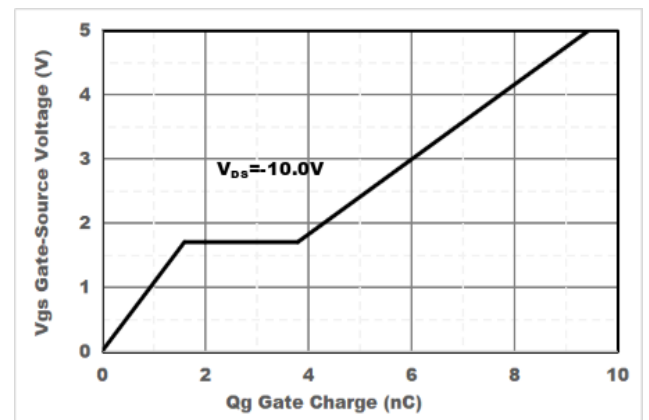


Figure4. Gate Charge

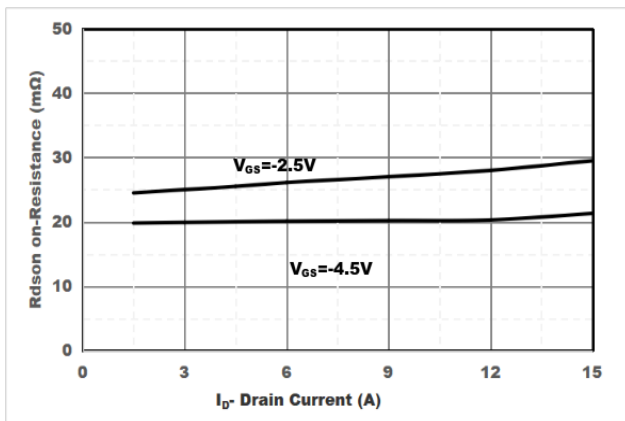


Figure5. Drain-Source on Resistance

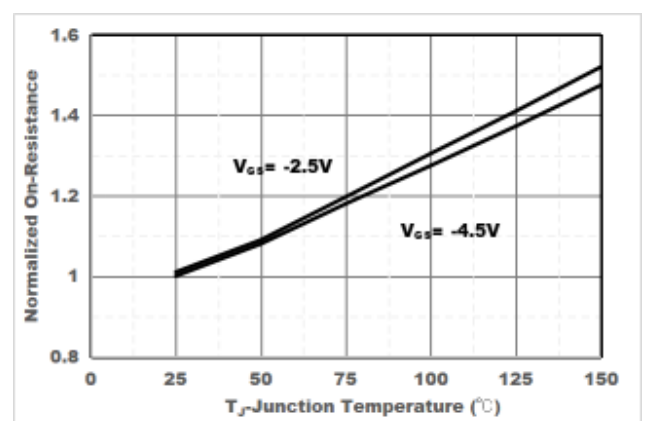


Figure6. Drain-Source on Resistance

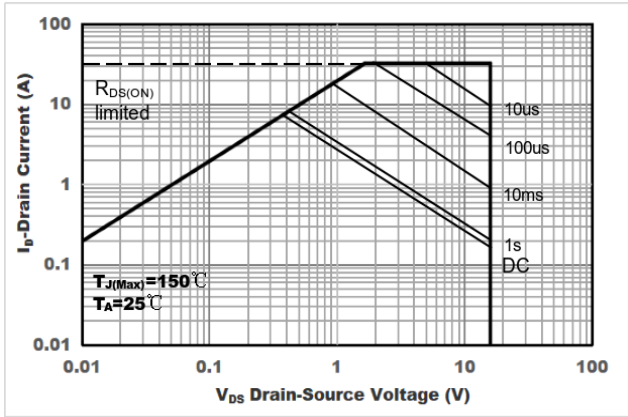


Figure7. Safe Operation Area

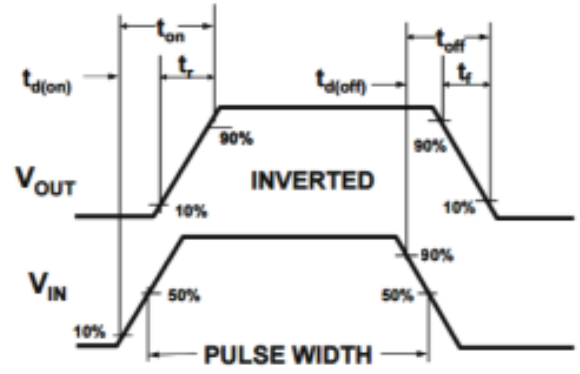
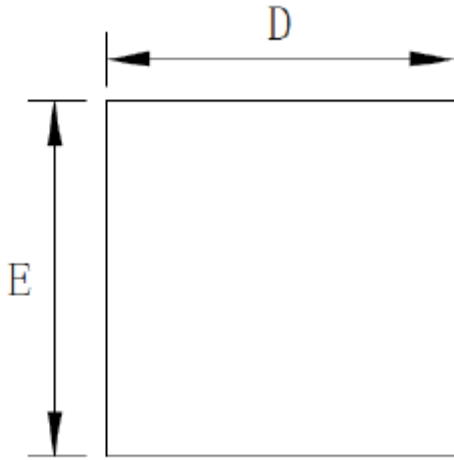
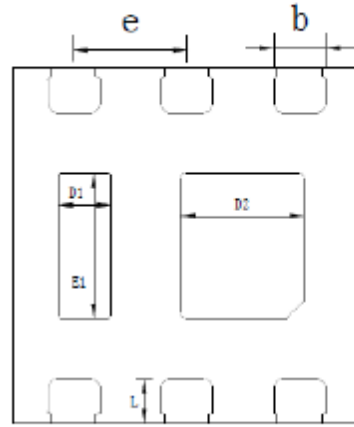


Figure8. Switching wave

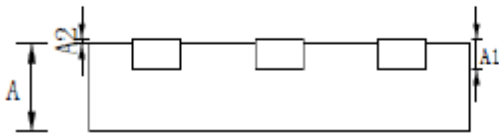
■ DFN2020-6L Package information



Top View
【顶视图】



Bottom View
【背视图】



Side View
【侧视图】

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.70	0.75	0.80
A1		0.15REF	
A2	0.00	0.02	0.05
L	0.20	0.25	0.30
b	0.25	0.30	0.35
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e		0.65BSC	
D2	0.61	0.71	0.81
D1	0.20	0.30	0.40
E1	0.71	0.81	0.91

备注: A1/e 不监控



YJQ4666C

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