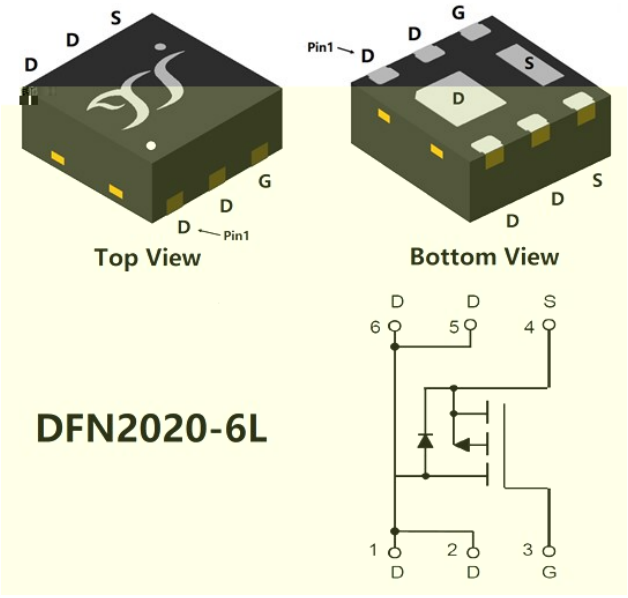
RoHS
COMPLIANT



- V_{DS} -30 V
- I_D -10 A
- $R_{DS(ON)}$(at V_{GS}=-10V) ＜40 mΩ
- $R_{DS(ON)}$(at V_{GS}=-4.5V) ＜60 mΩ

- Trench Power LV MOSFET technology
- High density cell design for Low $R_{DS(ON)}$
- High Speed switching
- Moisture Sensitivity Level 3
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

- Battery protection
- Load switch
- Power management

■ (T_A=25℃ unless otherwise noted)

Drain-source Voltage		V_{DS}	-30	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_A=25℃	I_D	-10	A
	T_A=100℃		-6	
	T_C=25℃		-4	
	T_C =100℃		-2.5	
Pulsed Drain Current [A]		I_{DM}	-40	A
Total Power Dissipation [B]	T_A=25℃	P_D	1.5	W
	T_A=100℃		0.6	
	T_C=25℃		15	
	T_C =100℃		6	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55～+150	℃

■

Thermal Resistance Junction-to-Ambient [C]	Steady-State	$R_{\theta JA}$	65	80	℃/W
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	6.5	8	

■ (Example)

YJQ3407B	F1	Q3407B	3000	30000	120000	7” reel

■ (T_J=25℃ unless otherwise noted)

Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=-250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	-1	μA
		V_{DS}=-30V, V_{GS}=0V, Tj=150℃	-	-	-100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250μA	-1.0	-1.5	-2.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-10A	-	30	40	mΩ
		V_{GS}=-4.5V, I_D=-5A	-	45	60	
Diode Forward Voltage	V_{SD}	I_S=-10A, V_{GS}=0V	-	-	-1.2	V
Gate resistance	R_G	f=1MHz	-	17	-	Ω
Maximum Body-Diode Continuous Current	I_S		-	-	-10	A
Input Capacitance	C_{iss}	V_{DS}=-15V, V_{GS}=0V, f=1MHz	-	490	-	pF
Output Capacitance	C_{oss}		-	75	-	
Reverse Transfer Capacitance	C_{rss}		-	60	-	
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-15V, I_D=-5A	-	9	-	nC
Gate-Source Charge	Q_{gs}		-	1.5	-	
Gate-Drain Charge	Q_{gd}		-	2.3	-	
Reverse Recovery Charge	Q_{rr}	I_F=-5A, di/dt=100A/us	-	12	-	nC
Reverse Recovery Time	t_{rr}		-	32	-	ns
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=-10V, V_{DD}=-15V, ID=-5A R_{GEN}=2.5Ω	-	9	-	ns
Turn-on Rise Time	t_r		-	3	-	
Turn-off Delay Time	$t_{D(off)}$		-	29	-	
Turn-off fall Time	t_f		-	15	-	

A. Repetitive rating; pulse width limited by max. junction temperature.
B. P_d is based on max. junction temperature, using junction-case and junction-ambient thermal resistance.
C. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz. Copper, in the still air environment with T_A =25℃. The maximum allowed junction temperature of 150℃. The value in any given application depends on the user's specific board design.

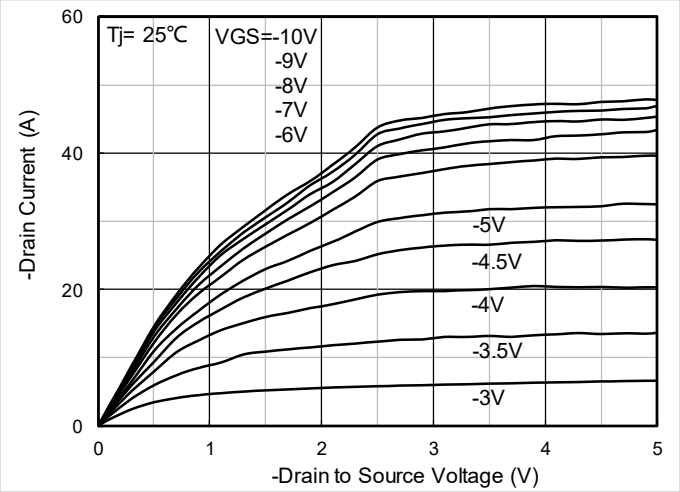


Figure 1. Output Characteristics

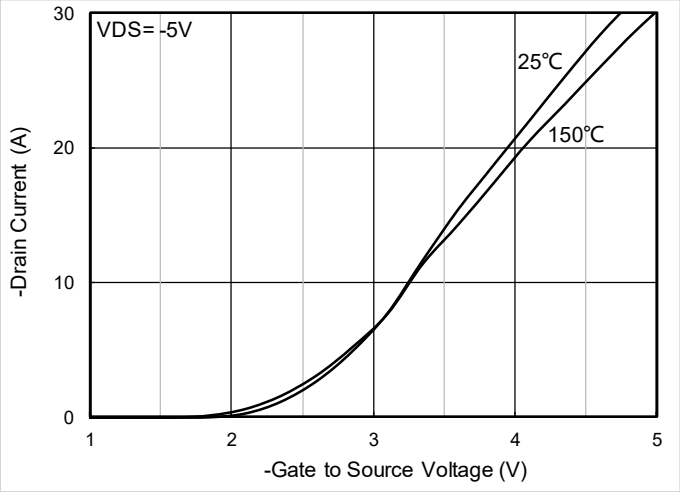


Figure 2. Transfer Characteristics

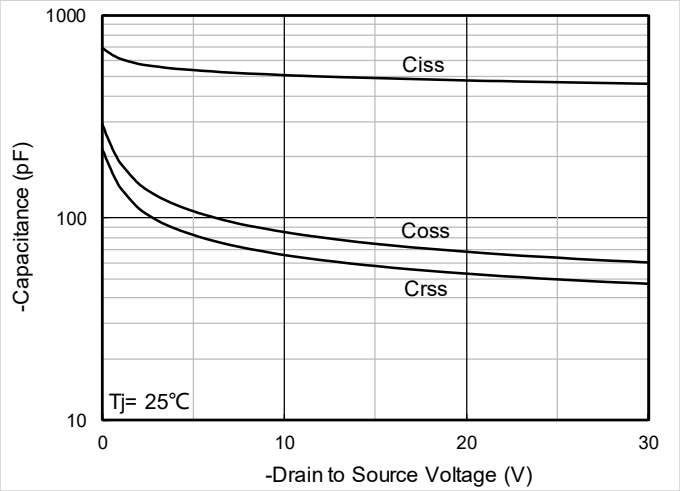


Figure 3. Capacitance Characteristics

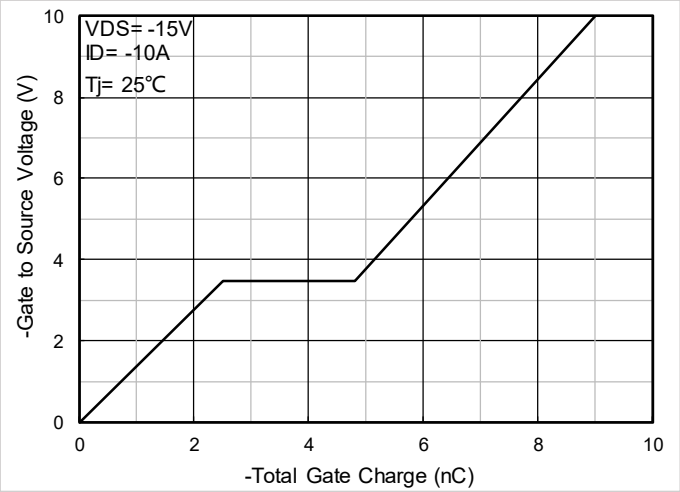


Figure 4. Gate Charge

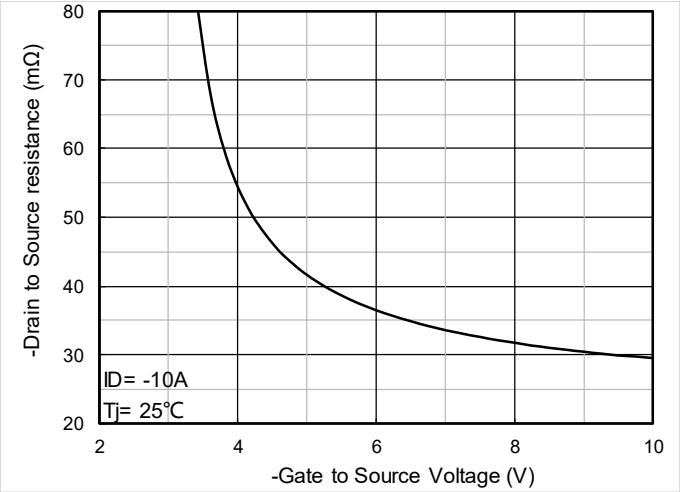


Figure 5. On-Resistance vs Gate to Source Voltage

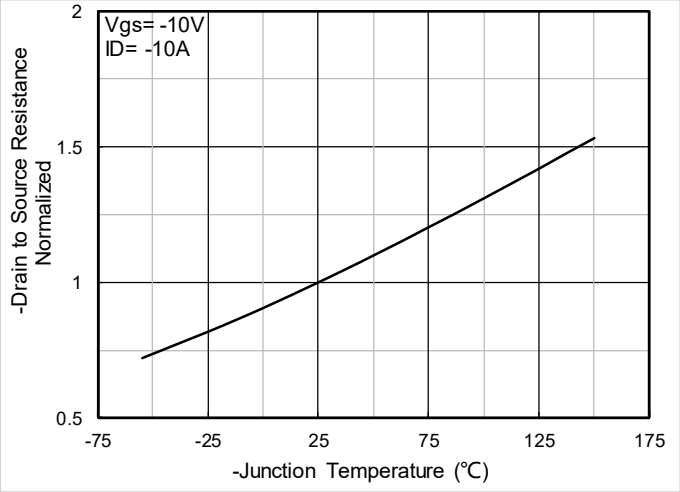


Figure 6. Normalized On-Resistance

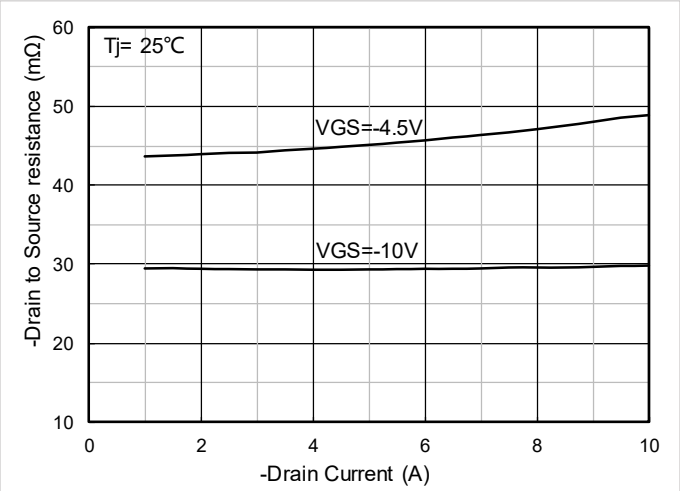


Figure 7. $R_{DS(on)}$ VS Drain Current

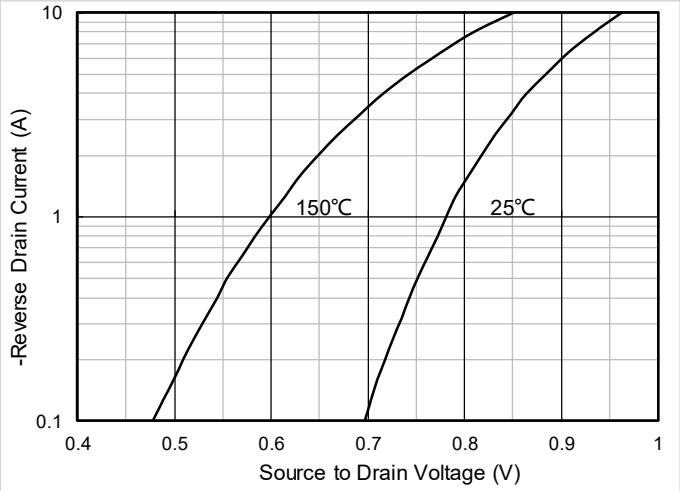


Figure 8. Forward characteristics of reverse diode

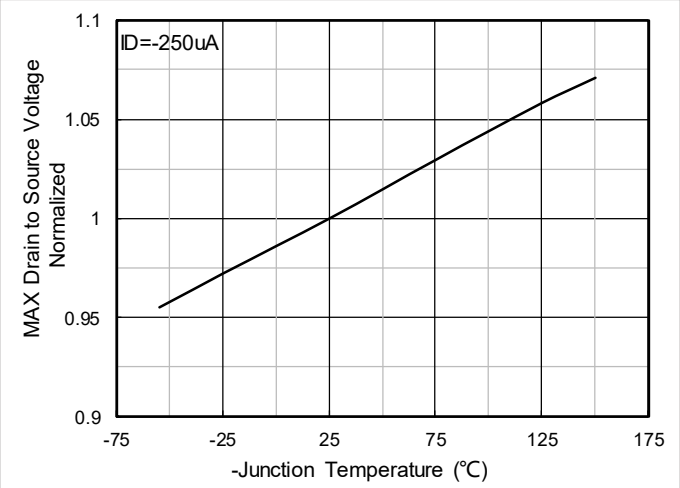


Figure 9. Normalized breakdown voltage

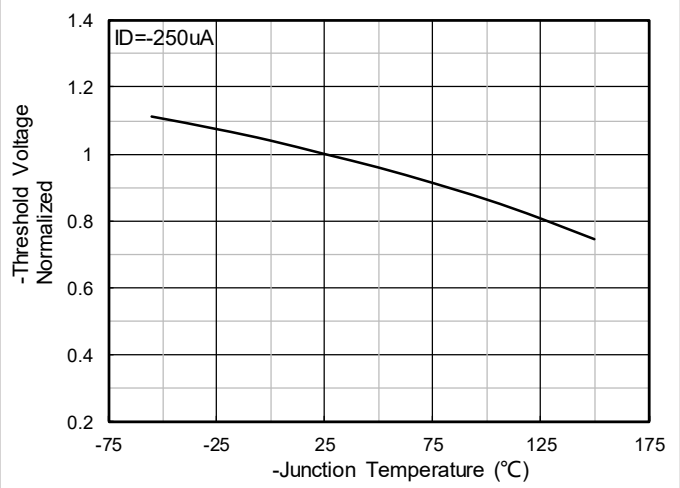


Figure 10. Normalized Threshold voltage

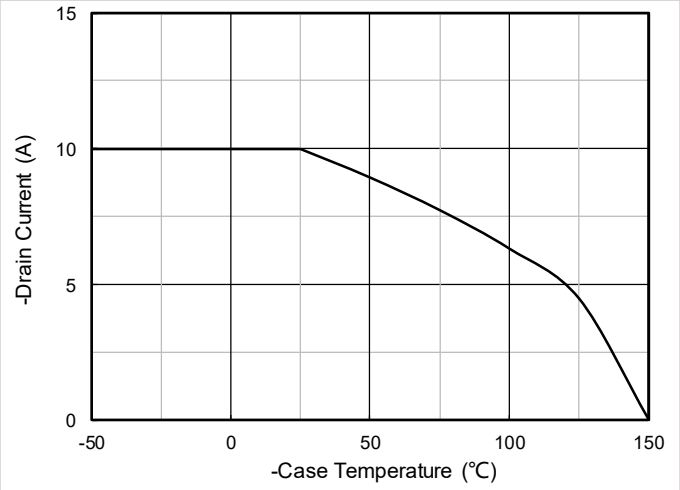


Figure 11. Current dissipation

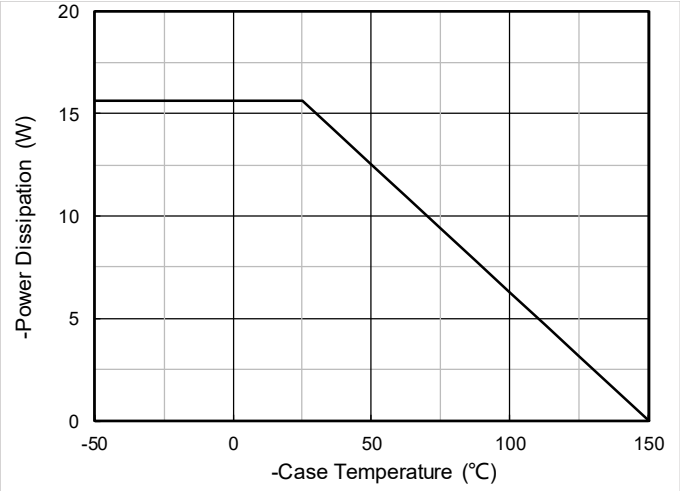


Figure 12. Power dissipation

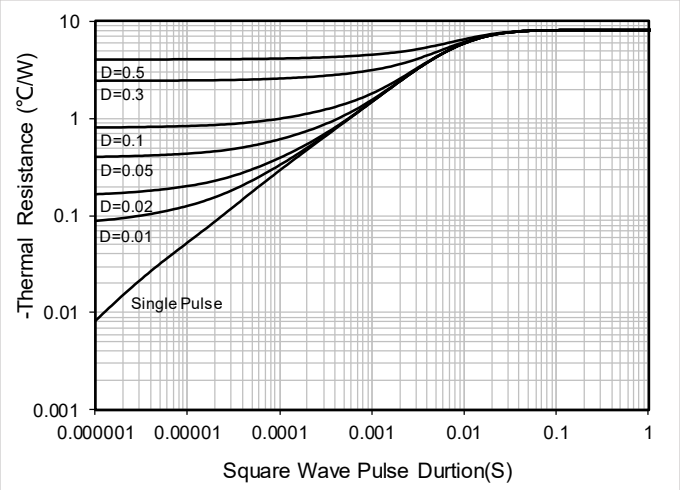


Figure 13. Maximum Transient Thermal Impedance

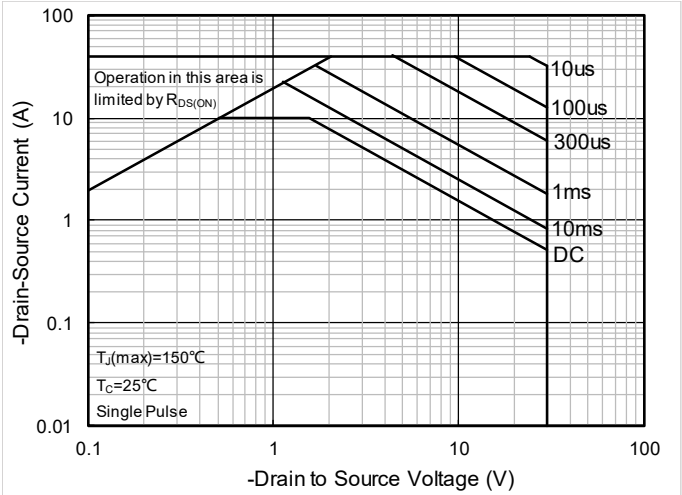


Figure 14. Safe Operation Area

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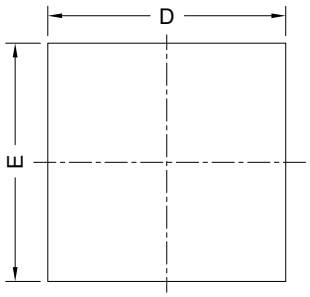
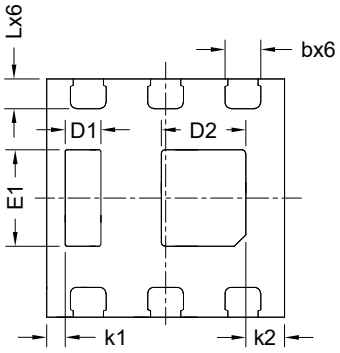
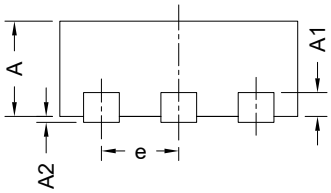


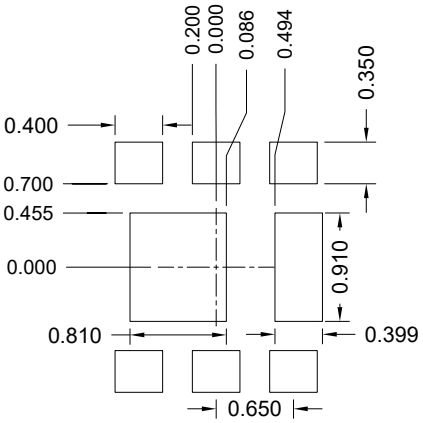
Top View
正面视图



Bottom View
背面视图



Side View
侧面视图



Suggested Solder Pad Layout
Top View

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	1.90	2.00	2.10
E	1.90	2.00	2.10
A	0.70	0.80	0.90
A1		0.20 BSC	
A2			0.10
D1	0.20	0.30	0.40
D2	0.61	0.71	0.81
E1	0.71	0.81	0.91
L	0.15	0.25	0.35
b	0.20	0.30	0.40
e		0.65 BSC	
k1		0.156 BSC	
k2		0.326 BSC	

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.10mm.
3.The pad layout is for reference purposes only.

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