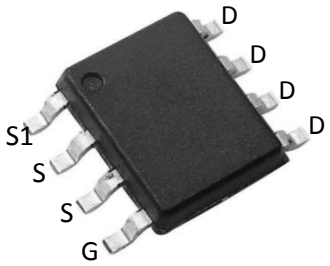
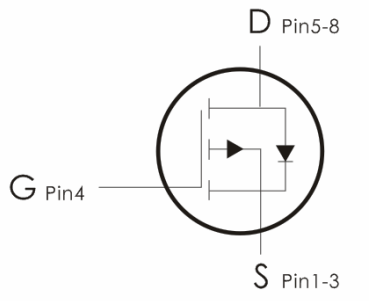
Description：

This P-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.





Features：

1) V_{DS}=-30V,I_D=-8A,$R_{DS(ON)}$<35mΩ @V_{GS}=-10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.

Absolute Maximum Ratings： (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-TC=25℃	-8	A
	Pulsed Drain Current[1]	-30	
P_D	Power Dissipation	3.1	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient[2]	40	℃/ W

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Electrical Characteristics: (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	-30	-33	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=-30V, TJ=25℃	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics[3]						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	-1.3	-1.65	-2.5	V
$R_{DS(ON)}$	Drain-Source On Resistance[2]	V_{GS}=-10V,I_D=-6.5A	---	30	35	mΩ
		V_{GS}=-4.5V,I_D=-5A	---	53	65	
G_{FS}	Forward Transconductance	V_{DS}=-5V, I_D=-6.5A	14	---	---	S
Dynamic Characteristics[4]						
C_{iss}	Input Capacitance	V_{DS}=-15V, V_{GS}=0V, f=1MHz	---	660	---	pF
C_{oss}	Output Capacitance		---	100	---	
C_{rss}	Reverse Transfer Capacitance		---	65	---	
Switching Characteristics[4]						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=-15V, V_{GS}=-10V I_D=-4A,R_{GEN}=3Ω	---	7.5	---	ns
t_r	Rise Time		---	5.5	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	19	---	ns
t_f	Fall Time		---	7	---	ns
Q_g	Total Gate Charge	V_{DS}=-15V , V_{GS}=-10V , I_D=-6.5A	---	9.2	---	nC
Q_{gs}	Gate-Source Charge		---	1.6	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	2.2	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[3]	V_{GS}=0V,I_S=-8A, T_J=25℃	---	---	-1.2	V
LS	Diode Forward Current[2]	---		---	-8	A

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production

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Typical Characteristics: (T_C=25℃ unless otherwise noted)

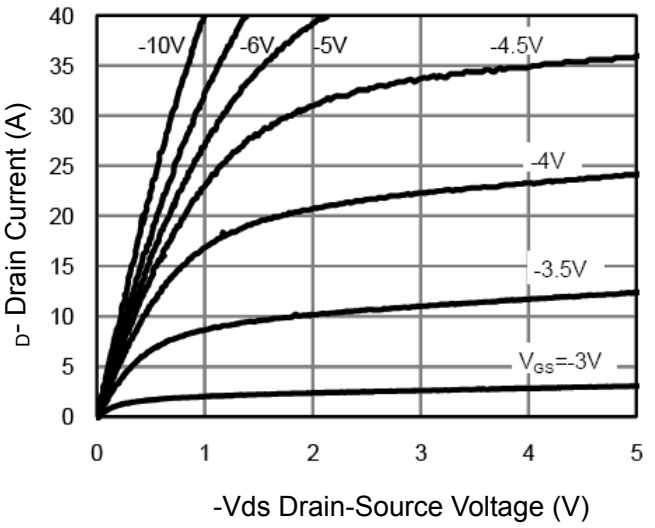


Figure 1 Output Characteristics

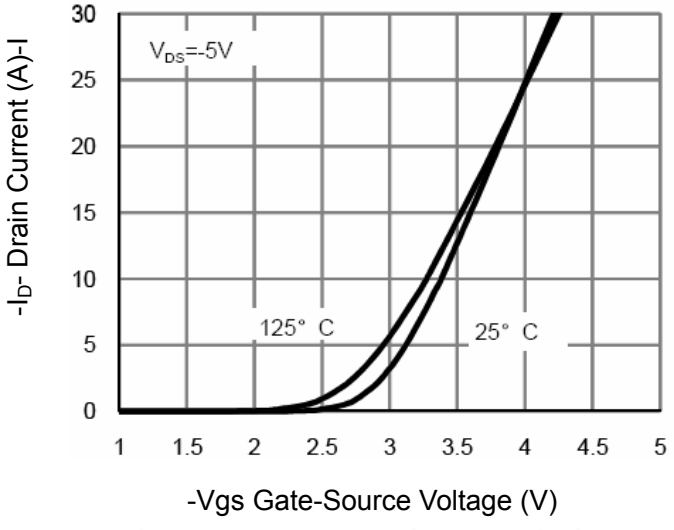


Figure 2 Transfer Characteristics

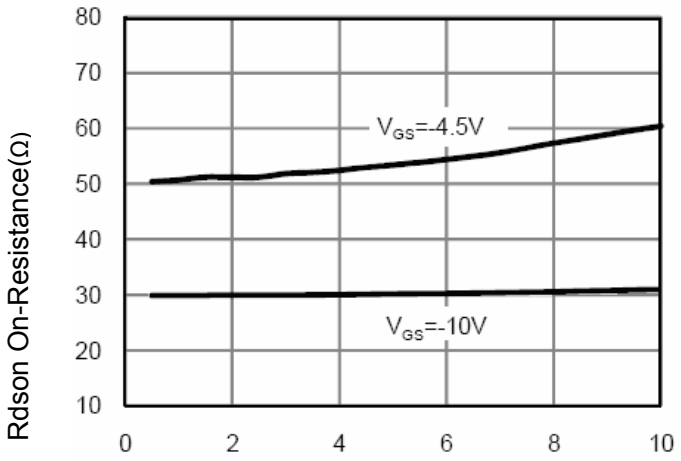


Figure 3 Rdson- Drain Current

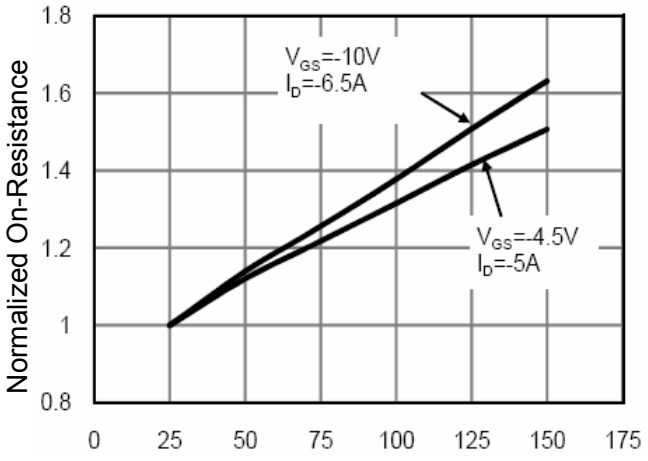


Figure 4 Rdson-Junction Temperature

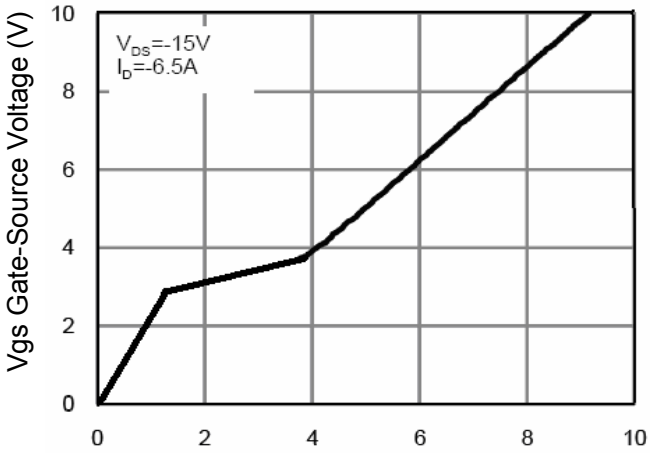


Figure 5 Gate Charge

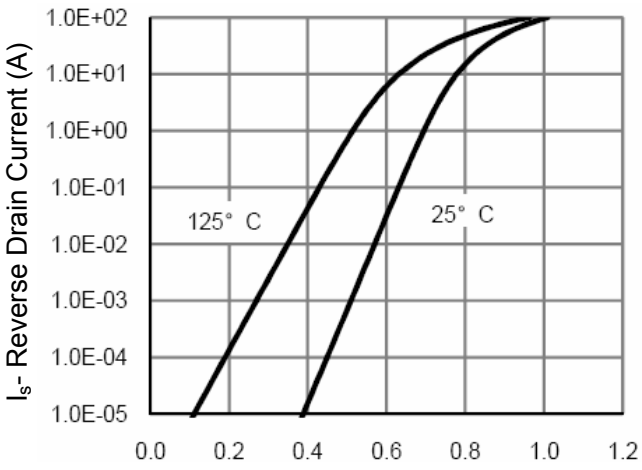


Figure 6 Source- Drain Diode Forward

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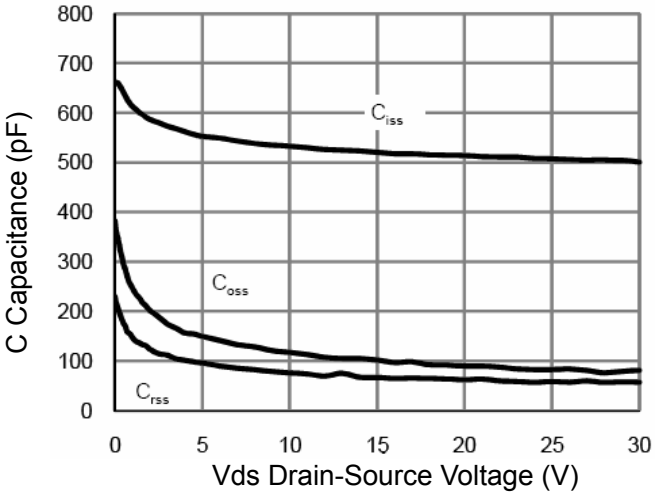


Figure 7 Capacitance vs Vds

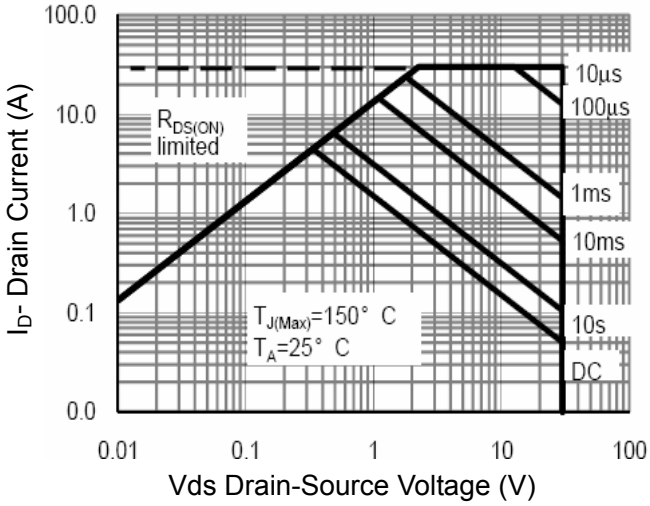


Figure 8 Safe Operation Area

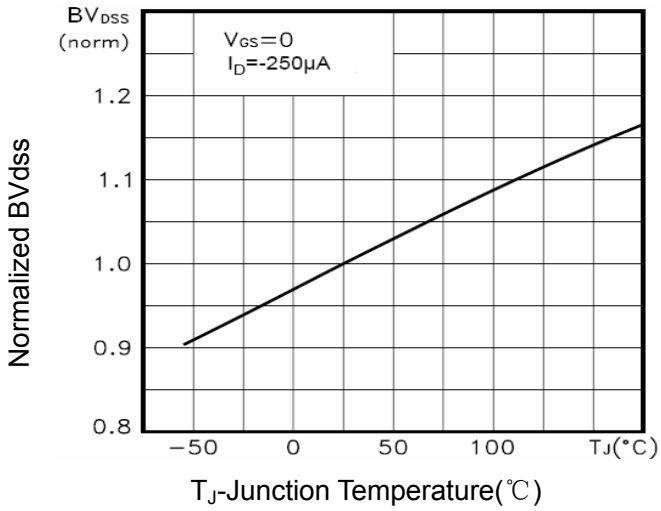


Figure 9 BV_{DSS} vs Junction Temperature

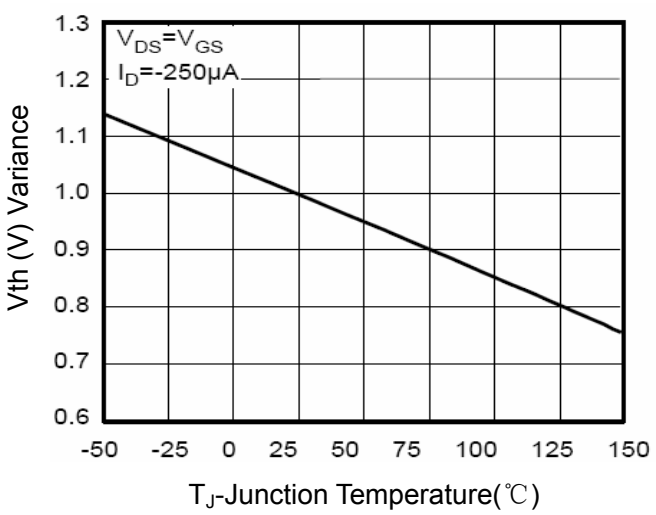


Figure 10 $V_{GS(th)}$ vs Junction Temperature

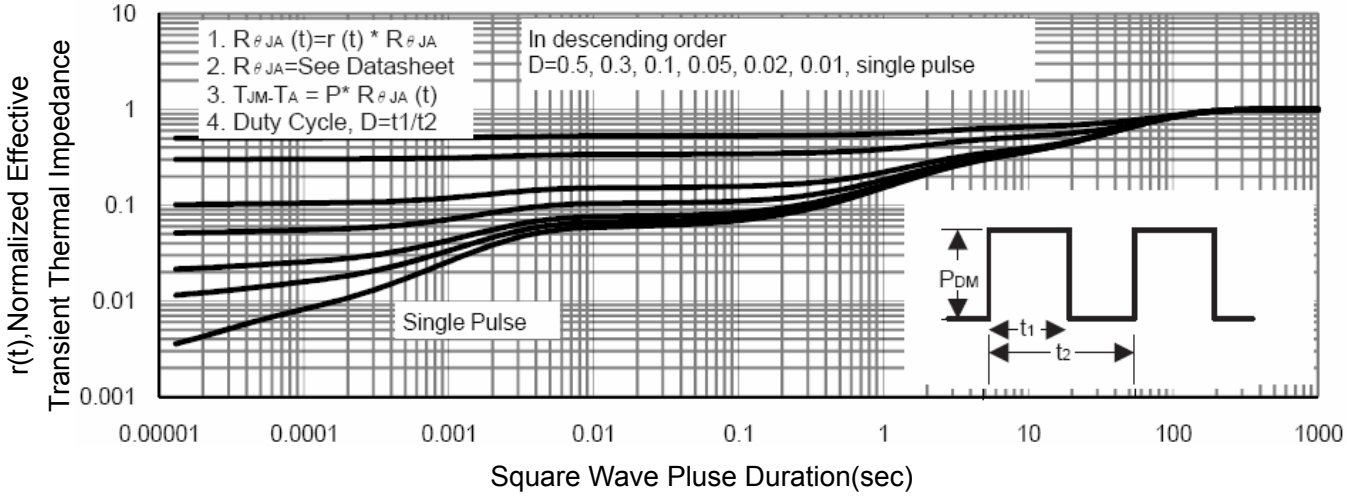


Figure 11 Normalized Maximum Transient Thermal Impedance

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