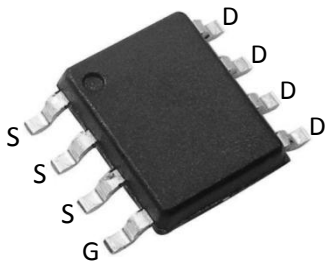
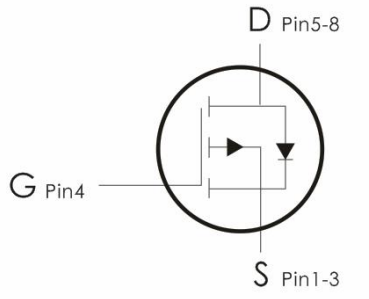
Description：

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}=-100V,I_D=-1.8A,$R_{DS(ON)}$<200mΩ @V_{GS}=-10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra low $R_{DS(ON)}$.
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	-100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-(T_A=25℃)	-1.8	A
	Continuous Drain Current-(T_A=70℃)	-1.4	
	Pulsed Drain Current[1]	-7.2	A
P_D	Power Dissipation-(T_A=25℃)	2	W
	Power Dissipation -Derate above 25℃	0.016	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	62.5	℃/ W

Electrical Characteristics: (T_J=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	-100	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=-100V, T_J=25℃	---	---	-1	μA
		V_{DS}=-80V , V_{GS}=0V , T_J=125℃	---	---	-10	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	-1.2	-1.6	-2.5	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=-10V,I_D=-1.8A	---	165	200	mΩ
		V_{GS}=-4.5V,I_D=-1.5A	---	180	230	
G_{FS}	Forward Transconductance	V_{DS}=-10V, I_S=-3A	---	6.5	---	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=-50V, V_{GS}=0V, f=1MHz	---	1455	2200	pF
C_{oss}	Output Capacitance		---	860	1300	
C_{rss}	Reverse Transfer Capacitance		---	60	85	
R_g	Gate resistance	V_{GS}=0V, V_{DS}=0V, F=1MHz	---	16	---	Ω
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time[2,3]	V_{DD}=-50V, V_{GS}=-10V R_G=25Ω ,I_D=1.8A	---	18	36	ns
t_r	Rise Time[2,3]		---	8	16	ns
$t_{d(off)}$	Turn-Off Delay Time[2,3]		---	100	200	ns
t_f	Fall Time[2,3]		---	30	60	ns
Q_g	Total Gate Charge[2,3]	V_{DS}=-80V , V_{GS}=-10V , I_D=-1.8A	---	20	40	nC
Q_{gs}	Gate-Source Charge[2,3]		---	3.5	7	nC
Q_{gd}	Gate-Drain Charge[2,3]		---	4.6	9	nC

Drain-Source Diode Characteristics						
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	-1.8	A
I_{SM}	Pulsed Source Current		---	---	-3.6	A
V_{SD}	Drain Diode Forward Voltage	V_{GS}=0V,I_S=-1A, T_J=25℃	---	---	-1	V
trr	Reverse Recovery Time	V_R=-100V,I_S=-1A, di/dt=100A/μS, T_J=25℃	---	13	---	ns
Qrr	Reverse Recovery Charge		---	15	---	nC

Notes:

1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%.
3. Essentially independent of operating temperature.

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

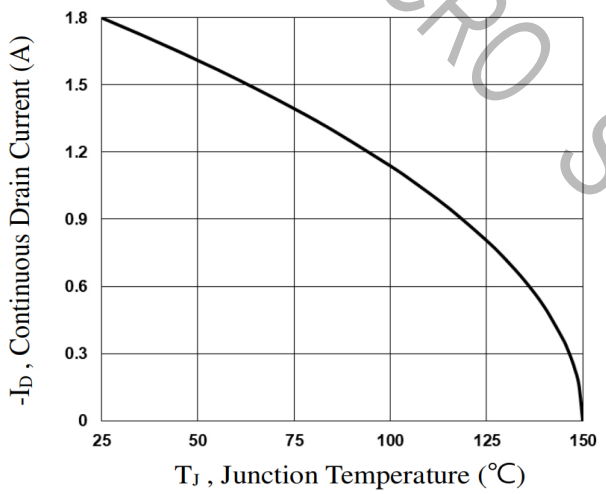


Fig.1 Continuous Drain Current vs. T_J

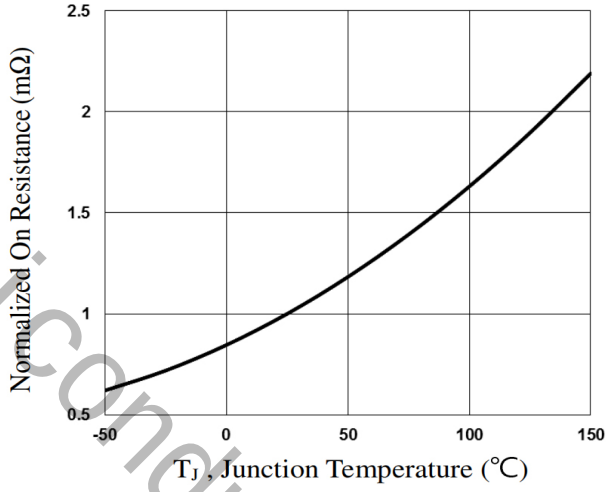


Fig.2 Normalized RDSON vs. T_J

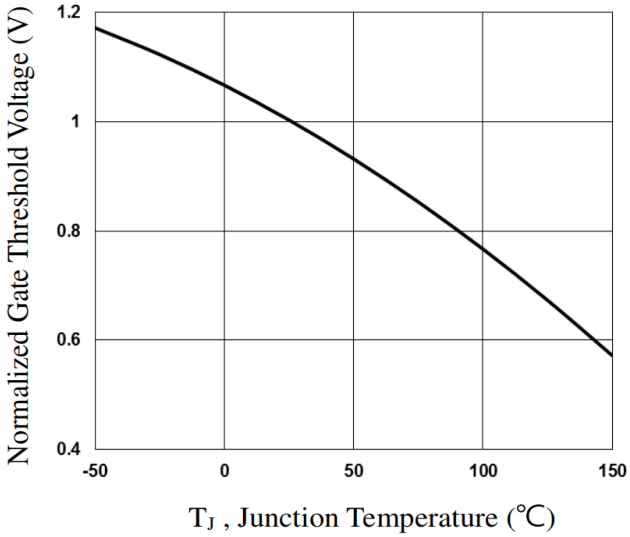


Fig.3 Normalized V_{th} vs. T_J

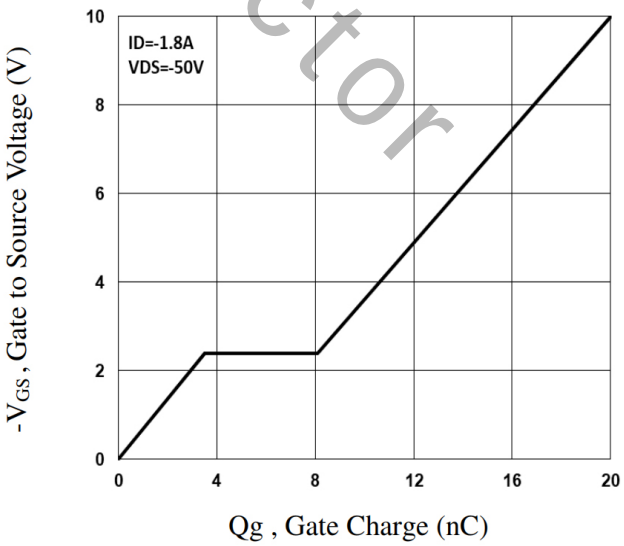


Fig.4 Gate Charge Waveform

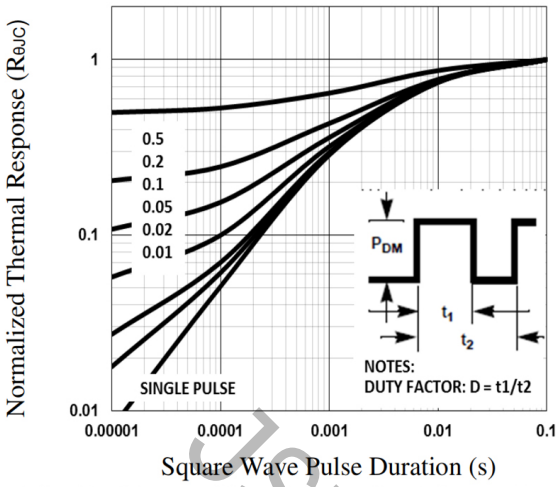


Fig.5 Normalized Transient Impedance

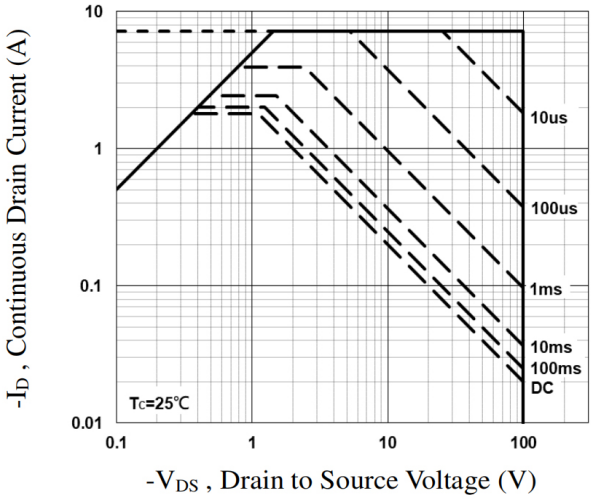


Fig.6 Maximum Safe Operation Area

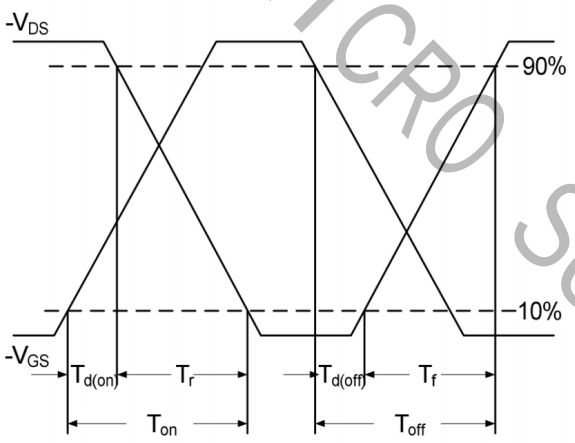


Fig.7 Switching Time Waveform

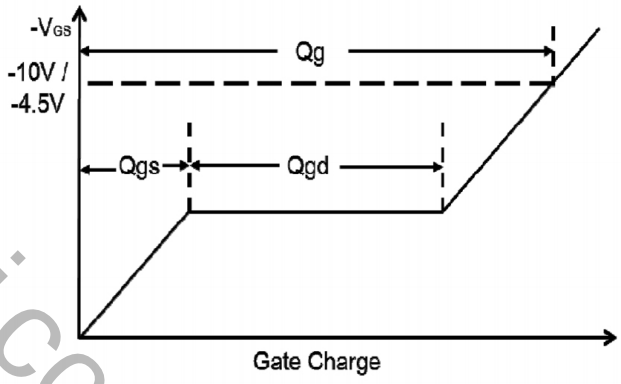


Fig.8 Gate Charge Waveform