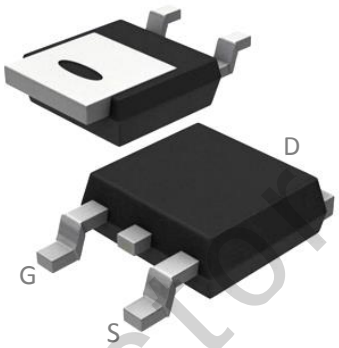
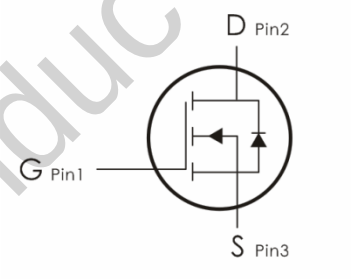
Description：

This N-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=19A,$R_{DS(ON)}$ <60mΩ @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	100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-TC=25℃	19	A
	Continuous Drain Current-TC=100℃	12	
	Pulsed Drain Current[1]	70	
P_D	Power Dissipation(T_C=25℃)	55	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	2.27	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to ambient	62	℃/W

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	100	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=100V	---	---	1	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=5A	---	45	60	mΩ
		V_{GS}=4.5V,I_D=3A	---	50	70	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=50V, V_{GS}=0V, f=1MHz	---	1680	2150	pF
C_{oss}	Output Capacitance		---	480	700	
C_{rss}	Reverse Transfer Capacitance		---	35	55	
Switching Characteristics						
td(on)	Turn-On Delay Time[2,3]	V_{DD}=30V, I_D=1A, R_{GEN}=3.3Ω	---	2.9	6	ns
t_r	Rise Time[2,3]		---	9.5	18	ns
$t_{d(off)}$	Turn-Off Delay Time[2,3]		---	18.4	35	ns
t_f	Fall Time[2,3]		---	5.3	10	ns
Q_g	Total Gate Charge[2,3]	V_{GS}=10V, V_{DS}=48V, I_D=5A	---	9.3	13	nC
Q_{gs}	Gate-Source Charge[2,3]		---	2.1	4.2	nC
Q_{gd}	Gate-Drain “Miller” Charge[2,3]		---	1.8	4	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage	V_{GS}=0V,I_S=1A	---	---	1	V

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)

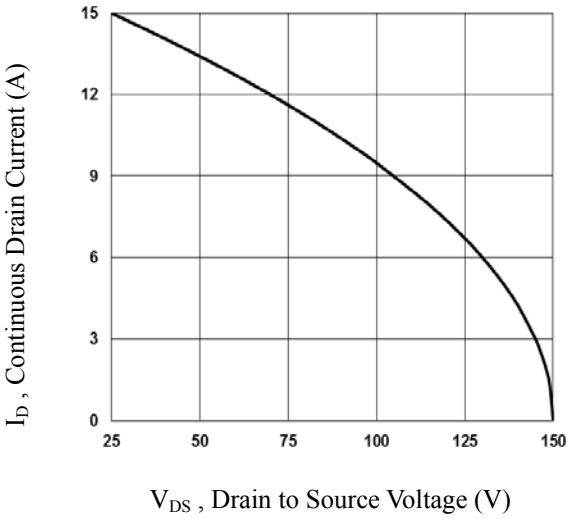


Fig.1 Output Characteristics

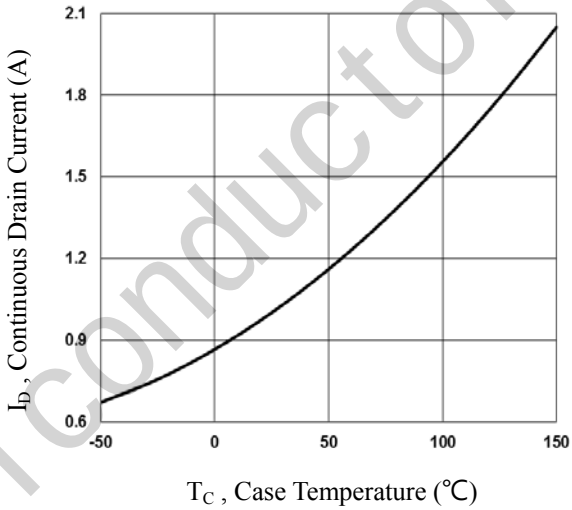


Fig.2 Continuous Drain Current vs. T_C

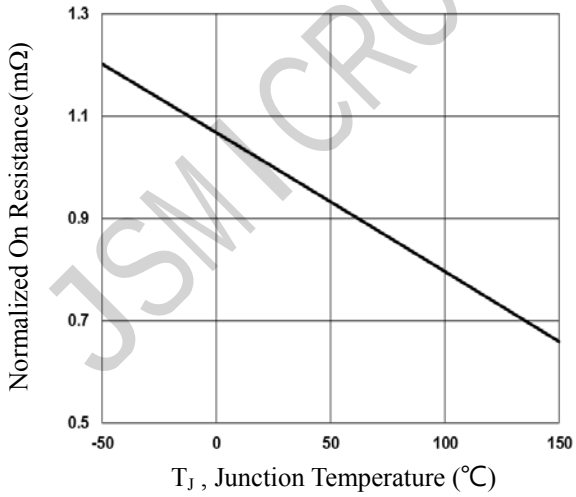


Fig.3 Normalized RDSON vs. T_J

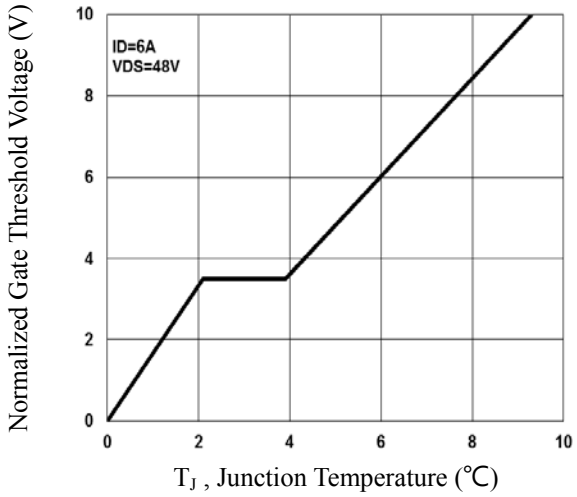


Fig.4 Normalized V_{th} vs. T_J

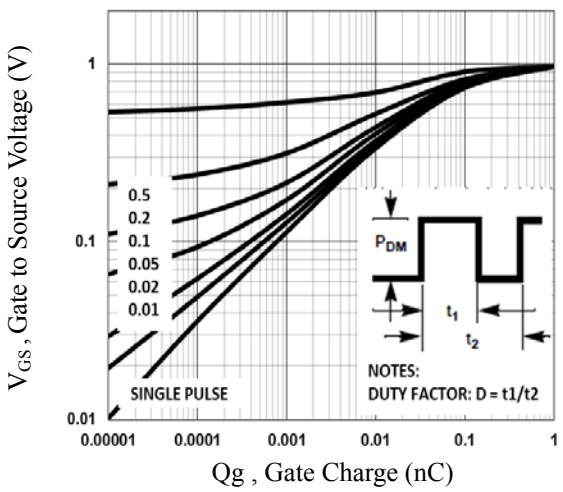


Fig.5 Gate Charge Waveform

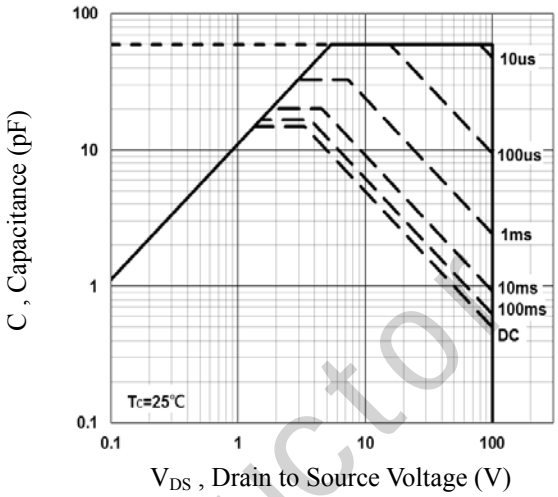


Fig.6 Capacitance Characteristics

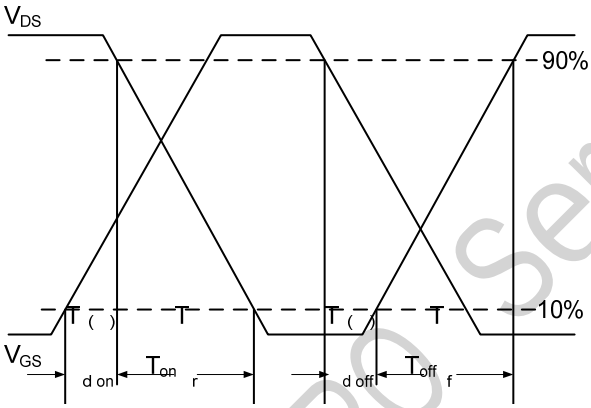


Fig.7 Switching Time Waveform

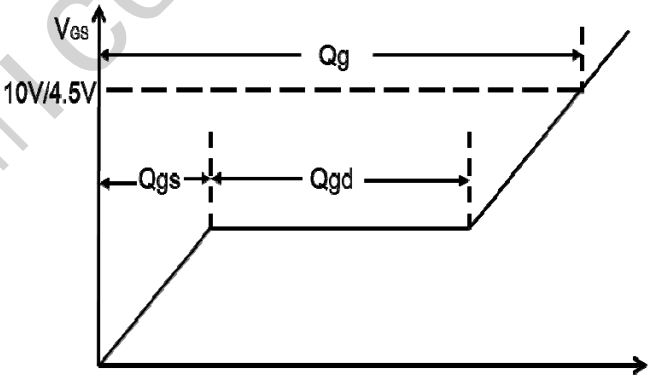


Fig.8 Gate Charge Waveform

外形尺寸图 / Package Dimensions