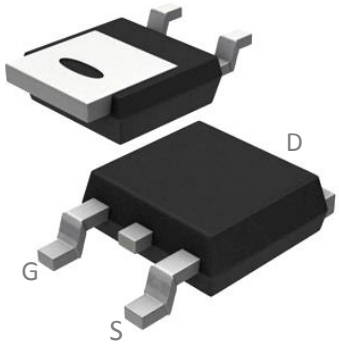
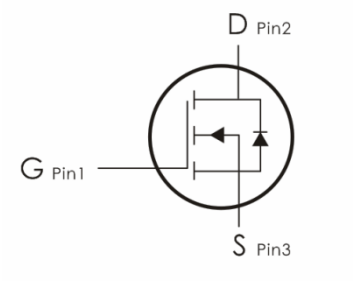
Description：

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}=40V,I_D=80A,$R_{DS(ON)}$<5.5mΩ @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	40	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-T_C=25℃	80	A
	Continuous Drain Current-T_C=100℃	50	
	Pulsed Drain Current[1]	320	
E_{AS}	Single Pulse Avalanche Energy	---	mJ
P_D	Power Dissipation,T_C=25℃	88	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	1.7	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	62	

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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	40	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=40V	---	---	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	1.6	2.5	V
$R_{DS(ON)}$	Drain-Source On Resistance[3]	V_{GS}=10V,I_D=20A	---	4.2	5.5	mΩ
		V_{GS}=4.5V,I_D=10A	---	5.3	7	
G_{FS}	Forward Transconductance	V_{DS}=10V, I_D=10A	---	16	---	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=25V, V_{GS}=0V, f=1MHz	---	2410	3600	pF
C_{oss}	Output Capacitance		---	233	400	
C_{rss}	Reverse Transfer Capacitance		---	152	230	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time[2,3]	V_{DD}=20V, I_D=1A, V_{GS}=10V,R_{GEN}=3.3Ω	---	14.2	28	ns
t_r	Rise Time[2,3]		---	18.3	36	ns
$t_{d(off)}$	Turn-Off Delay Time[2,3]		---	38.8	76	ns
t_f	Fall Time[2,3]		---	13.9	28	ns
Q_g	Total Gate Charge[3]	V_{GS}=4.5V, V_{DS}=32V, I_D=10A	---	25	50	nC
Q_{gs}	Gate-Source Charge		---	6.5	13	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	12.1	24	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[3]	V_{GS}=0V,I_S=1A	---	---	1	V

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Ls	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	80	A
Ism	Pulsed Source Current		---	---	160	A

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)

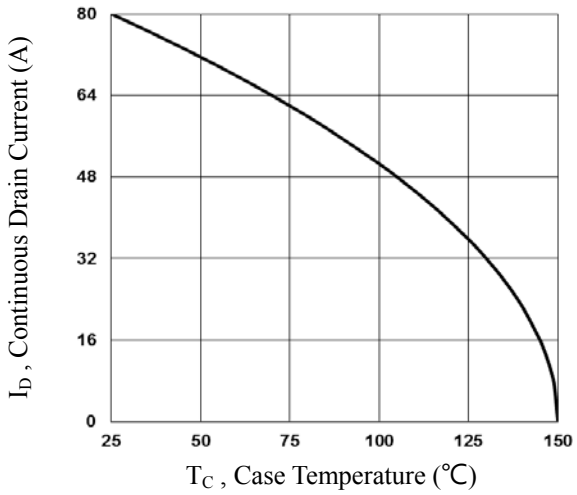


Fig.1 Continuous Drain Current vs. T_C

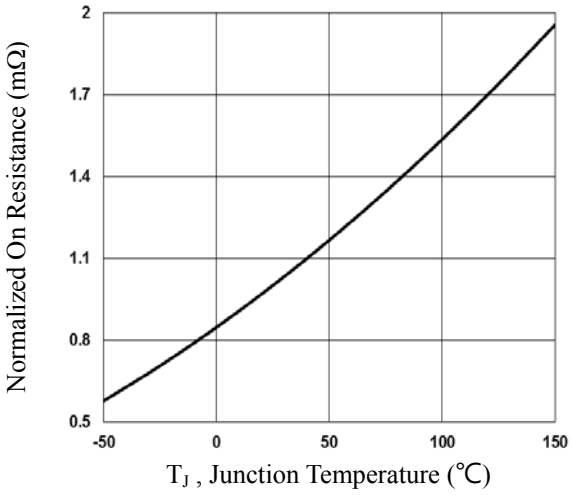


Fig.2 Normalized RDSON vs. T_J

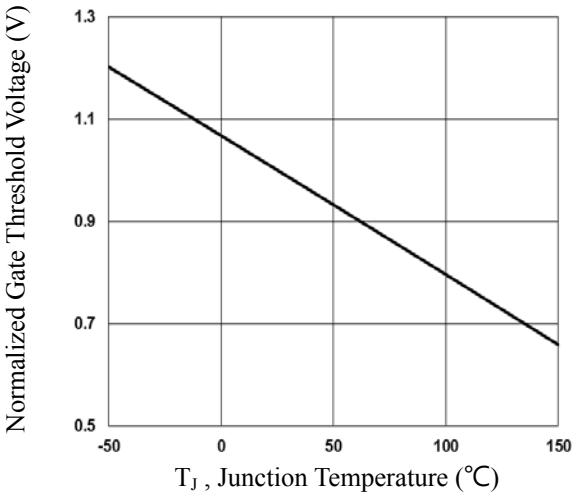


Fig.3 Normalized V_{th} vs. T_J

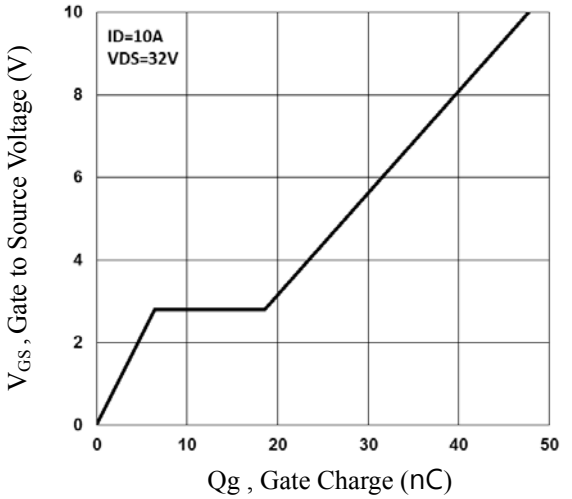


Fig.4 Gate Charge Waveform

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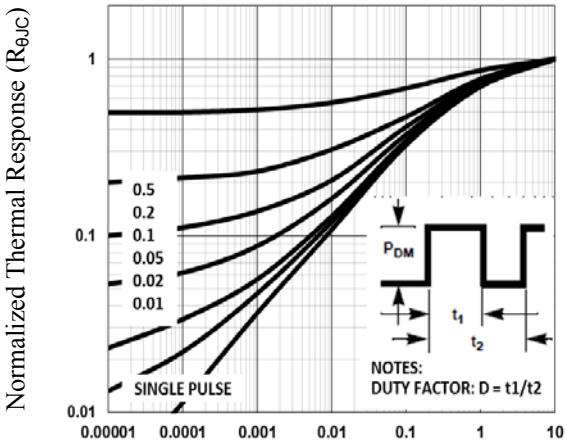


Fig.5 Normalized Transient Impedance

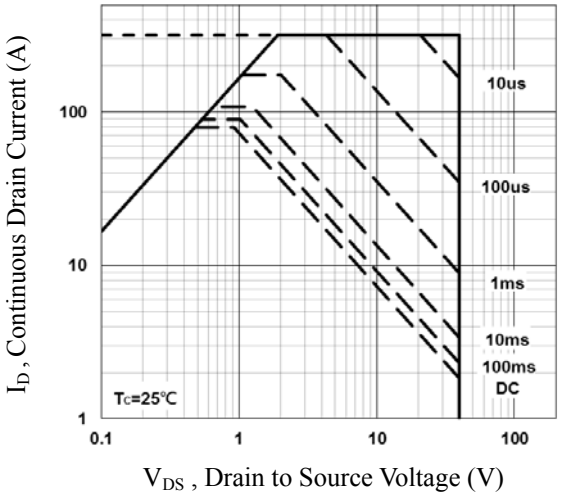


Fig.6 Maximum Safe Operation Area

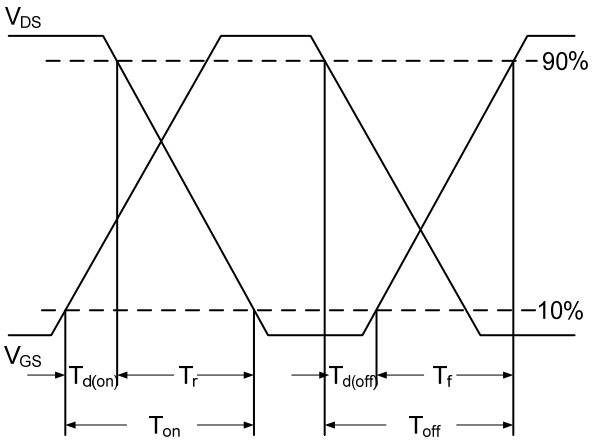


Fig.7 Switching Time Waveform

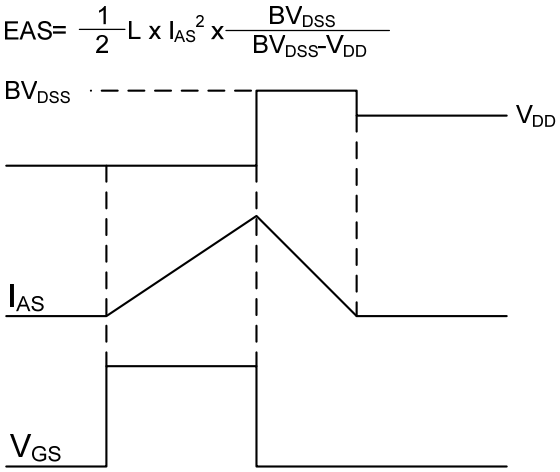


Fig.8 EAS Waveform

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