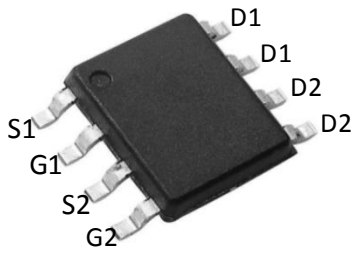
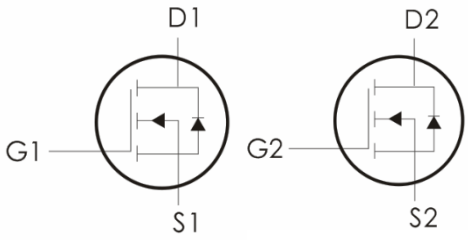
Description：

This Dual 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}=30V,I_D=6.9A,$R_{DS(ON)}$<32mΩ @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_a=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current -T_A=25℃[A]	6.9	A
	Continuous Drain Current- T_A=70℃[A]	5.8	
	Pulsed Drain Current[B]	30	
P_D	Power Dissipation	2	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JL}$	Maximum Junction-to-Lead	60	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	110	

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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	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=24V	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±12V, V_{DS}=0A	---	---	±100	nA
On Characteristics[3]						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	0.65	---	1.3	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=6.9A	---	24	32	mΩ
		V_{GS}=4.5V,I_D=5A	---	27	36	
G_{FS}	Forward Transconductance	V_{DS}=5V, I_D=5A	---	9	---	S
Dynamic Characteristics[4]						
C_{iss}	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1MHz	---	600	---	pF
C_{oss}	Output Capacitance		---	95	---	
C_{rss}	Reverse Transfer Capacitance		---	68	---	
Rg	Gate resistance	V_{DS}=0V, V_{GS}=0V, f=1MHz	---	3	---	Ω
Switching Characteristics[4]						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=15V, R_L=2.1Ω R_{GEN}=3Ω . V_{GS}=10V,	---	4.6	---	ns
t_r	Rise Time		---	4.1	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	20.6	---	ns
t_f	Fall Time		---	5.2	---	ns
Q_g	Total Gate Charge	V_{GS}=10V, V_{DS}=15V, I_D=6.9A	---	13.84	---	nC
Q_{gs}	Gate-Source Charge		---	1.82	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	3.2	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage	V_{GS}=0V,I_S=1A	---	0.76	1	V

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Trr	Body Diode Reverse Recovery Time	I F =6.9A, dI/dt=100A/	---	16.5	---	Ns
Qrr	Body Diode Reverse Recovery Charge	I F =6.9A, dI/dt=100A/	---	7.8	---	Nc

Notes:

A:The value of $R_{\theta JA}$ is measured with the device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C. The value in any a given application depends on the user's specific board design. The current rating is based on the t ≤ 10s thermal resistance rating.

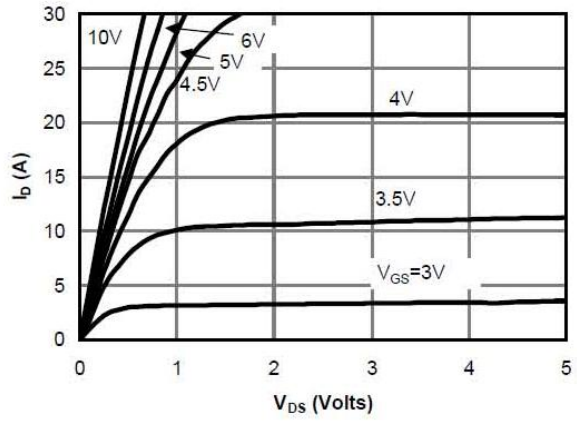
B: Repetitive rating, pulse width limited by junction temperature.

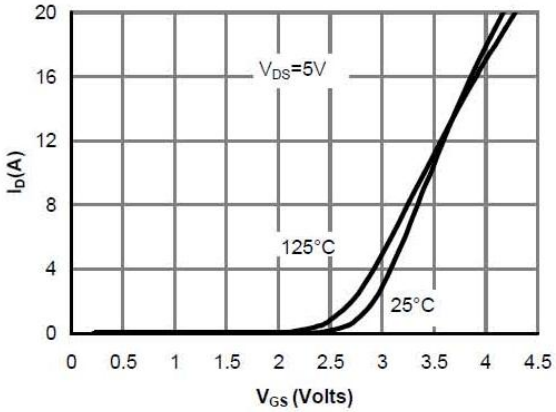
C.The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.

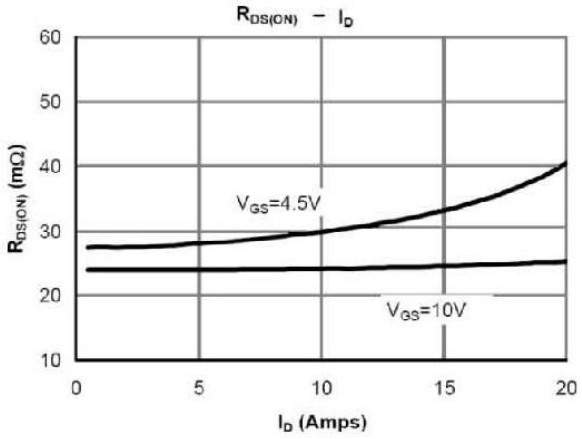
D.The static characteristics in Figures 1 to 6,12,14 are obtained using 80 μs pulses, duty cycle 0.5% max.

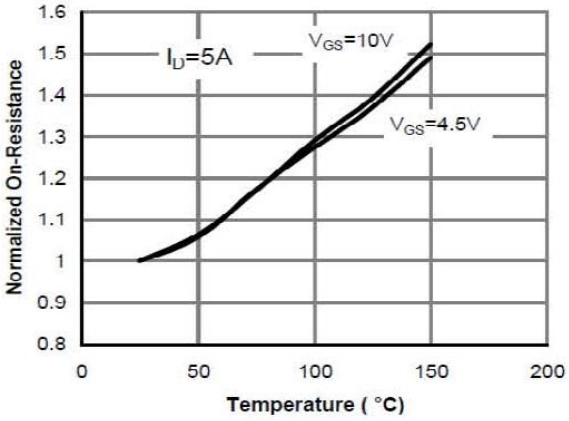
E.These tests are performed with the device mounted on 1 in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A=25°C. The SOA curve provides a single pulse rating.

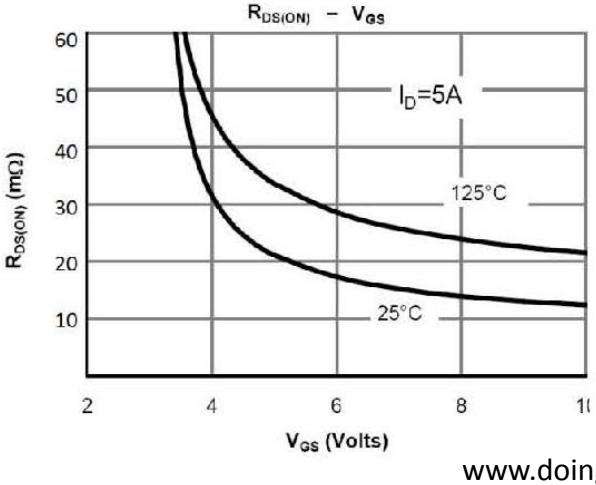
Typical Characteristics: (T_C=25℃ unless otherwise noted)

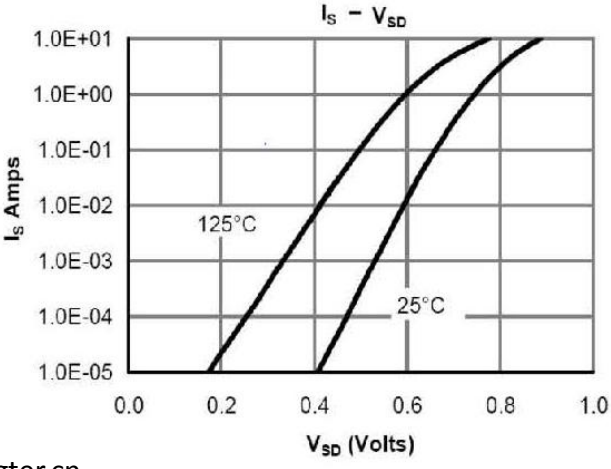












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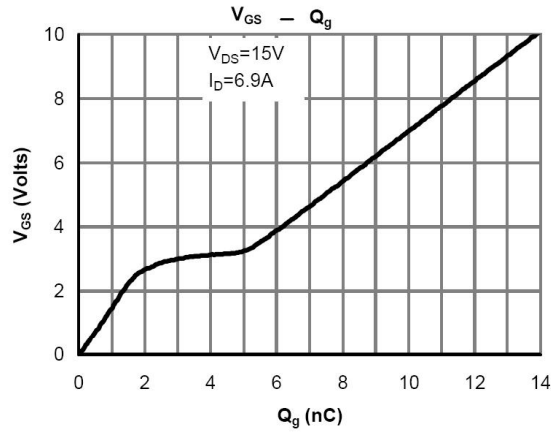

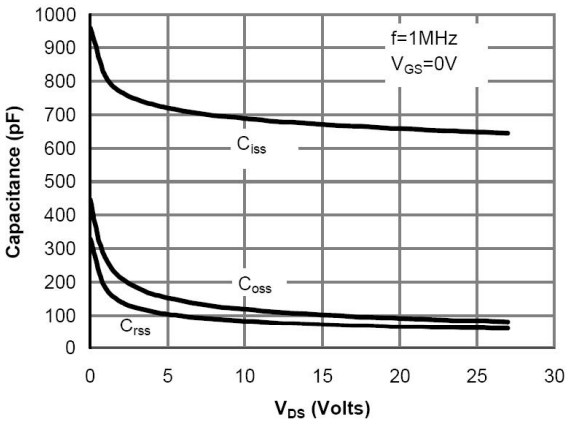

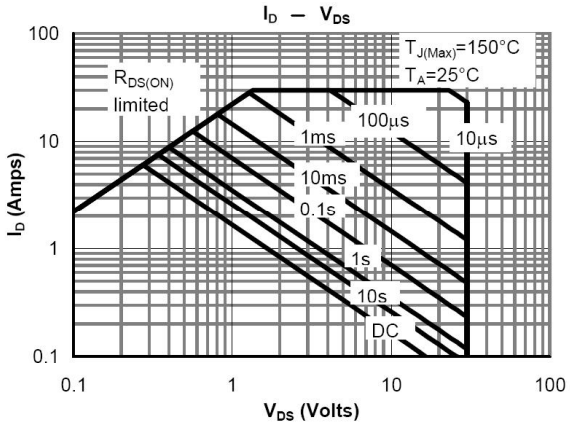

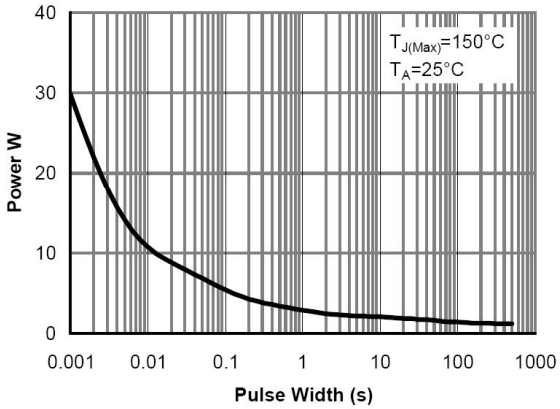

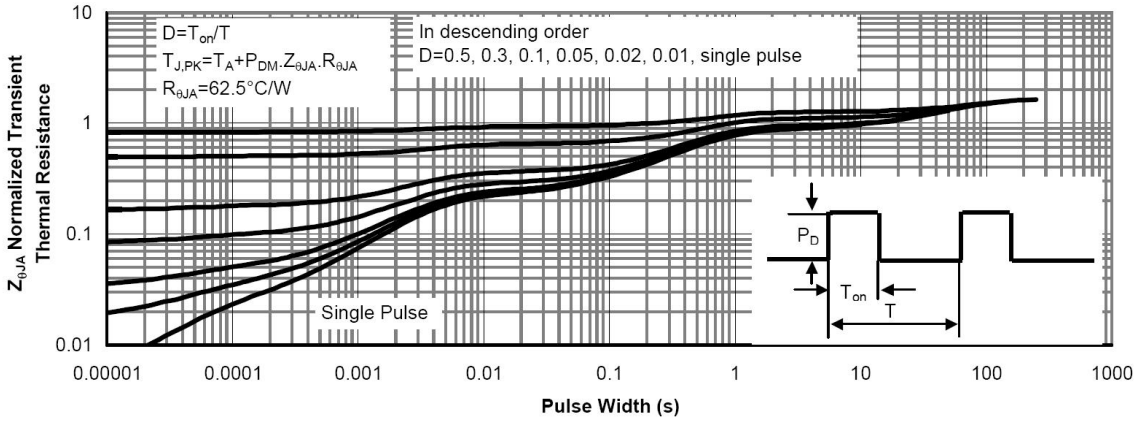

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