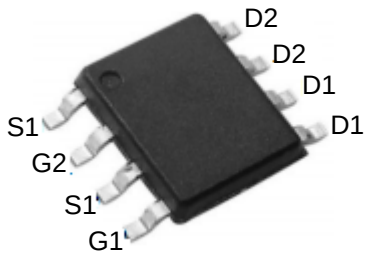
Description：

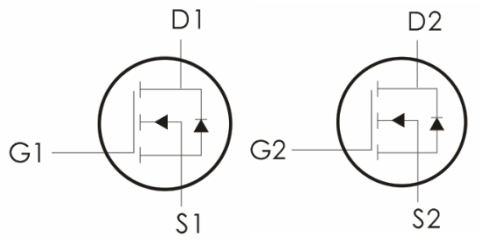
This Dual N-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.



Features：

1) V_{DS}=30V,I_D=7A,$R_{DS(ON)}$<25mΩ @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	7	A
	Continuous Drain Current-TC=100℃	4.95	
I_{DM}	Pulsed Drain Current	40	
P_D	Power Dissipation[4]	2	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]	85	℃/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	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=30V	---	---	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	1.1	1.7	2.1	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=7A	---	17	25	mΩ
		V_{GS}=4.5V,I_D=6A	---	26	40	
G_{FS}	Forward Transconductance	$V_{DS=}$5V, I_D=7A	---	15	---	S
Dynamic Characteristics[4]						
C_{iss}	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1MHz	---	380	---	pF
C_{oss}	Output Capacitance		---	67	---	
C_{rss}	Reverse Transfer Capacitance		---	41	---	
Switching Characteristics[4]						
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=15V, R_L=2Ω R_{GEN}=3Ω. V_{GS}=10V,	---	5	---	ns
t_r	Rise Time		---	3	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	15	---	ns
t_f	Fall Time		---	3	---	ns
Q_g	Total Gate Charge	V_{GS}=4.5V, V_{DS}=15V, I_D=7A	---	7.2	---	nC
Q_{gs}	Gate-Source Charge		---	1.3	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	1.7	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[3]	V_{GS}=0V,I_S=7A	---		1.2	V

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Is	Maximum Body-Diode Continuous Current [2]	---	---	7	A

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. 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 given application depends on the user's specific board design.Surface Mounted on FR4 Board, t ≤ 10 sec. The current rating is based on the t ≤ 10s thermal resistance rating.

3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

4. Guaranteed by design, not subject to production.

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

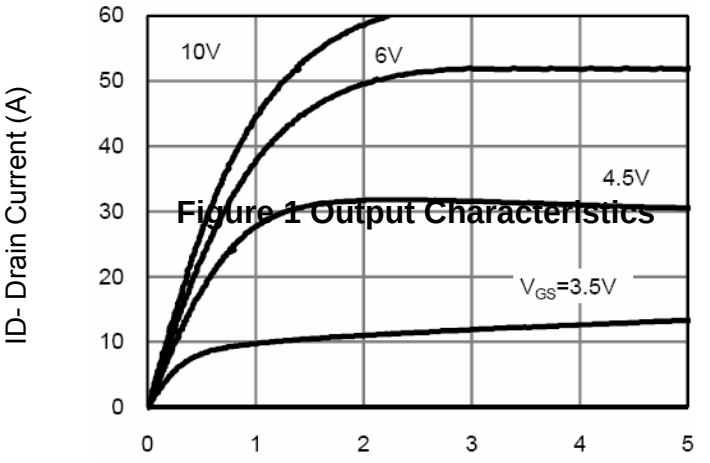


Figure 1 Output Characteristics

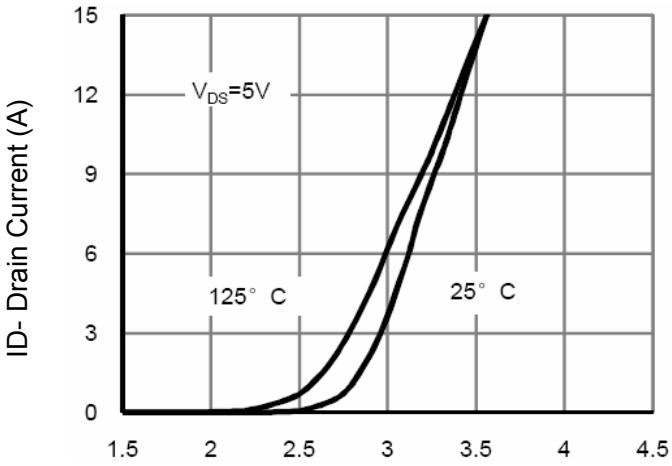


Figure 2 Transfer Characteristics

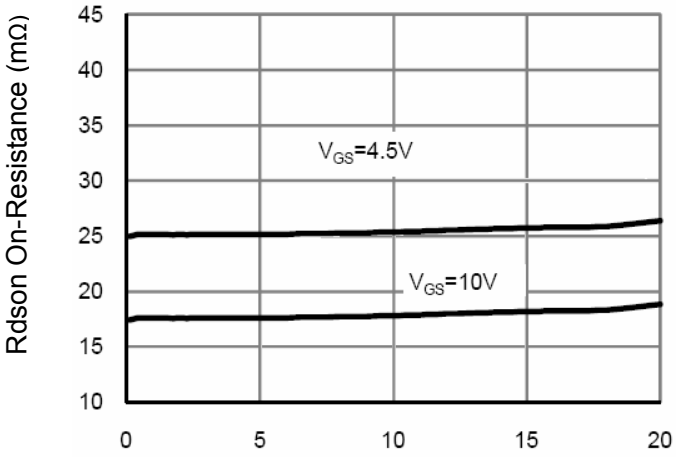


Figure 3 Rdson- Drain Current

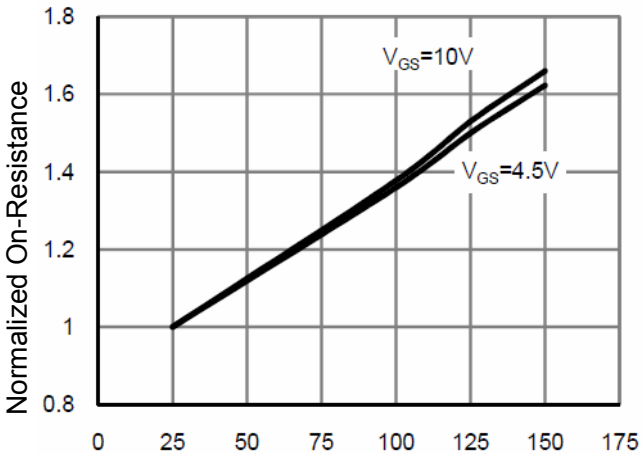


Figure 4 Rdson-JunctionTemperature

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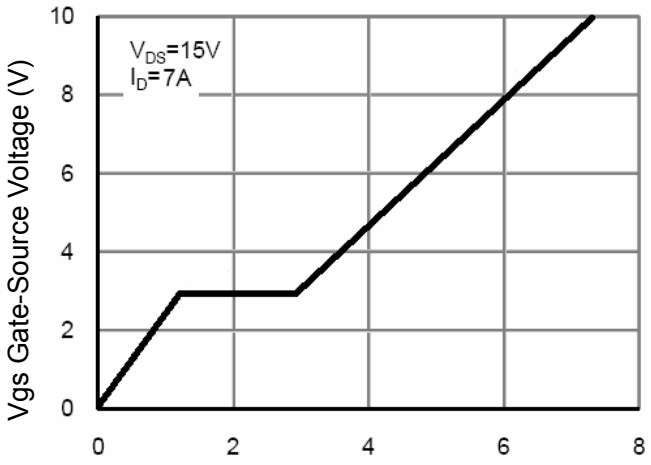


Figure 5 Gate Charge

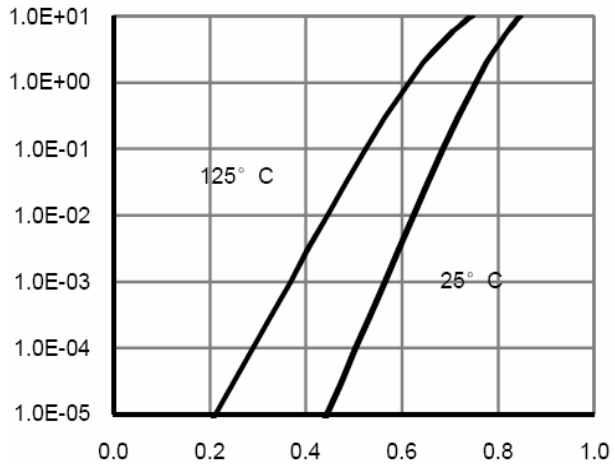


Figure 6 Source- Drain Diode Forward

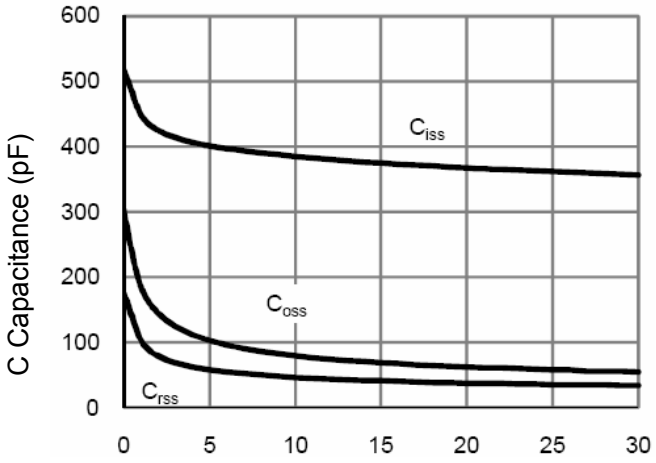


Figure 7 Capacitance vs Vds

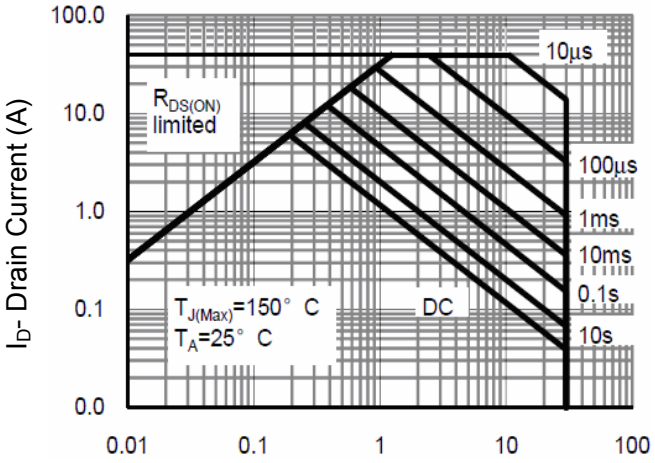


Figure 8 Safe Operation Area

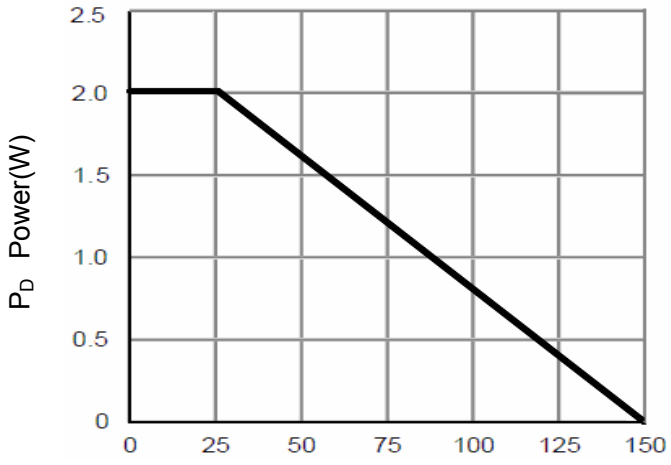


Figure 9 Power Dissipation

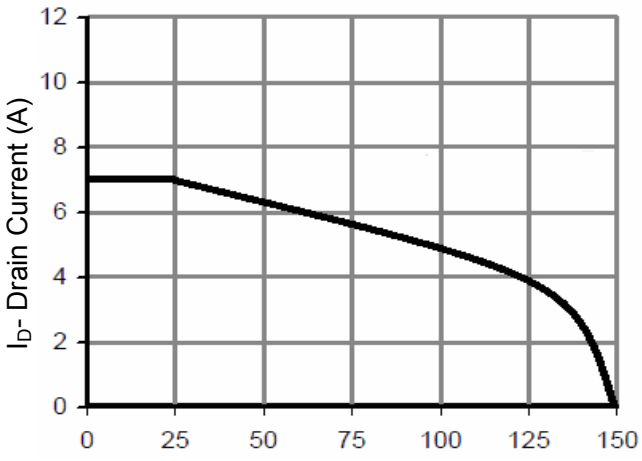


Figure 10 Current De-rating

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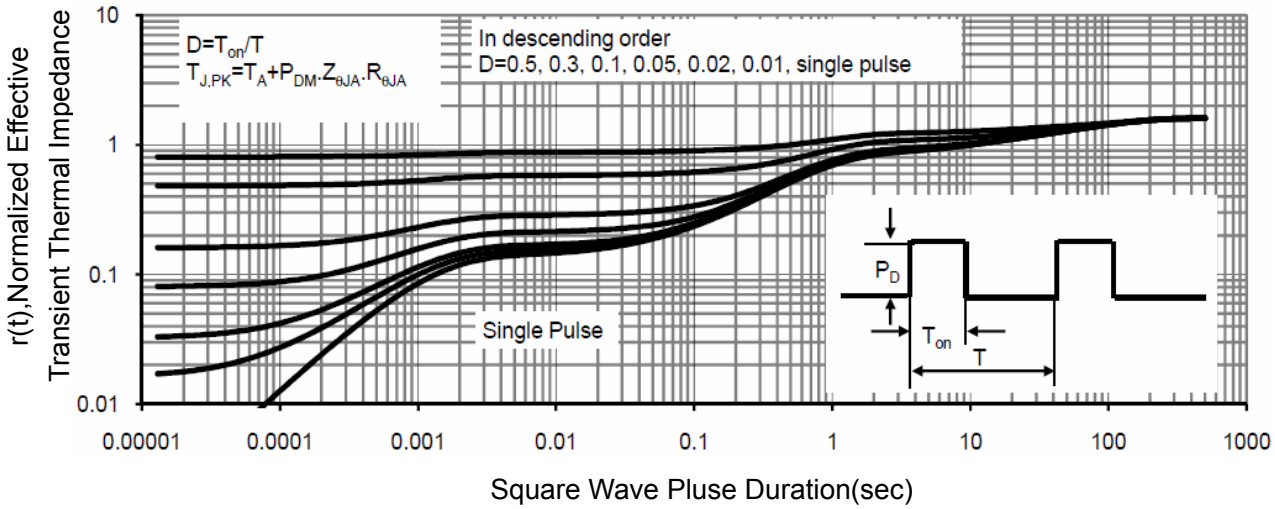


Figure 11 Normalized Maximum Transient Thermal Impedance

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