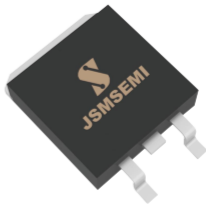
Description：

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.



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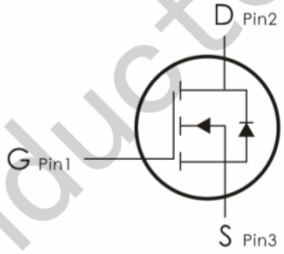
Features：

1) V_{DS}=100V,I_D=60A,$R_{DS(ON)}$<17.5 m Ω @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℃	60	A
	Continuous Drain Current-TC=100℃	40	
I_{DM}	Pulsed Drain Current	160	
E_{AS}	Single Pulse Avalanche Energy[5]	580	mJ
P_D	Power Dissipation	160	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]	0.94	℃/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	110	---	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[3]	V_{GS}=V_{DS}, I_D=250μA	2	3	4	V
$R_{DS(ON)}$	Drain-Source On Resistance[3]	V_{GS}=10V,I_D=28A	---	14.5	17.5	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance[4]	V_{DS}=25V, V_{GS}=0V, f=1MHz	---	3968	---	pF
C_{oss}	Output Capacitance[4]		---	182.4	---	
C_{rss}	Reverse Transfer Capacitance[4]		---	160	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time[4]	V_{DD}=30V, I_D=2A, R_{GEN}=2.5Ω.V_{GS}=10V	---	16	---	ns
t_r	Rise Time[4]		---	12	---	ns
$t_{d(off)}$	Turn-Off Delay Time[4]		---	54	---	ns
t_f	Fall Time[4]		---	15	---	ns
Q_g	Total Gate Charge[4]	V_{GS}=10V, V_{DS}=30V, I_D=30A	---	146	---	nC
Q_{gs}	Gate-Source Charge[4]		---	29	---	nC
Q_{gd}	Gate-Drain "Miller" Charge[4]		---	57	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[3]	V_{GS}=0V,I_S=28A	---	0.85	1.2	V
Trr	Reverse Recovery Time	Tj=25℃,Isd=28A, VGS=0V di/dt=500A/μs	---	35	---	NS
Qrr	Reverse Recovery Charge		---	58	---	NC
I_S	Continuous Drain Current[2]	VD=VG=0V	---	60	---	A
I_{SM}	Pulsed Drain Current		---	160	---	A

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production
5. EAS condition: Tj=25℃,V_{DD}=50V,V_G=10V,Rg=25Ω, L=1mH, I_{AS}=35A

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

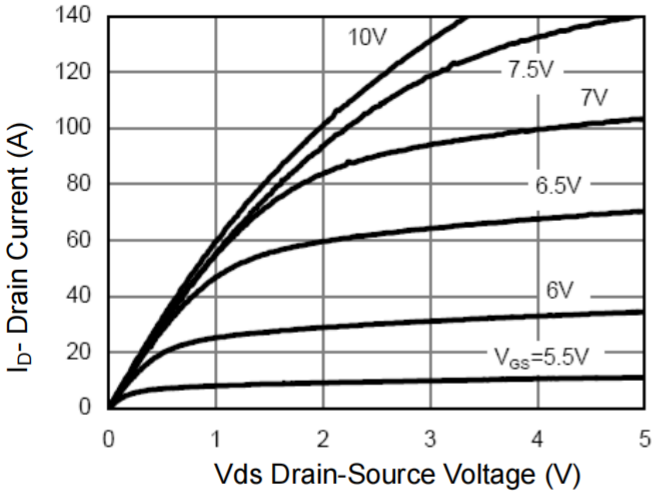


Figure 1 Output Characteristics

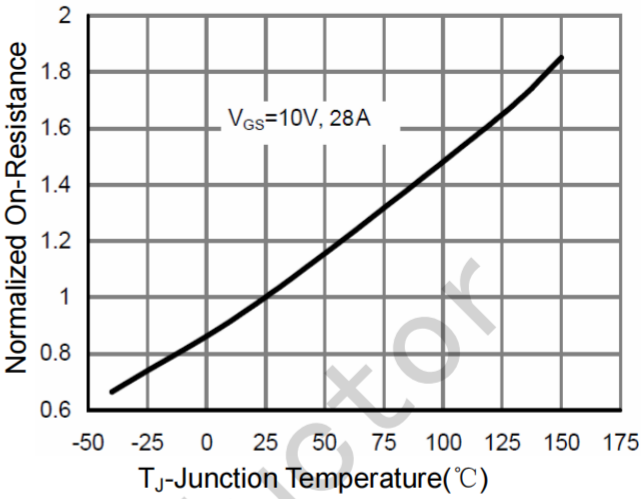


Figure 4 Rdson-Junction Temperature

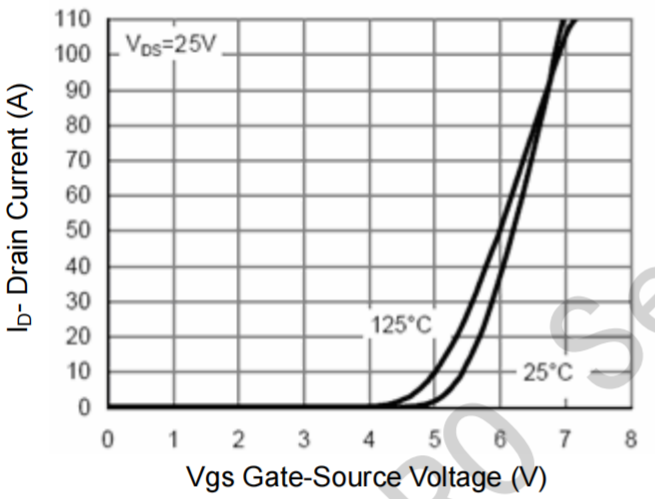


Figure 2 Transfer Characteristics

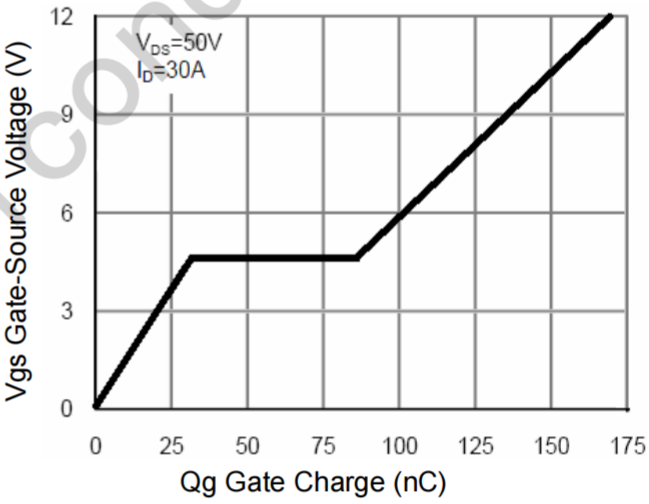


Figure 5 Gate Charge

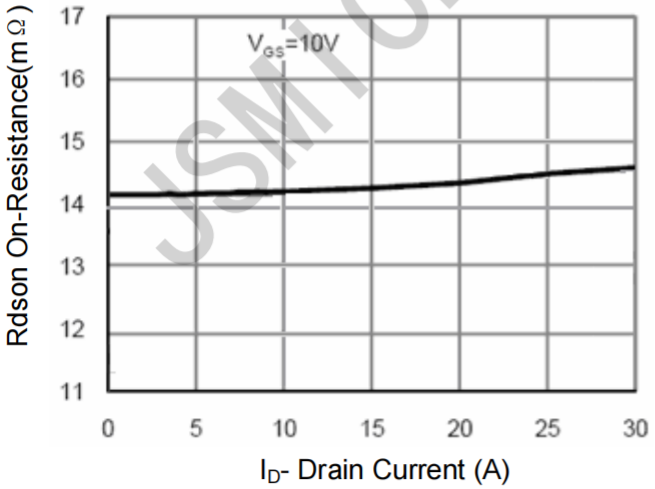


Figure 3 Rdson- Drain Current

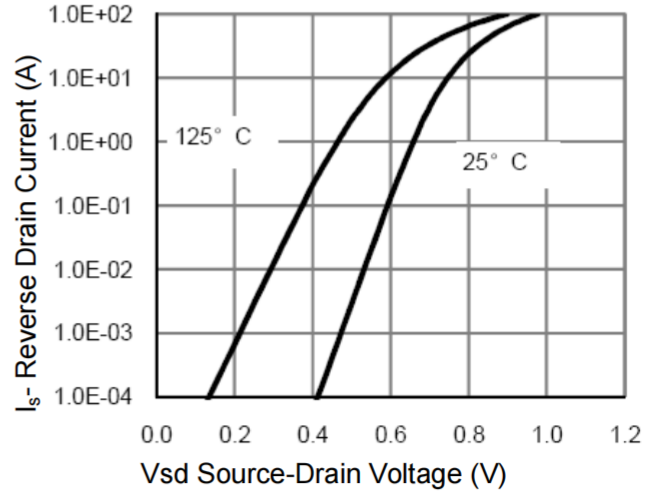


Figure 6 Source- Drain Diode Forward

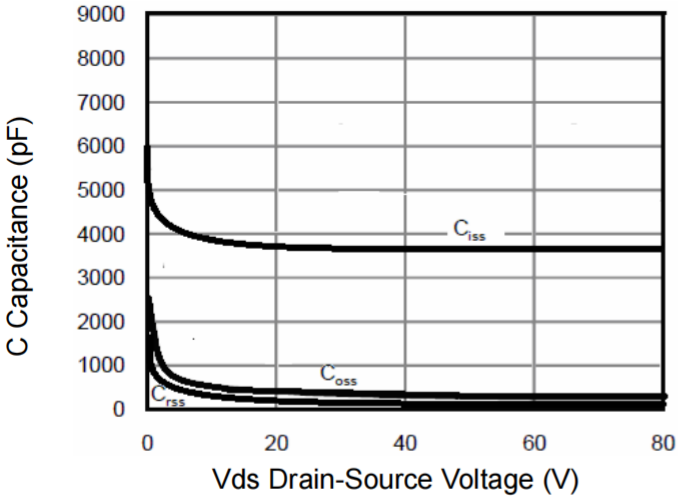


Figure 7 Capacitance vs Vds

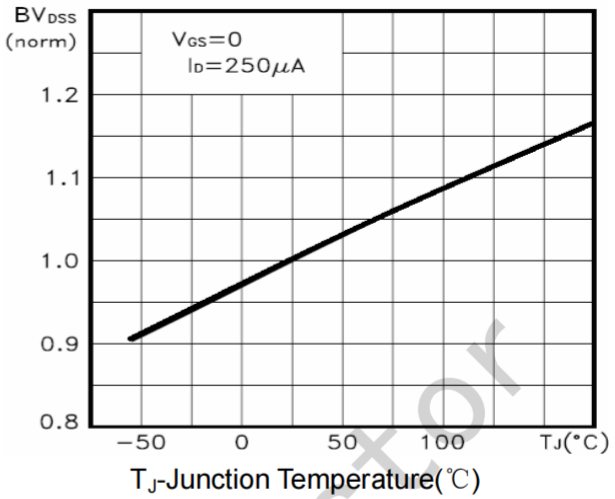


Figure 9 BV_{DSS} vs Junction Temperature

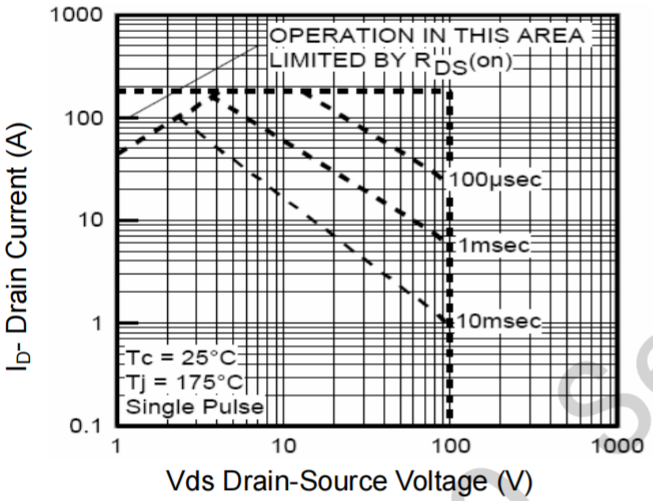


Figure 8 Safe Operation Area

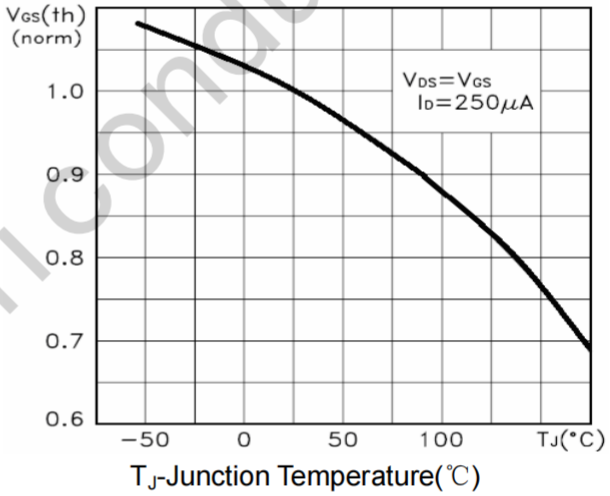


Figure 10 $V_{GS(th)}$ vs Junction Temperature

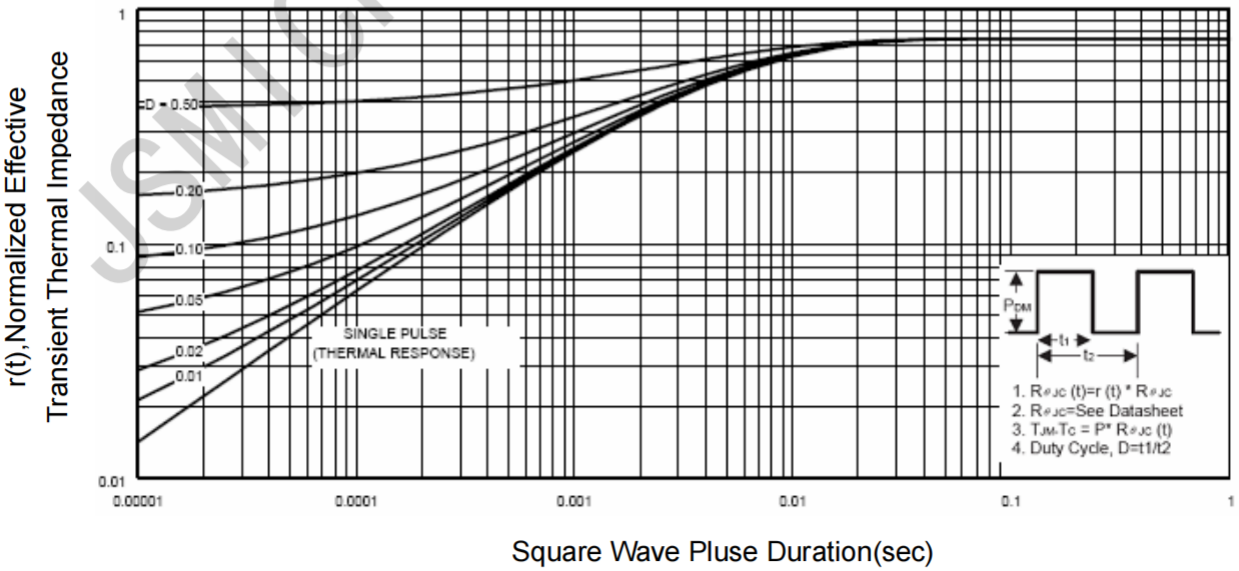


Figure 11 Normalized Maximum Transient Thermal Impedance

Package Information

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Unit: mm