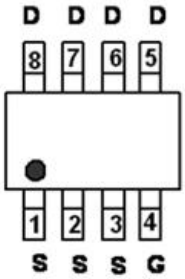
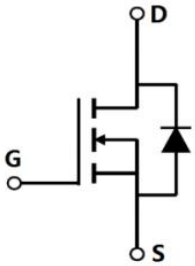
V_{DSS}	30V
R_{DS}(on)	7.1mΩ (typ.)
I_D	15A





Advanced MOSFET process technology
Special designed for PWM, load switching and general purpose applications
Ultra low on-resistance with low gate charge
Fast switching and reverse body recovery
150 operating temperature

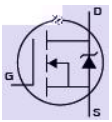
It utilizes the latest processing techniques to achieve the high cell density and reduces the on-resistance with high repetitive avalanche rating. These features combine to make this design an extremely efficient and reliable device for use in power switching application and a wide variety of other applications.

I_D @ T_A = 25°C	Continuous Drain Current	15	A
I_D @ T_A= 100°C	Continuous Drain Current	10	
I_{DM}	Pulsed Drain Current	60	
P_D @T_A = 25°C	Power Dissipation	3	W
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-to-Source Voltage	± 20	V
E_{AS}	Single Pulse Avalanche Energy @ L=0.5mH	65	mJ
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to +150	°C

$R_{\theta JA}$	Junction-to-ambient ( )	—	41	/W

@T_A=25 unless otherwise specified

$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	30	—	—	V	V_{GS} = 0V, I_D = 250μA
$R_{DS(on)}$	Static Drain-to-Source on-resistance	—	7.1	8	mΩ	V_{GS}=10V,I_D = 15A
		—	11.3	14	mΩ	V_{GS}=4.5V,I_D =10A
$V_{GS(th)}$	Gate threshold voltage	1	—	2.5	V	V_{DS} = V_{GS}, I_D = 250μA
I_{DSS}	Drain-to-Source leakage current	—	—	1	μA	V_{DS} = 30V,V_{GS} = 0V
I_{GSS}	Gate-to-Source forward leakage	—	—	100	nA	V_{GS} = 20V
		—	—	-100		V_{GS} = -20V
Q_g	Total gate charge	—	13	—	nC	I_D = 15A,
Q_{gs}	Gate-to-Source charge	—	3	—		V_{DS}=15V,
Q_{gd}	Gate-to-Drain("Miller") charge	—	4	—		V_{GS} = 10V
$t_{d(on)}$	Turn-on delay time	—	8.5	—	ns	V_{GS}=10V, V_{DS} =22V, R_{GEN}=2.2Ω,I_D =10A
t_r	Rise time	—	19.6	—		
$t_{d(off)}$	Turn-Off delay time	—	23.3	—		
t_f	Fall time	—	5.7	—		
C_{iss}	Input capacitance	—	1002	—	pF	V_{GS} = 0V
C_{oss}	Output capacitance	—	133	—		V_{DS} = 25V
C_{rss}	Reverse transfer capacitance	—	109	—		f = 1MHz

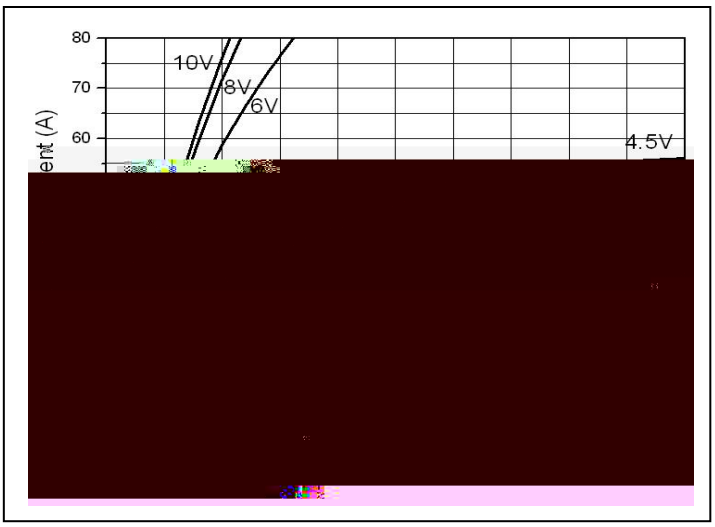
I_S	Continuous Source Current (Body Diode)	—	—	15	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I_{SM}	Pulsed Source Current (Body Diode)	—	—	60	A	
V_{sd}	Diode Forward Voltage	—	—	1.2	V	I_S=15A, V_{GS}=0V
t_{rr}	Reverse Recovery Time	—	12	—	ns	T_J = 25°C, I_F =10A, di/dt = 100A/μs
Q_{rr}	Reverse Recovery Charge	—	4	—	nC	

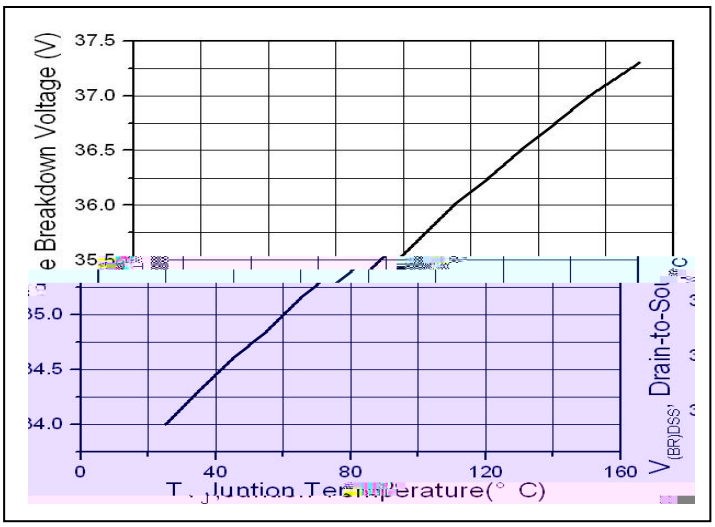
Calculated continuous current based on maximum allowable junction temperature.

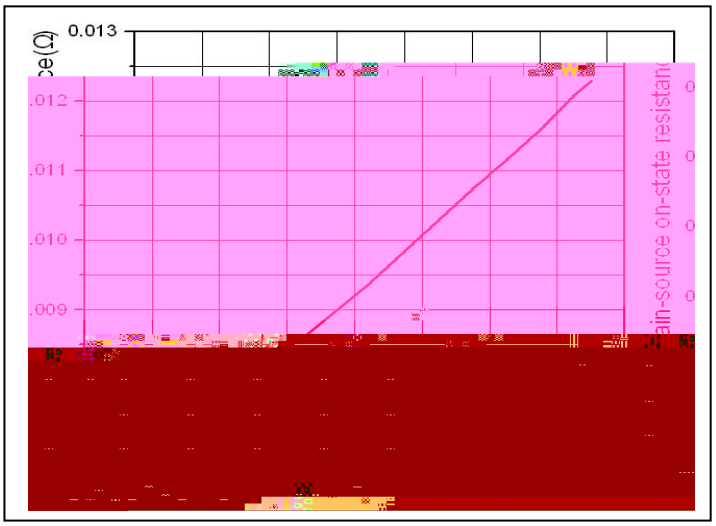
Repetitive rating; pulse width limited by max. junction temperature.

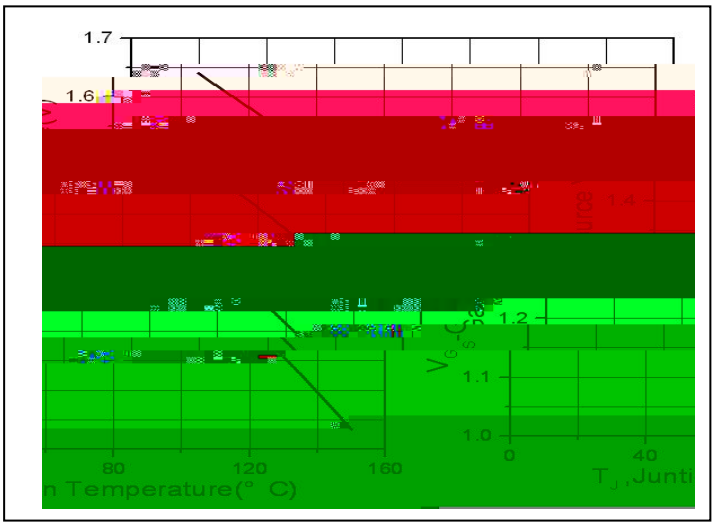
The power dissipation PD is based on max. junction temperature, using junction-to-case thermal resistance.

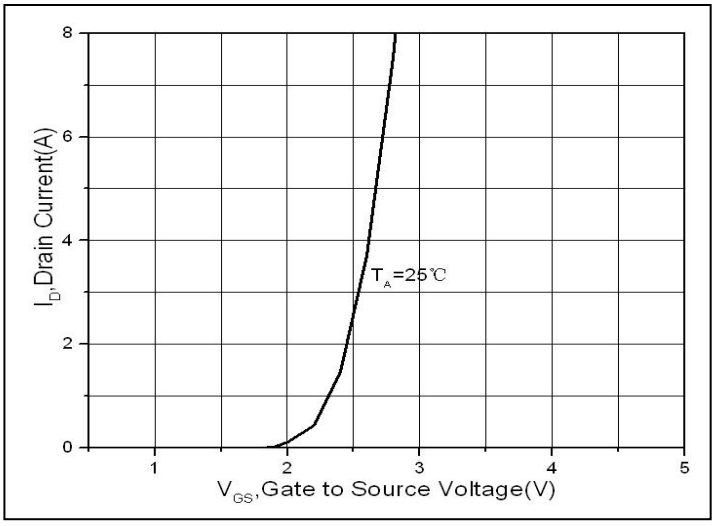
The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with TA =25°C

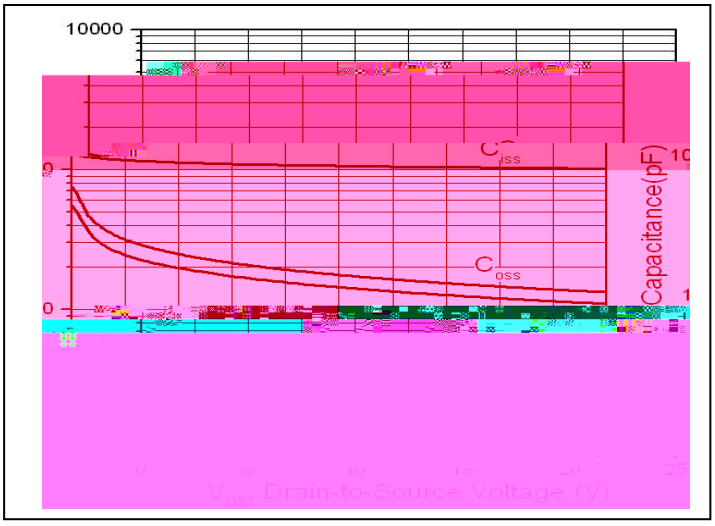

80
70
60
10V
8V
6V
4.5V

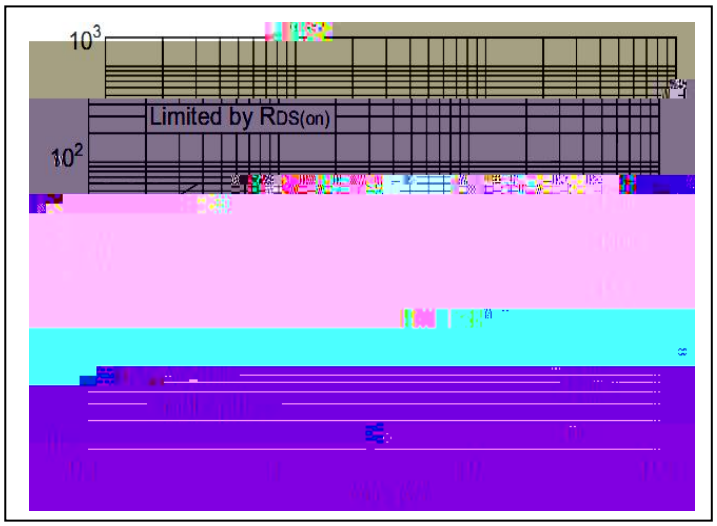

37.5
37.0
36.5
36.0
35.5
0
40
80
120
160
Drain-to-Source Breakdown Voltage (V)

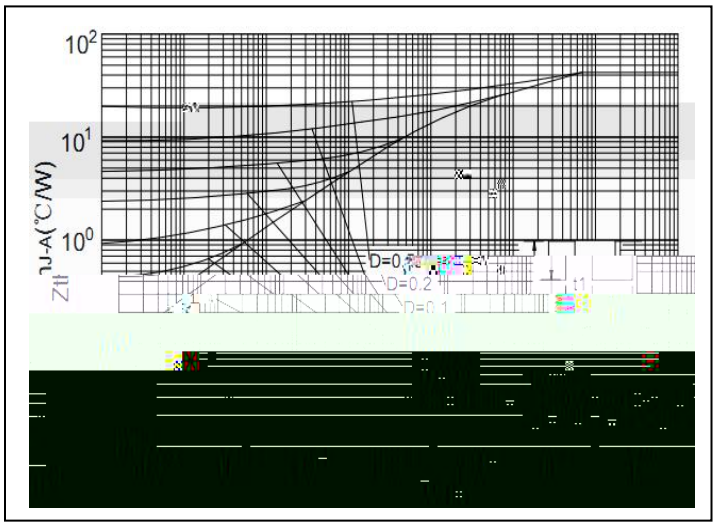

0.013
.012
.011
.010
.009

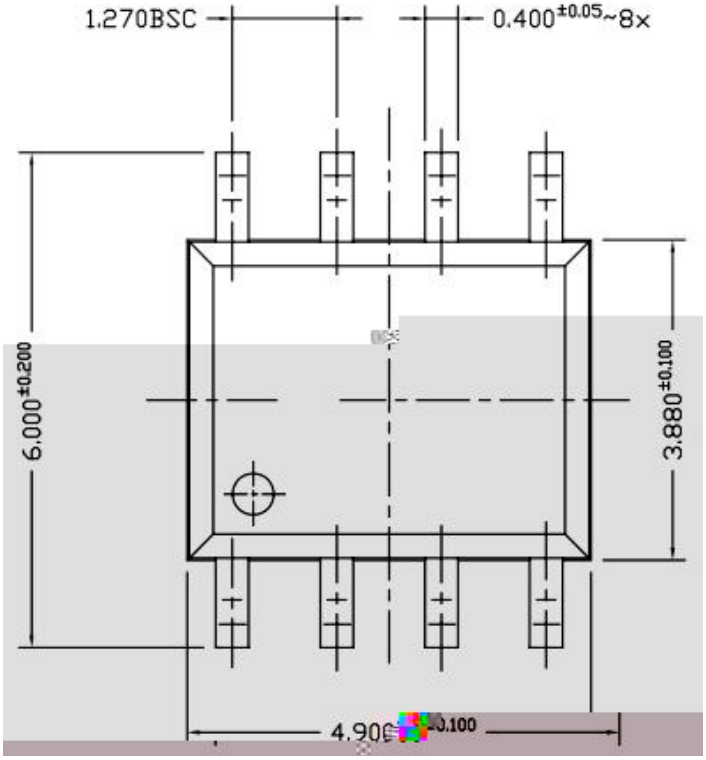

1.7
1.6
1.2
1.1
1.0
80
120
160
0
40
Temperature(° C)

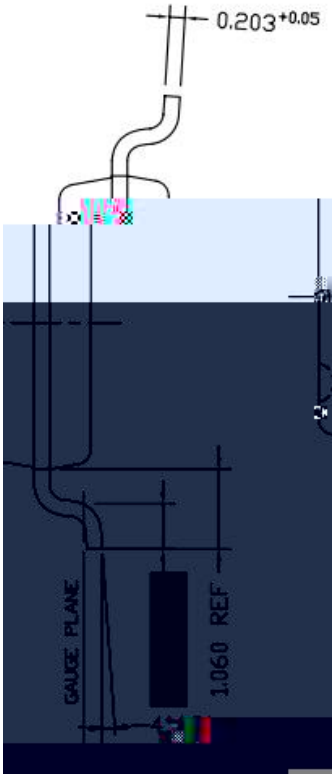

8
6
4
2
0
1
2
3
4
5
T_A=25℃
V_GS,Gate to Source Voltage(V)

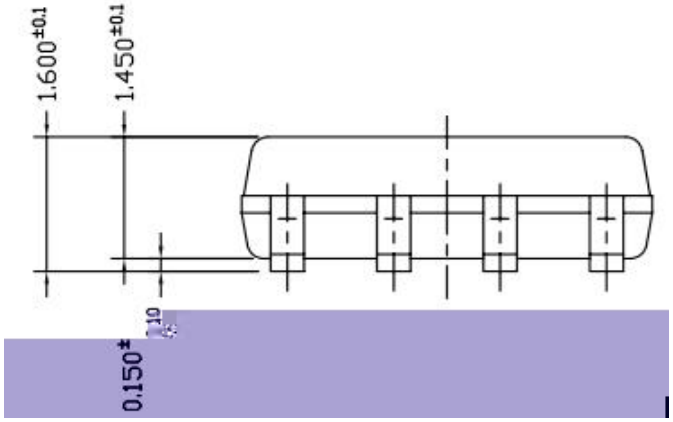

10000
C_ISS
C_OSS
Capacitance(pF)


10^3
Limited by $R_{DS(on)}$
10^2


10^2
10^1
10^0
Z_{th} (°C/W)
D=0.5
D=0.2
D=0.1


1.270BSC
0.400±0.05~8×
6.000±0.200
3.880±0.100
4.900


0.203+0.05
GAUGE PLANE
1.060 REF


1.600±0.1
1.450±0.1
0.150±

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