SamHop Microelectronics Corp.

SC8200

Ver 3.0

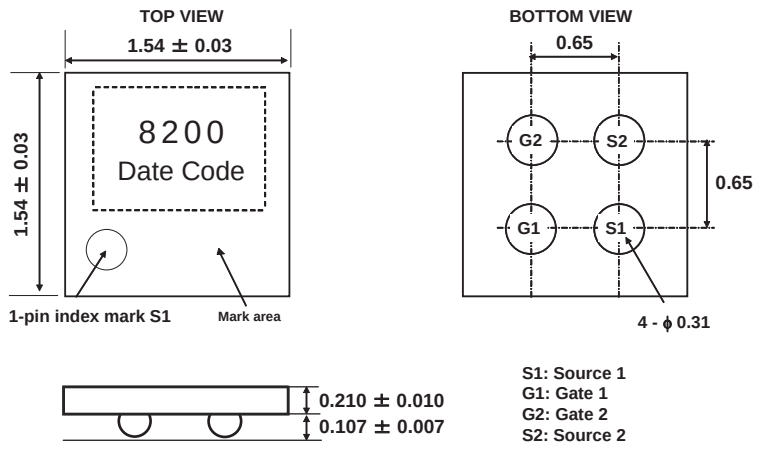
Dual N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V_{SSS}	I_S	$R_{SS(ON)}$ (mΩ) Max
20V	6A	32.0 @ VGS=4.5V
		33.0 @ VGS=4.0V
		38.0 @ VGS=3.1V
		42.0 @ VGS=2.5V

FEATURES

- Super high dense cell design for low $R_{DS(ON)}$.
- Rugged and reliable.
- Wafer level CSP.
- ESD Protected.

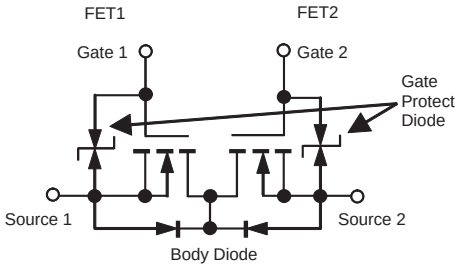
WLCSP



Unit : mm

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Symbol	Parameter	Limit	Units
V_{SSS}	Source-Source Voltage	20	V
V_{GSS}	Gate-Source Voltage	±12	V
I_S	Source Current-Continuous [a]	6.0	A
I_{SP}	-Pulsed [b]	60	A
P_T	Total Power Dissipation [a]	1.6	W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C



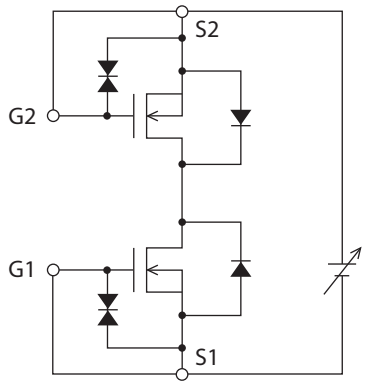
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV_{SSS}	Source-Source Breakdown Voltage	V_{GS}=0V , I_S=250uA	20			V
I_{SSS}	Zero Gate Voltage Source Current	V_{SS}=20V , V_{GS}=0V			1	uA
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±12V , V_{SS}=0V			±10	uA
ON CHARACTERISTICS						
$V_{GS(th)}$	Gate Threshold Voltage	V_{SS}=V_{GS} , I_S=1mA	0.5	0.8	1.5	V
$R_{SS(ON)}$	Source-Source On-State Resistance	V_{GS}=4.5V , I_S=3A	16.0	24.0	32.0	m ohm
		V_{GS}=4.0V , I_S=3A	17.0	25.0	33.0	m ohm
		V_{GS}=3.1V , I_S=3A	23.0	29.0	38.0	m ohm
		V_{GS}=2.5V , I_S=3A	25.0	32.0	42.0	m ohm
g_{FS}	Forward Transconductance	V_{SS}=5V , I_S=3A		16		S
DYNAMIC CHARACTERISTICS [c]						
C_{ISS}	Input Capacitance	V_{SS}=10V,V_{GS}=0V f=1.0MHz		315		pF
C_{OSS}	Output Capacitance			160		pF
C_{RSS}	Reverse Transfer Capacitance			58		pF
SWITCHING CHARACTERISTICS [c]						
$t_{D(ON)}$	Turn-On Delay Time	V_{DD}=20V I_S=3A V_{GS}=4.0V R_{GEN}=6 ohm		175		ns
t_r	Rise Time			400		ns
$t_{D(OFF)}$	Turn-Off Delay Time			1470		ns
t_f	Fall Time			870		ns
Q_g	Total Gate Charge	V_{DD}=20V,I_S=6A, V_{G1S1}=4.0V		10		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V_{FSS}	Diode Forward Voltage	V_{GS}=0V,I_S=1.5A		0.81	1.2	V

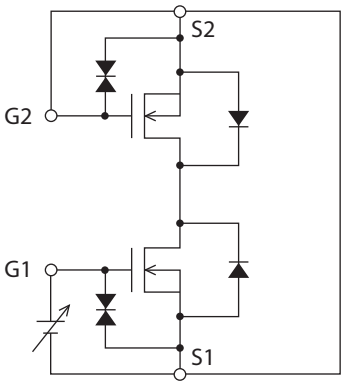
Note

a.Mounted on FR4 board of 25.4mm x 25.4mm x 1.6mm.
b.Pulse Test:Pulse Width ≤ 10us, Duty Cycle ≤ 1%.
c.Guaranteed by design, not subject to production testing.

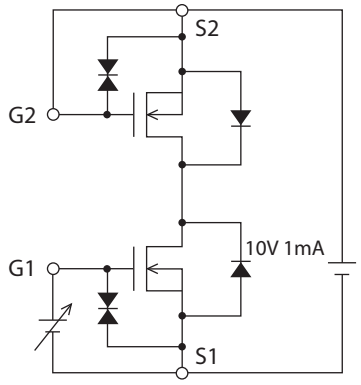
V_{SSS} / I_{SSS}



I_{GSS} (+) / (--)



V_{GS} (off)



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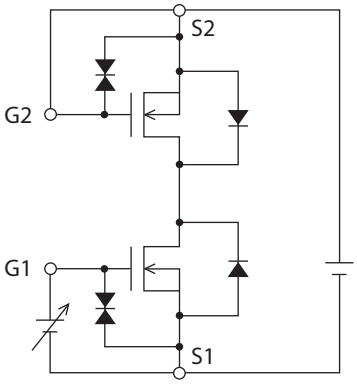
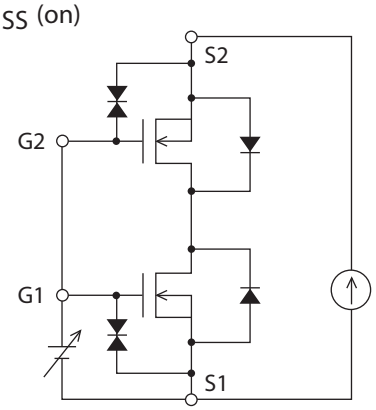
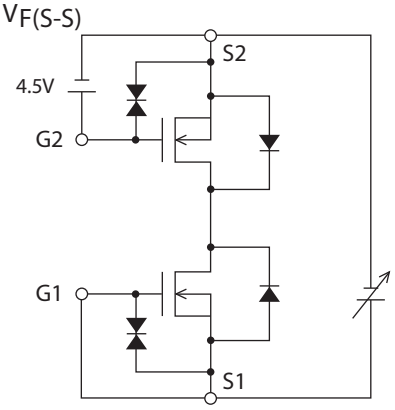


* Note: Connect the mesurement terminal reversely if you want to measure the FET2 side.

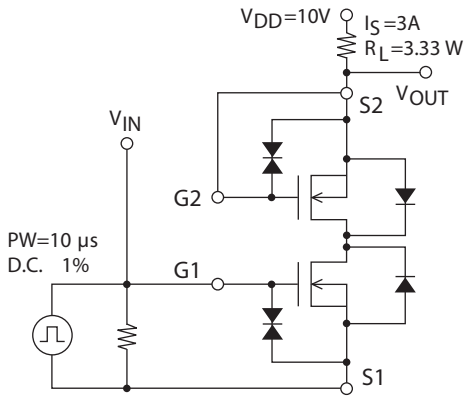
R_{SS} (on)



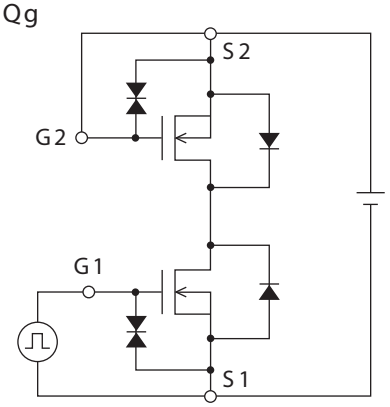
$V_{F(S-S)}$



$t_{d(on)}$, t_r, $t_{d(off)}$, t_f



Qg



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TOP MARKING DEFINITION

WLCSP