SamHop Microelectronics Corp.

SC8380

Ver 2.0

Dual N-Channel Enhancement Mode Field Effect Transistor

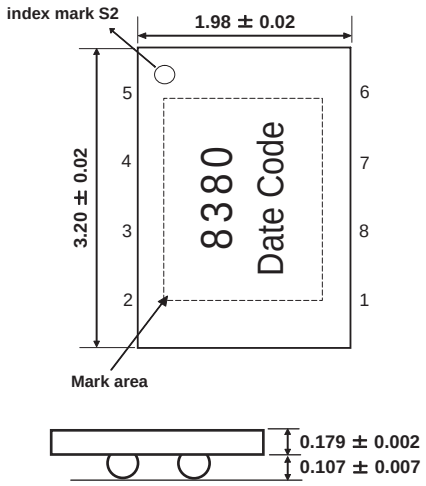
PRODUCT SUMMARY		
V_{SSS}	I_S	$R_{SS(ON)}$ (mΩ) Max
30V	9A	8 @ VGS=10V
		13 @ VGS=4.5V

FEATURES

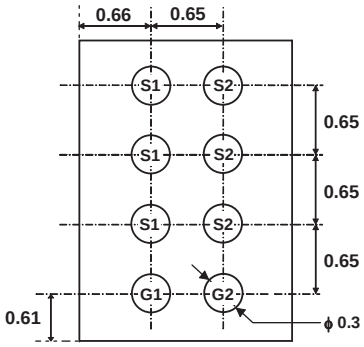
- Super high dense cell design for low $R_{DS(ON)}$.
- Rugged and reliable.
- Wafer level CSP.
- ESD Protected.

WLCSP

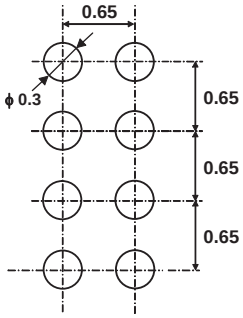
TOP VIEW



BOTTOM VIEW



LAND PATTERN (REFERENCE)

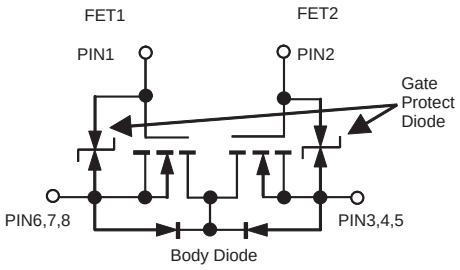


PIN6 : Source 1-1 PIN5 : Source 2-1
PIN7 : Source 1-2 PIN4 : Source 2-2
PIN8 : Source 1-3 PIN3 : Source 2-3
PIN1 : Gate 1 PIN2 : Gate 2

Unit : mm

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Symbol	Parameter	Limit	Units
V_{SSS}	Source-Source Voltage	30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_S	Source Current-Continuous [a]	9	A
I_{SP}	-Pulsed [b]	90	A
P_T	Total Power Dissipation [a]	0.4	W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C



PIN6 : Source 1-1 PIN5 : Source 2-1
PIN7 : Source 1-2 PIN4 : Source 2-2
PIN8 : Source 1-3 PIN3 : Source 2-3
PIN1 : Gate 1 PIN2 : Gate 2

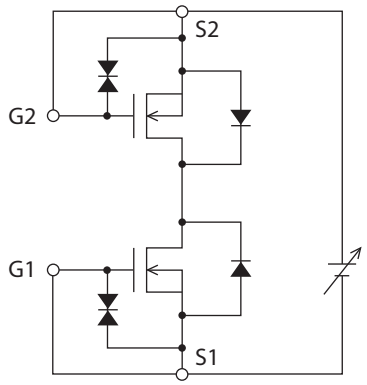
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV_{SSS}	Source-Source Breakdown Voltage	V_{GS}=0V , I_S=250uA	30			V
I_{SSS}	Zero Gate Voltage Source Current	V_{SS}=30V , V_{GS}=0V			1	uA
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±16V , V_{SS}=0V			±10	uA
ON CHARACTERISTICS						
$V_{GS(th)}$	Gate Threshold Voltage	V_{SS}=V_{GS} , I_S=1mA	1.0	1.5	2.5	V
$R_{SS(ON)}$	Source-Source On-State Resistance	V_{GS}=10V , I_S=4.5A		7	8	m ohm
		V_{GS}=4.5V , I_S=4.5A		10	13	m ohm
DYNAMIC CHARACTERISTICS [c]						
C_{ISS}	Input Capacitance	V_{SS}=10V,V_{GS}=0V f=1.0MHz		2870		pF
C_{OSS}	Output Capacitance			410		pF
C_{RSS}	Reverse Transfer Capacitance			154		pF
SWITCHING CHARACTERISTICS [c]						
$t_{D(ON)}$	Turn-On Delay Time	V_{DD}=15V I_S=4.5A V_{GS}=10V		42		ns
t_r	Rise Time			168		ns
$t_{D(OFF)}$	Turn-Off Delay Time			538		ns
t_f	Fall Time			396		ns
Q_g	Total Gate Charge	V_{DD}=15V,I_S=9A, V_{GS}=4.5V		22.8		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V_{FSS}	Diode Forward Voltage	V_{GS}=0V,I_S=4.5A		0.8	1.2	V

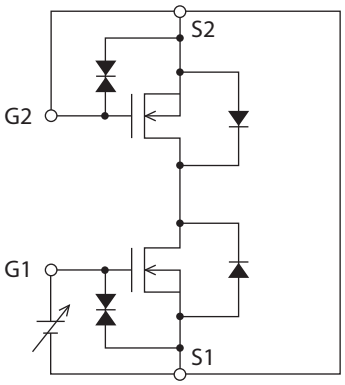
Note

a.Mounted on FR4 board of 25.4mm x 25.4mm x 1.0mm.
b.Pulse Test:Pulse Width ≤ 10us, Duty Cycle ≤ 1%.
c.Guaranteed by design, not subject to production testing.

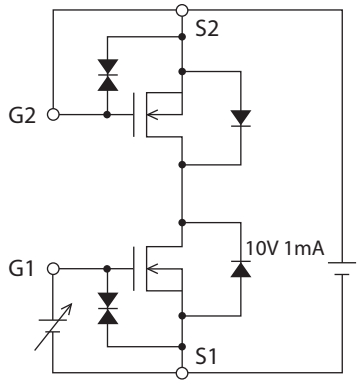
V_{SSS} / I_{SSS}



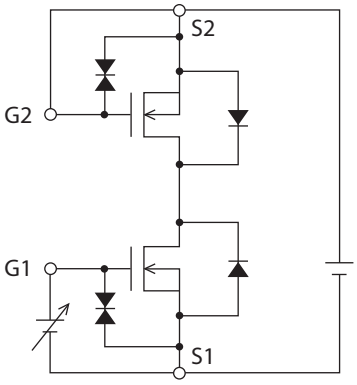
I_{GSS} (+) / (--)



V_{GS} (off)

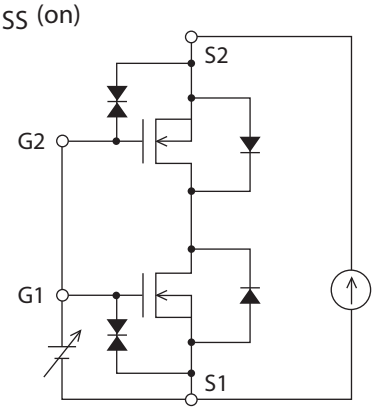


| yfs |

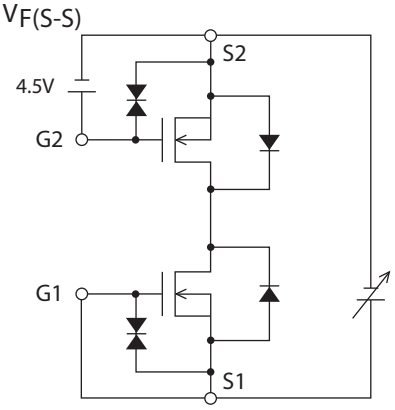


* Note: Connect the mesurement terminal reversely if you want to measure the FET2 side.

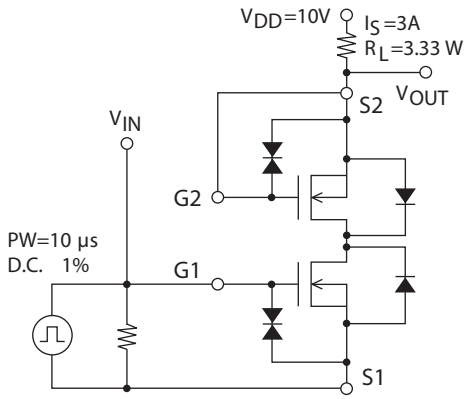
R_{SS} (on)



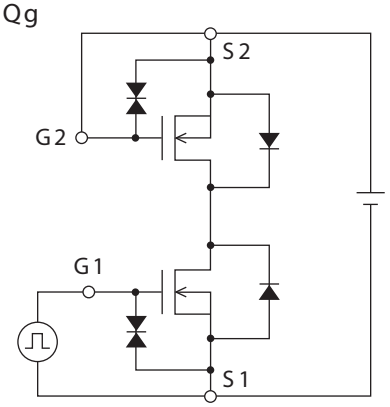
$V_{F(S-S)}$



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



Qg



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TOP MARKING DEFINITION

WLCSP