HUASHUO SEMICONDUCTOR

HSCS2052

Dual N-Ch Fast Switching MOSFETs

Green

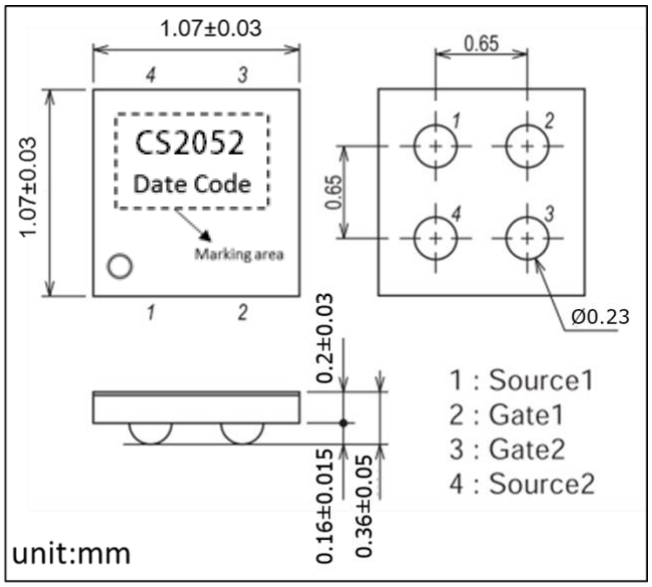
Features

★ 2.5V Drive
★ Common-drain type
★ ESD Protection

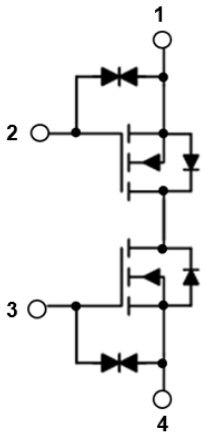
Product Summary

V_{SSS}	$R_{SS(ON)}$ Max	I_S Max
24V	45.0mΩ@ 4.5V	6A
	48.0mΩ@ 4.0V	
	57.0mΩ@ 3.1V	
	70.0mΩ@ 2.5V	

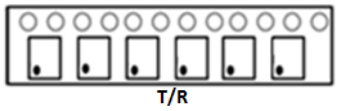
WLCSP Package Dimensions



Electrical Connection



Taping Type: T/R



- Package :CSP
- JEITA, JEDEC :---
- Minimum Packing Quantity:5000pcs. / reel

Absolute Maximum Ratings (T_A=25℃)

Symbol	Parameter	Rating	Units
V_{SSS}	Source to Source Voltage	24	V
V_{GSS}	Gate to Source Voltage	±12	V
I_S	Continuous Source Current$_1$	6	A
I_{SP}	Pulsed Source Current$_2$	60	A
P_T	Total Power Dissipation$_1$	1.6	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

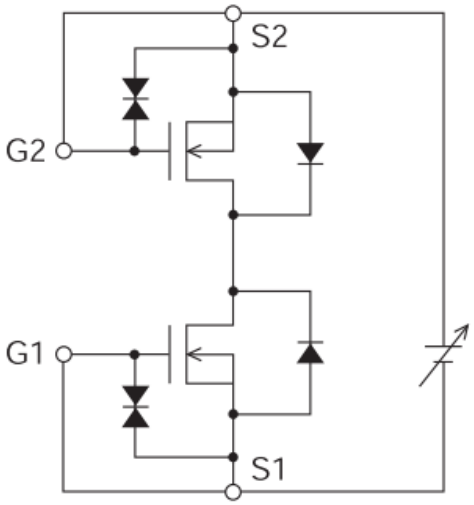
Electrical Characteristics at T_A=25℃

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{SSS}	Source-Source Breakdown Voltage	V_{GS}=0V , I_S=250uA	24	---	---	V
$R_{SS(ON)}$	Static Source-Source On-State Resistance	V_{GS}=4.5V , I_S=1.5A	27	40	45	mΩ
		V_{GS}=4.0V , I_S=1.5A	28	42	48	
		V_{GS}=3.7V , I_S=1.5A	31	44	51	
		V_{GS}=3.1V , I_S=1.5A	36	46	57	
		V_{GS}=2.5V , I_S=1.5A	42	52	70	
$V_{GS(th)}$	Gate Threshold Voltage	V_{SS}=V_{GS} , I_S =250uA	0.5	0.65	1.2	V
I_{SSS}	Zero Gate Voltage Source Current	V_{SS}=24V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±8V , V_{SS}=0V	---	---	±10	uA
Gfs	Forward Transconductance	V_{SS}=10V , I_S=3.0A	---	5.5	---	S
Q_g	Total Gate Charge[3]	V_{SS}=15V , V_{GS}=4.5V , I_S=6A	---	12	---	nC
$T_{d(on)}$	Turn-On Delay Time[3]	V_{DD}=10V , V_{GS}=4.5V , R_G=3.3Ω , I_S=3A	---	8	---	ns
T_r	Rise Time[3]		---	12	---	
$T_{d(off)}$	Turn-Off Delay Time[3]		---	312	---	
T_f	Fall Time[3]		---	36	---	
V_{FSS}	Forward Source-Source Voltage	V_{GS}=0V , I_S=1.5A	---	0.72	1.2	V

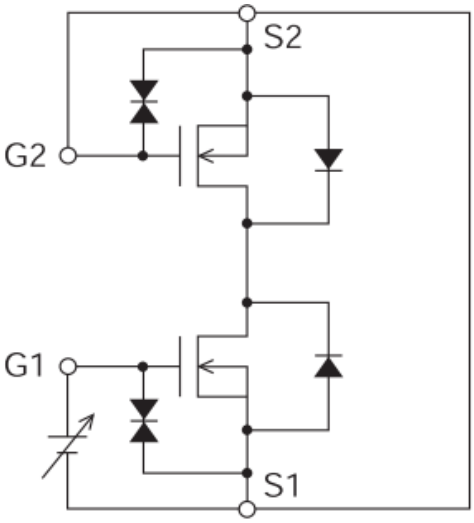
Note :
1.The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper.
2.The data tested by pulsed , pulse width ≦ 10us , duty cycle ≦ 1%
3.Guaranteed by design, not subject to production testing.

Test circuits are example of measuring FET1 sides

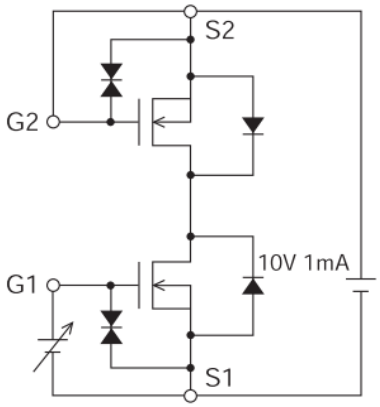
Test Circuit 1 V_{SSS} / I_{SSS}



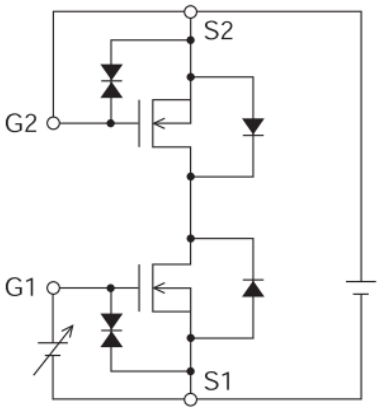
Test Circuit 2 I_{GSS}(+) / (-)



Test Circuit 3 $V_{GS(off)}$

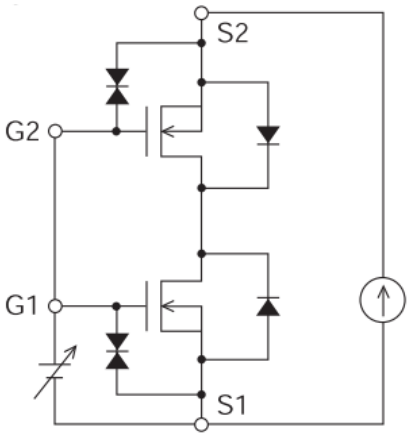


Test Circuit 4 Gfs

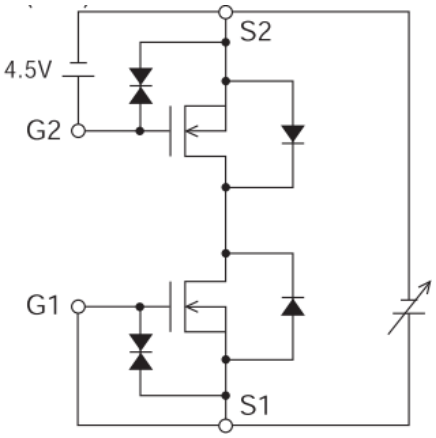


* Note: Connect the mesurement terminal reversely if you want to measure the FET2 side.

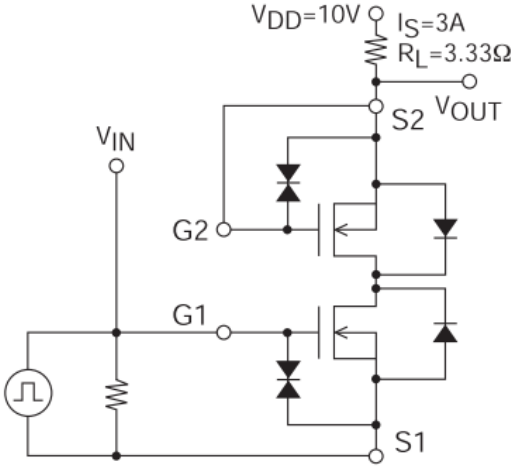
Test Circuit 5 $R_{SS(ON)}$



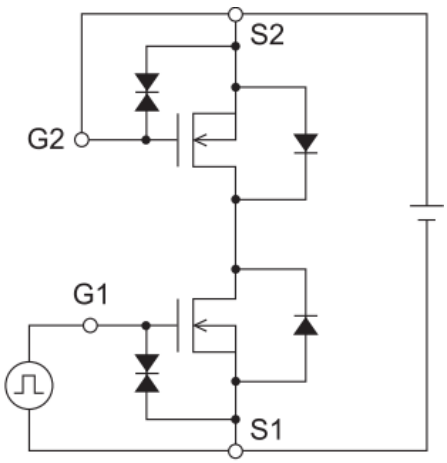
Test Circuit 6 $V_{F(S-S)}$



Test Circuit 7 Td(on), Tr, Td(off), Tf



Test Circuit 8 Qg



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

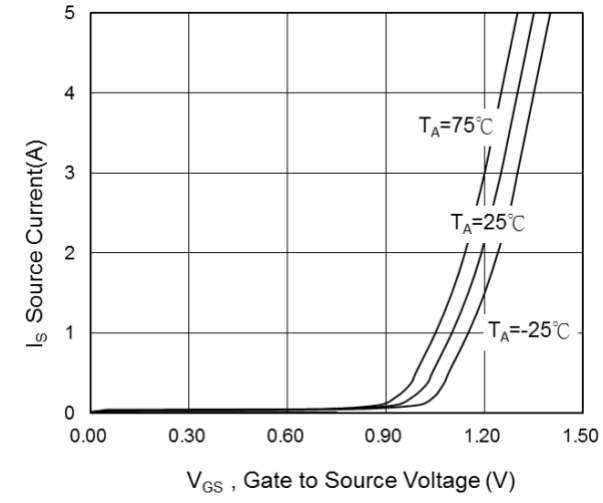


Fig.1 I_S - V_{GS}

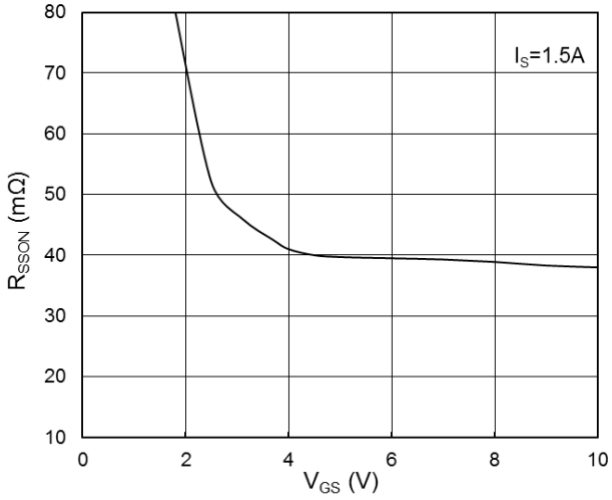


Fig.2 $R_{SS(ON)}$ - V_{GS}

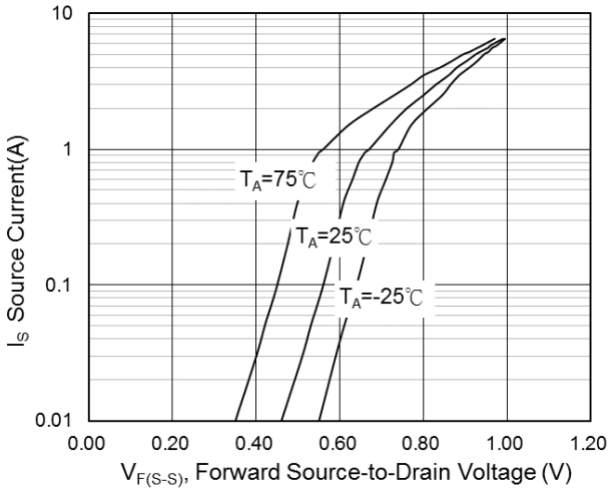


Fig.3 I_S – $V_{F(S-S)}$

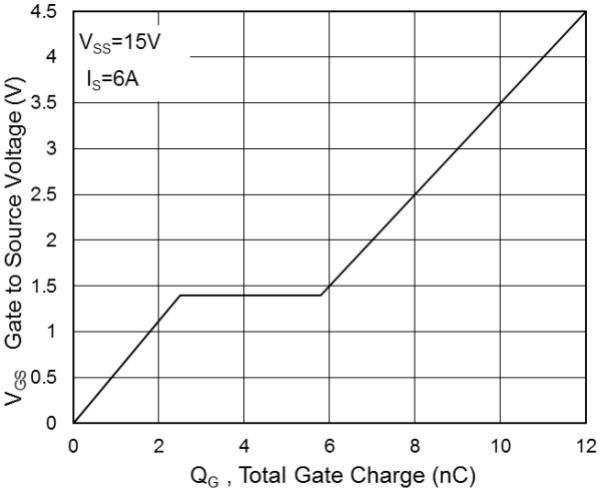


Fig.4 V_{GS} - Qg

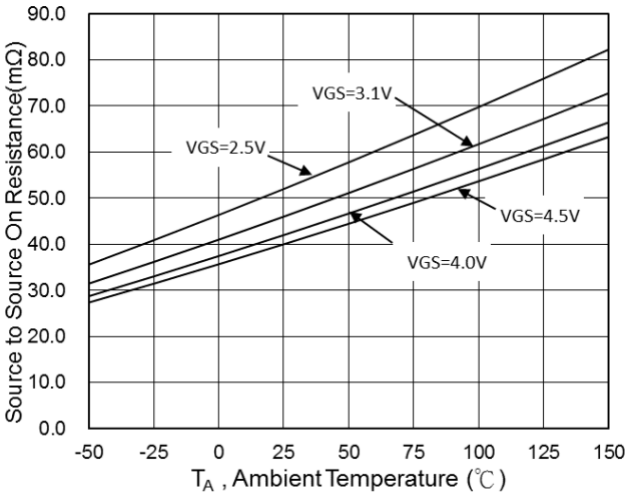


Fig.5 $R_{SS(ON)}$ - T_A

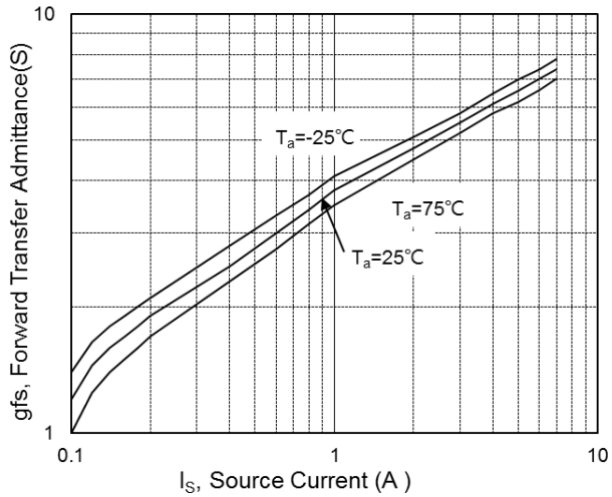


Fig.6 gfs vs I_S

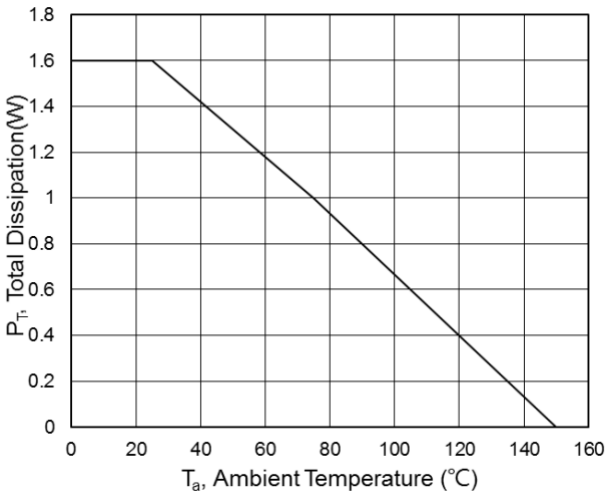


Fig.7 P_T – T_A

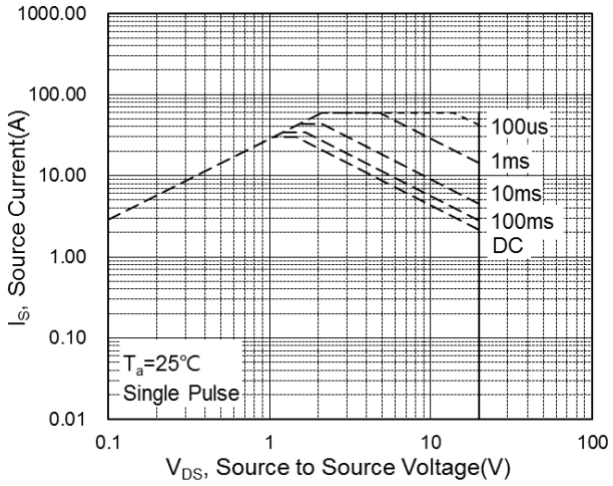


Fig.8 Safe Operating Area

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by HUASHUO ***manufacturer:***

Other Similar products are found below :

614233C 648584F MCH3443-TL-E MCH6422-TL-E FDPF9N50NZ FW216A-TL-2W FW231A-TL-E APT5010JVR NTNS3A92PZT5G IRF100S201 JANTX2N5237 2SK2464-TL-E 2SK3818-DL-E FCA20N60_F109 FDZ595PZ STD6600NT4G FSS804-TL-E 2SJ277-DL-E 2SK1691-DL-E 2SK2545(Q,T) D2294UK 405094E 423220D MCH6646-TL-E TPCC8103,L1Q(CM 367-8430-0972-503 VN1206L 424134F 026935X 051075F SBVS138LT1G 614234A 715780A NTNS3166NZT5G 751625C 873612G IRF7380TRHR IPS70R2K0CEAKMA1 RJK60S3DPP-E0#T2 RJK60S5DPK-M0#T0 APT5010JVFR APT12031JFLL APT12040JVR DMN3404LQ-7 NTE6400 JANTX2N6796U JANTX2N6784U JANTXV2N5416U4 SQM110N05-06L-GE3 SIHF35N60E-GE3