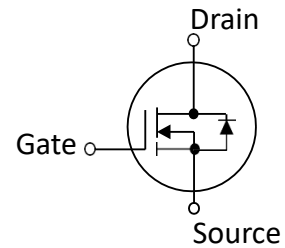


40V N-Channel MOSFET

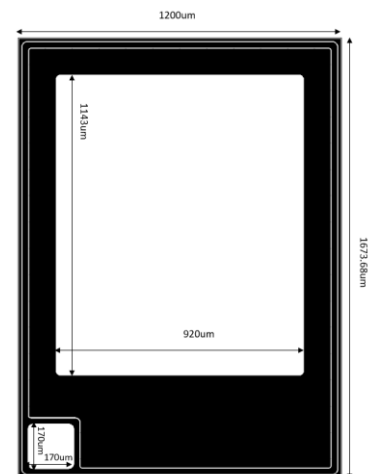
- Advanced Split Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking

SYMBOL

Electrical Characteristics in C/P Test (T_J at 25 °C)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	40	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	3.7	4.6	m Ω	$V_{GS} = 10V, I_D = 1A^{(1)}$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	4.6	5.7	m Ω	$V_{GS} = 4.5V, I_D = 1A^{(1)}$
$V_{GS(th)}$	Gate Threshold Voltage	1	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
I_{DSS}	Drain-to-Source Leakage Current	—	—	1	μA	$V_{DS} = 40V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source Leakage Current	-100	—	100	nA	$V_{DS} = 0V, V_{GS} = \pm 20V$
T_J, T_{STG}	Operating and Storage Temperature	-55°C to 150°C Max.				

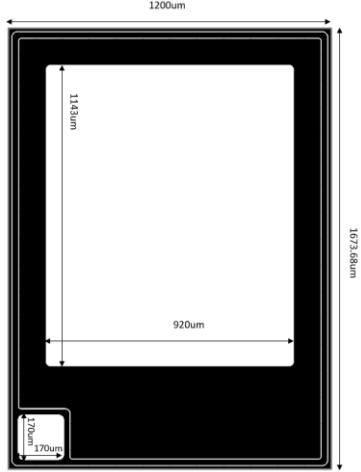
Mechanical Data

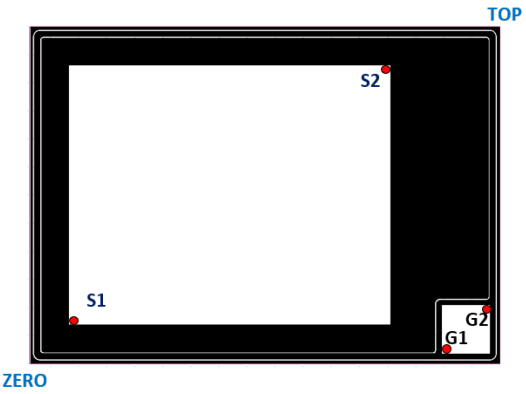
Chip Size ⁽²⁾	1674 μm X 1200 μm
Gate Pad Size	170 μm X 170 μm
Source Pad Size ⁽¹⁾	1143 μm X 920 μm
Scribe Line Width	60 μm
Wafer Thickness	100 μm
Wafer Diameter	200 mm
Gross Die	13169 EA
Source Metallization	Ti-NiV-Ag / 1-3-1.5kA
Drain Metallization	Ti-Ni-Ag
Passivation	Polyimide
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C \pm 3°C

Die Drawing


(1) Pulse Width $t_p = < 1$ mS, Duty Cycle $< 2\%$.

(2) Chip size not include scribe line.

Specific Assembly Information Bill of Material (BOM)		Die Drawing
Package Type	DFN 3*3	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Cu, 2 mil x1	
Source Wire Bonding	Cu, clip	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (μm)	Y (μm)	
ZERO	0	0	
TOP	1673.7	1200	
S1	140	140	
S2	1283	1060	
G1	1467.1	36.7	
G2	1637.1	206.7	

Electrical Characteristics in F/T Test (T_J at 25 °C)						
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
I _{DSS}	Drain-to-Source Leakage Current	—	—	1	μA	V _{DS} =40V, V _{GS} =0V
I _{GSSF}	Gate-to-Source Leakage Current	—	—	100	nA	V _{DS} =0V, V _{GS} =+20V
I _{GSSR}	Gate-to-Source Leakage Current	-100	—	—	nA	V _{DS} =0V, V _{GS} =-20V
BV _{DSS}	Drain-Source Breakdown Voltage	40	—	—	V	V _{GS} =0V, I _D =250μA
BV _{DSS}	Drain-Source Breakdown Voltage	40	—	—	V	V _{GS} =0V, I _D =1mA
R _{DS(ON)}	Static Drain-Source On-Resistance	—	—	5	mΩ	V _{GS} =10V, I _D =20A
R _{DS(ON)}	Static Drain-Source On-Resistance	—	—	6.5	mΩ	V _{GS} =4.5V, I _D =15A
V _{GS(th)}	Gate Threshold Voltage	1	—	2.5	V	V _{DS} =V _{GS} , I _D =250μA
V _{SD}	Body Diode Forward Voltage	—	—	1.1	V	V _{GS} =0V, I _{SD} =10A
I _{AS}	Avalanche Current				A	V _{DD} =40V, V _{GS} =10V, R _G =25Ω, L=0.1mH
T _J , T _{STG}	Operating and Storage Temperature	-55	—	150	°C	

Disclaimer:

JUNSHINE does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.

JUNSHINE reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

JUNSHINE makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, JUNSHINE disclaims (1) any and all liability arising out of the application or use of any product, (2) any and all liability, including without limitation special, consequential or incidental damages, and (3) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

JUNSHINE products, except as expressly indicated in writing, are not designed for use in medical, life-saving, or life-sustaining applications, or for any other application in which the failure of the JUNSHINE product could result in personal injury or death. Customers using or selling JUNSHINE products not expressly indicated for use in such applications do so at their own risks.

Resale of JUNSHINE products with statements different from or beyond the parameters stated by JUNSHINE for that product or service voids all express or implied warranties for the associated JUNSHINE product or service and is unfair and deceptive business practice. JUNSHINE is not responsible or liable for any such statements.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of JUNSHINE. Product names and markings noted herein may be trademarks of their respective owners.

JUNSHINE IS A FULLY OWNED SUBSIDIARY OF Wuxi XICHANWEIXIN Semiconductor Co., Ltd.