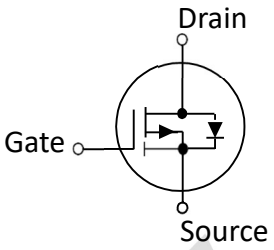
40V P-Channel MOSFET

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

SYMBOL



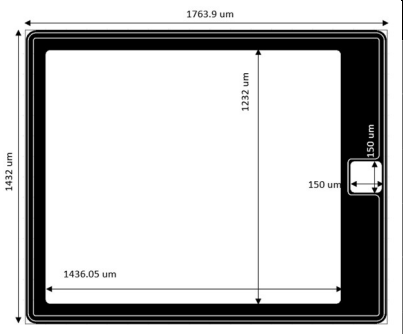
Electrical Characteristics in C/P Test (T_J at 25 ℃)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	—	—	-40	V	V_{GS} =0V, I_D =-250μA
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	12	14.2	mΩ	V_{GS} =10V, I_D =-1A(2)
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	16	18.6	mΩ	V_{GS} =4.5V, I_D =-1A(2)
$V_{GS\ (th)}$	Gate Threshold Voltage	-2.2	—	-1.2	V	V_{DS} =V_{GS}, I_D =-250μA
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} =±20V
T_J, T_{STG}	Operating and Storage Temperature	-55℃ to 150℃ Max.				

Mechanical Data

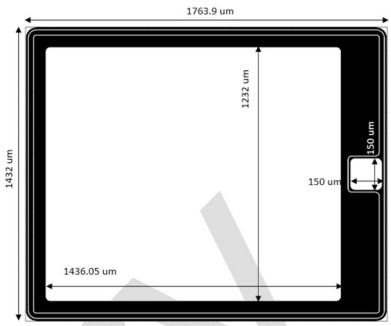
Chip Size	1763 μm X 1432 μm
Gate Pad Size	150 μm X 150 μm
Source Pad Size	1436 μm X 1232 μm
Scribe Line Width	60 μm
Wafer Thickness	150 μm
Wafer Diameter	200 mm
Gross Die	10613 EA
Source Metallization	Al-Cu (4μm typical)
Drain Metallization	Ti-Ni-Ag
Passivation	SiN
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C ± 3°C

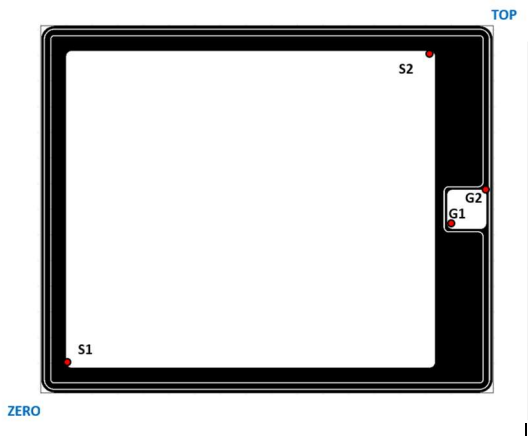
Die Drawing



(1) This characteristic assumes the die is assembled in DFN5*6 package. Actual performance may degrade when assembled.

(2) Pulse Width tp = < 1 mS, Duty Cycle < 2%.

Specific Assembly Information Bill of Material (BOM)		Die Drawing
Package Type	DFN5*6	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Cu, 2 mil x1	
Source Wire Bonding	Al Ribbon	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (um)	Y (um)	
ZERO	0	0	
TOP	1763.9	1432	
S1	100	100	
S2	1536.05	1332	
G1	1586.05	641	
G2	1736.05	791	

Electrical Characteristics in F/T Test (T_J at 25 ℃)

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	—	—	16	mΩ	V_{GS} =-10V, I_D =-8A
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	21	mΩ	V_{GS} =-4.5V, I_D =-6A
$V_{GS\ (th)}$	Gate Threshold Voltage	-2.2	—	-1.2	V	V_{DS} =V_{GS}, I_D =-250μA
V_{SD}	Body Diode Forward Voltage	-1.2	—	—	V	V_{GS} =0V, I_{SD} =-8A
T_J, T_{STG}	Operating and Storage Temperature	-55	—	150	℃	

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 warrantees 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.