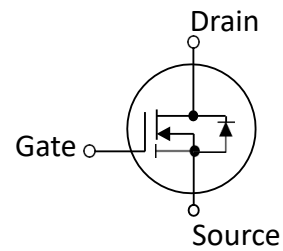
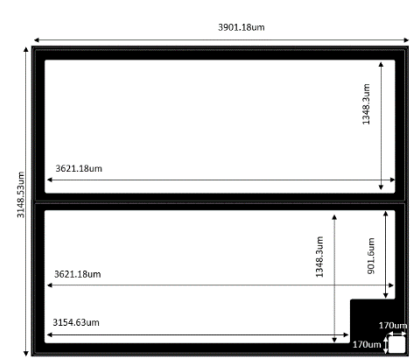


40V N-Channel MOSFET

- Advanced Split Gate Device Design and Processes
- High Reliability Capability
- 100% CP Probing

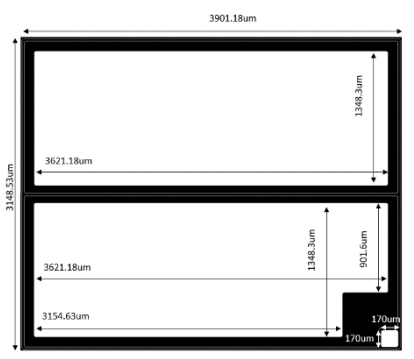
SYMBOL

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	—	0.5	0.8	m Ω	$V_{GS} = 10V, I_D = 1A^{(1)}$
$V_{GS(th)}$	Gate Threshold Voltage	2	—	4	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		Die Drawing
Chip Size ⁽²⁾	3901 μm X 3149 μm	
Gate Pad Size	170 μm X 170 μm	
Source Pad Size	3621 X 1348 μm	
Scribe Line Width	60 μm	
Wafer Thickness	100 μm	
Wafer Diameter	200 mm	
Gross Die	2212 EA	
Source Metallization	Al-Cu (4 μm 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 \pm 3°C	

(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	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 40mil*4mil*2	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (μm)	Y (μm)	
ZERO	0	0	
TOP	3901.2	3148.5	
S1	140	140	
S2	3761.2	1488.3	
S3	3294.6	586.7	
S4	140	1660.2	
S5	3761.2	3008.5	
G1	3694.6	36.7	
G2	3864.6	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	—	—	1.5	mΩ	V _{GS} =10V, I _D =20A
V _{GS(th)}	Gate Threshold Voltage	2	—	4	V	V _{DS} =V _{GS} , I _D =250μA
V _{SD}	Body Diode Forward Voltage	—	—	1.2	V	V _{GS} =0V, I _{SD} =20A
I _{AS}	Avalanche Current				A	V _{DD} =40V, V _{GS} =10V, R _G =25Ω, L=0.5mH
T _J , T _{STG}	Operating and Storage Temperature	-55	—	150	°C	

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