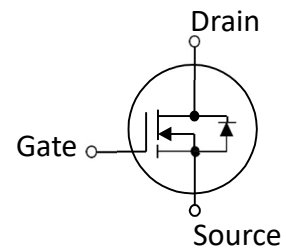


30V N-Channel MOSFET

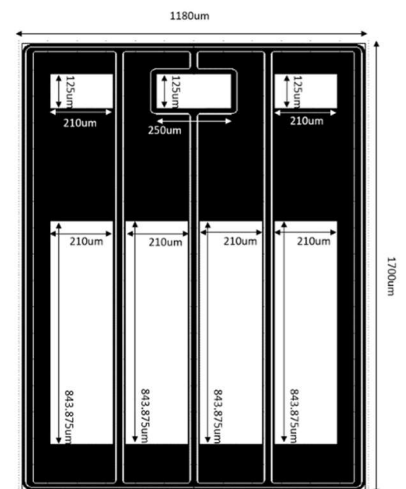
- Advanced Split Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking

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	30	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	3.1	4	m Ω	$V_{GS} = 5V, I_D = 1A^{(1)}$
$V_{GS(th)}$	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	$V_{DS} = 30V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source Leakage Current	-100	—	100	nA	$V_{DS} = 0V, V_{GS} = \pm 16V$
T_J, T_{STG}	Operating and Storage Temperature	-55°C to 150°C Max.				

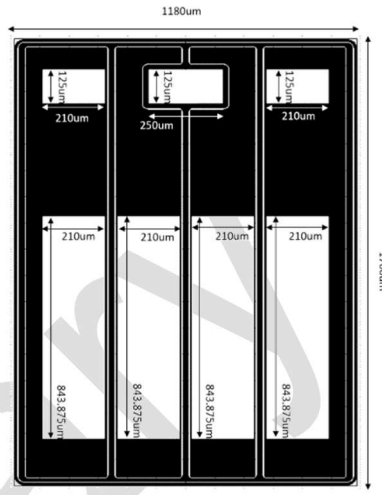
Mechanical Data

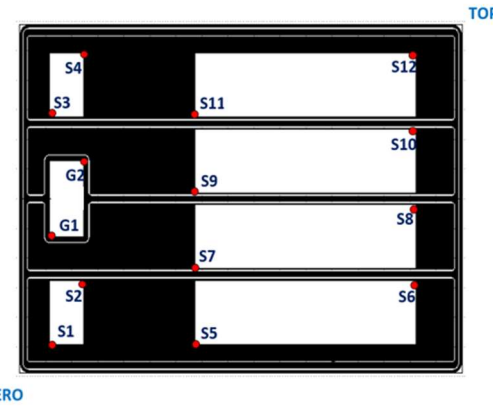
Chip Size ⁽²⁾	1700 μm X 1180 μm
Gate Pad Size	125 μm X 250 μm
Source Pad Size(1)	844 μm X 210 μm
Source Pad Size(2)	125 μm X 210 μm
Scribe Line Width	60 μm
Wafer Thickness	50 μm
Wafer Diameter	200 mm
Gross Die	13225 EA
Source Metallization	Ti-NiV-Ag / 1-3-1.5kA
Drain Metallization	Ti-Ni-Ag
Passivation	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	DFN5*6	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Au, 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	1700	1180	
S1	119.08	100	
S2	244.08	310	
S3	119.08	870	
S4	244.08	1080	
S5	676.08	100	
S6	1519.95	310	
S7	676.08	358	
S8	1519.95	568	
S9	676.08	612	
S10	1519.95	822	
S11	676.08	870	
S12	1519.95	1080	
G1	119.08	465	
G2	244.08	715	

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} =30V, V _{GS} =0V
I _{GSSF}	Gate-to-Source Leakage Current	—	—	100	nA	V _{DS} =0V, V _{GS} =+16V
I _{GSSR}	Gate-to-Source Leakage Current	-100	—	—	nA	V _{DS} =0V, V _{GS} =-16V
BV _{DSS}	Drain-Source Breakdown Voltage	30	—	—	V	V _{GS} =0V, I _D =250μA
BV _{DSS}	Drain-Source Breakdown Voltage	30	—	—	V	V _{GS} =0V, I _D =1mA
R _{DS(ON)}	Static Drain-Source On-Resistance	—	—	4.3	mΩ	V _{GS} =5V, I _D =20A
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} =30V, V _{GS} =10V, R _G =25Ω, L=0.5mH
T _J , T _{STG}	Operating and Storage Temperature	-55	—	150	°C	

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