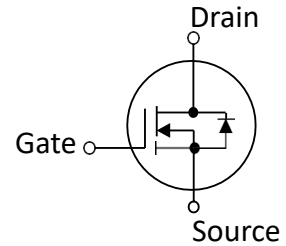


**30V N-Channel MOSFET**

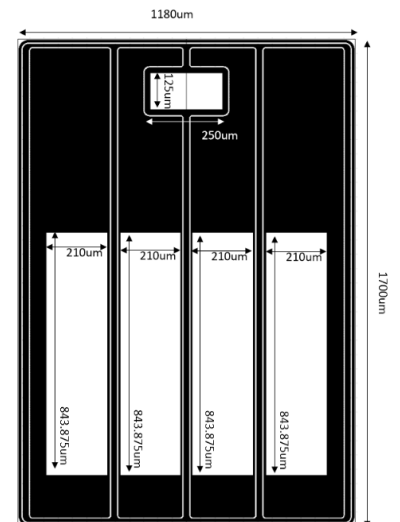
- Advanced Split Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking

**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	4.1	m $\Omega$	$V_{GS} = 4.5V, I_D = 5A^{(1)}$
$V_{GS(th)}$	Gate Threshold Voltage	1	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$I_{DSS}$	Drain-to-Source Leakage Current	—	—	1	$\mu A$	$V_{DS} = 30V, V_{GS} = 0V$
$I_{GSS}$	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.				

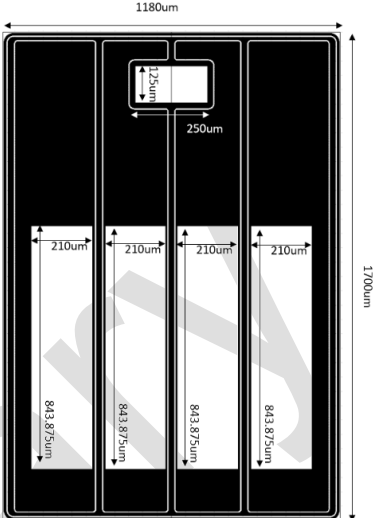
**Mechanical Data**

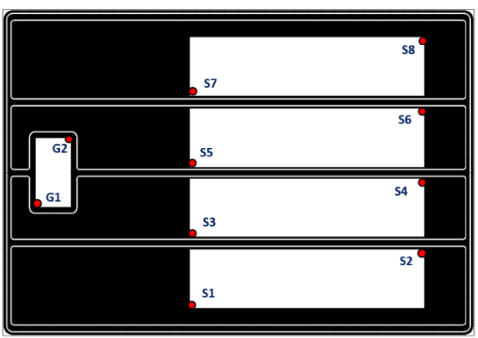
Chip Size <sup>(2)</sup>	1700 $\mu m$ X 1180 $\mu m$
Gate Pad Size	125 $\mu m$ X 250 $\mu m$
Source Pad Size	844 $\mu m$ X 210 $\mu m$ X 4
Scribe Line Width	60 $\mu m$
Wafer Thickness	100 $\mu m$
Wafer Diameter	200 mm
Gross Die	13225 EA
Source Metallization	Ti-NiV-Ag / 1-3-1.5kA
Drain Metallization	Ti-Ni-Ag
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	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	1699.95	1180	
S1	676.075	100	
S2	1519.95	310	
S3	676.075	358	
S4	1519.95	568	
S5	676.075	612	
S6	1519.95	822	
S7	676.075	870	
S8	1519.95	1080	
G1	119.075	465	
G2	244.075	715	

<b>Electrical Characteristics in F/T Test (T<sub>J</sub> at 25 °C)</b>						
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
I <sub>DSS</sub>	Drain-to-Source Leakage Current	—	—	1	μA	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V
I <sub>GSSF</sub>	Gate-to-Source Leakage Current	—	—	100	nA	V <sub>DS</sub> =0V, V <sub>GS</sub> =+20V
I <sub>GSSR</sub>	Gate-to-Source Leakage Current	-100	—	—	nA	V <sub>DS</sub> =0V, V <sub>GS</sub> =-20V
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	30	—	—	V	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	30	—	—	V	V <sub>GS</sub> =0V, I <sub>D</sub> =1mA
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	—	4.4	mΩ	V <sub>GS</sub> =4.5V, I <sub>D</sub> =20A
V <sub>GS(th)</sub>	Gate Threshold Voltage	1	—	2.5	V	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA
V <sub>SD</sub>	Body Diode Forward Voltage	—	—	1.1	V	V <sub>GS</sub> =0V, I <sub>SD</sub> =10A
I <sub>AS</sub>	Avalanche Current				A	V <sub>DD</sub> =30V, V <sub>GS</sub> =10V, R <sub>G</sub> =25Ω, L=0.5mH
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Temperature	-55	—	150	°C	

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