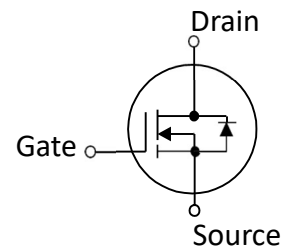
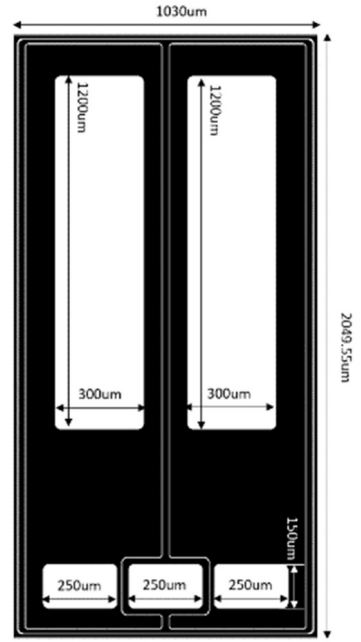


**30V N-Channel MOSFET**

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

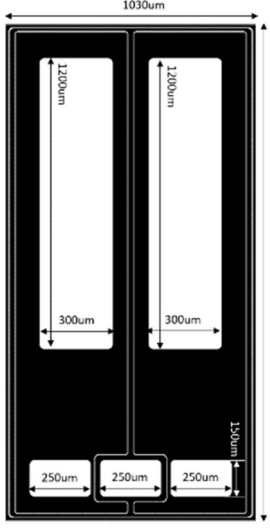
**SYMBOL**

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

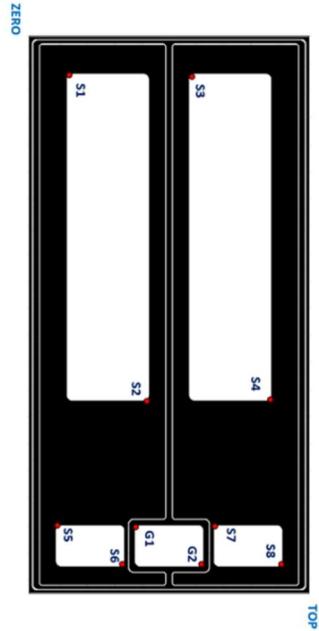
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	30	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	2.5	3.1	m $\Omega$	$V_{GS} = 10V, I_D = 1A^{(1)}$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	2.9	3.6	m $\Omega$	$V_{GS} = 4.5V, I_D = 1A^{(1)}$
$V_{GS(th)}$	Gate Threshold Voltage	1	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$I_{DSS}$	Drain-to-Source Leakage Current	—	—	1	$\mu A$	$V_{DS} = 30V, V_{GS} = 0V$
$I_{GSS}$	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		Die Drawing
Chip Size <sup>(2)</sup>	2050 $\mu m$ X 1030 $\mu m$	
Gate Pad Size	150 $\mu m$ X 250 $\mu m$	
Source Pad Size(1)	1200 $\mu m$ X 300 $\mu m$ 1200 $\mu m$ X 300 $\mu m$	
Source Pad Size(2)	150 $\mu m$ X 250 $\mu m$ 150 $\mu m$ X 250 $\mu m$	
Scribe Line Width	60 $\mu m$	
Wafer Thickness	100 $\mu m$	
Wafer Diameter	200 mm	
Gross Die	12531 EA	
Source Metallization	Ni 2-4um / Pd 2k-3kA / Au 200-500A	
Drain Metallization	Ti-Ni-Ag	
Passivation	Polymide	
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	Cu, 2 mil x12	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (μm)	Y (μm)	
ZERO	0	0	
TOP	2049.55	1030	
S1	140	140	
S2	1340	440	
S3	140	590	
S4	1340	890	
S5	1799.375	100	
S6	1949.375	350	
S7	1799.375	680	
S8	1949.375	930	
G1	1799.375	390	
G2	1949.375	640	

**Electrical Characteristics in F/T Test (T<sub>J</sub> at 25 °C)**

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$I_{DSS}$	Drain-to-Source Leakage Current	—	—	1	$\mu A$	$V_{DS} = 30V, V_{GS} = 0V$
$I_{GSSF}$	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	30	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$BV_{DSS}$	Drain-Source Breakdown Voltage	30	—	—	V	$V_{GS} = 0V, I_D = 1mA$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	4.2	m $\Omega$	$V_{GS} = 10V, I_D = 20A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	5	m $\Omega$	$V_{GS} = 4.5V, I_D = 20A$
$V_{GS(th)}$	Gate Threshold Voltage	1	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$V_{SD}$	Body Diode Forward Voltage	—	—	1.2	V	$V_{GS} = 0V, I_{SD} = 20A$
$I_{AS}$	Avalanche Current				A	$V_{DD} = 30V, V_{GS} = 10V, R_G = 25\Omega, L = 0.5mH$
$T_J, T_{STG}$	Operating and Storage Temperature	-55	—	150	$^{\circ}C$	

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