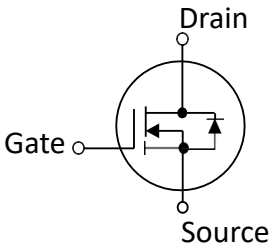
25V N-Channel MOSFET

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

SYMBOL



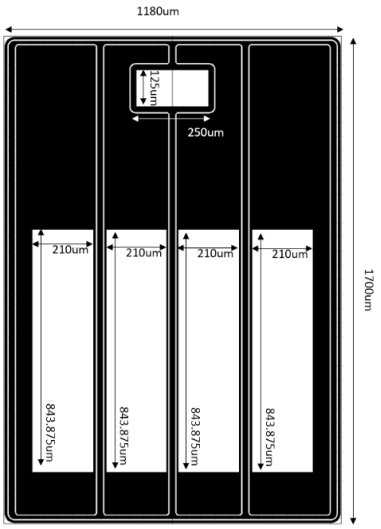
Electrical Characteristics in C/P Test (T_J at 25 ℃)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	25	—	—	V	V_{GS} =0V, I_D =250μA
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	3.1	4	mΩ	V_{GS} =4.5V, I_D =1A(2)
$V_{GS\ (th)}$	Gate Threshold Voltage	1	—	2.5	V	V_{DS} =V_{GS}, I_D =250μA
I_{DSS}	Drain-to-Source Leakage Current	—	—	1	μA	V_{DS} =25V, V_{GS} =0V
I_{GSS}	Gate-to-Source Leakage Current	-100	—	100	nA	V_{DS} =0V, V_{GS} =±12V
T_J, T_{STG}	Operating and Storage Temperature	-55℃ to 150℃ Max.				

Mechanical Data

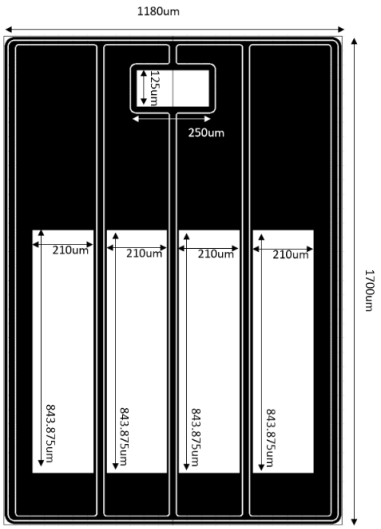
Chip Size	1700 μm X 1180 μm
Gate Pad Size	125 μm X 250 μm
Source Pad Size	844μm X 210 μm
Scribe Line Width	60 μm
Wafer Thickness	100 μm
Wafer Diameter	200 mm
Gross Die	13225 EA
Source Metallization	Al-Cu (4μm typical)
Drain Metallization	Ti-Ni-Ag
Passivation	SiN
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C ± 3°C

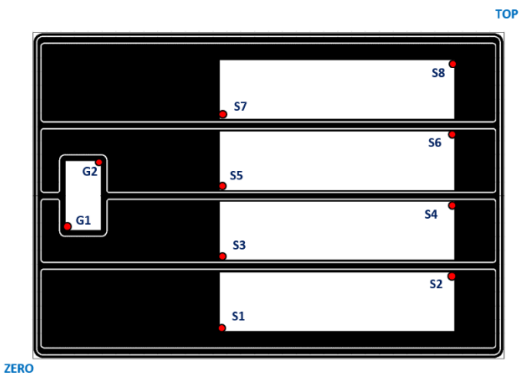
Die Drawing



(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	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	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	

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} =25V, V_{GS} =0V
I_{GSSF}	Gate-to-Source Leakage Current	—	—	100	nA	V_{DS} =0V, V_{GS} =+12V
I_{GSSR}	Gate-to-Source Leakage Current	-100	—	—	nA	V_{DS} =0V, V_{GS} =-12V
BV_{DSS}	Drain-Source Breakdown Voltage	25	—	—	V	V_{GS} =0V, I_D =250μA
BV_{DSS}	Drain-Source Breakdown Voltage	25	—	—	V	V_{GS} =0V, I_D =1mA
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	6	mΩ	V_{GS} =4.5V, 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}=25V, V_{GS}=10V, R_G=25Ω, L=0.5mH
T_J, T_{STG}	Operating and Storage Temperature	-55	—	150	℃	

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