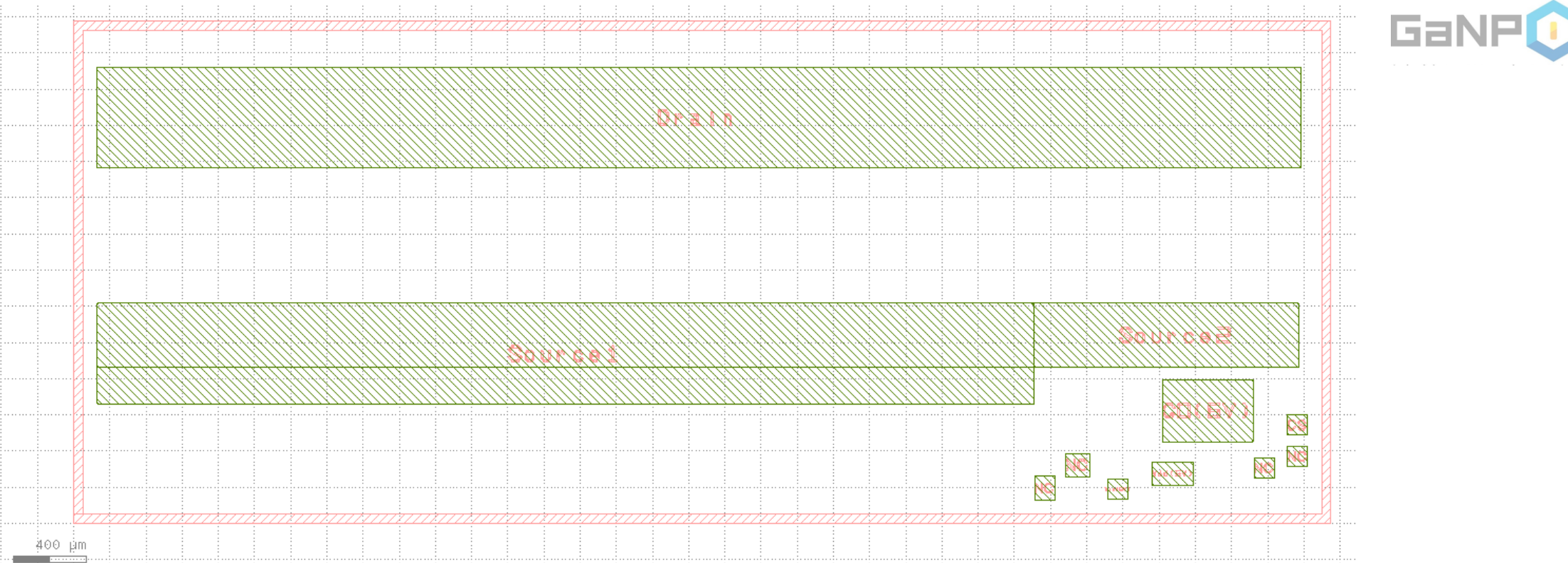# Wafer datasheet
Chiba3060IC-RG4T60
(900V/60A)
(650V/60A)
Optional Driver IC Integration
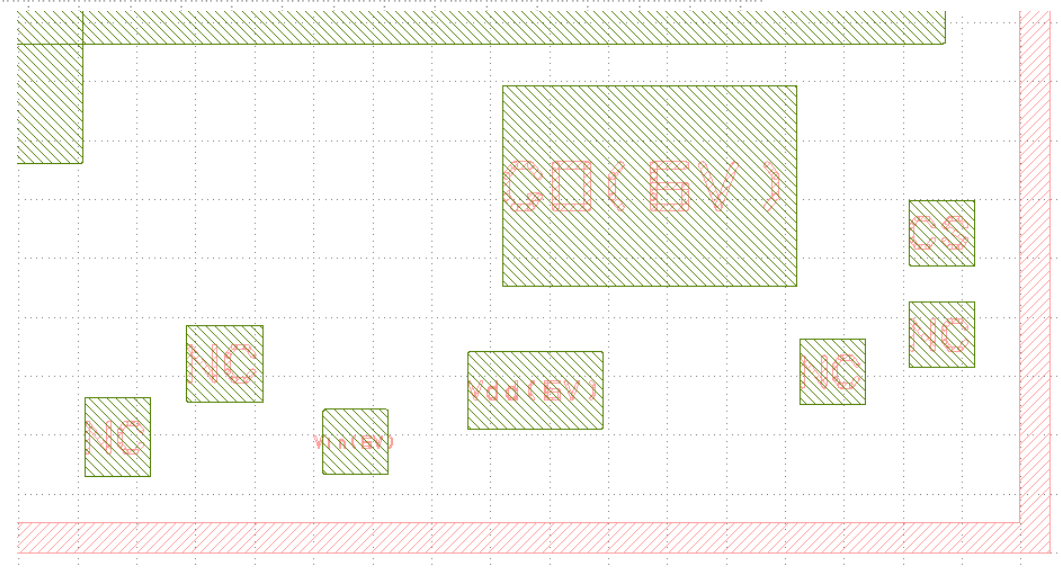
Features

Choice of original 6V gate driving or driver IC integration

Lossless source side current sensing

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Drain

Source1

Source2

CD(6V)

NC

NC

NC

NC

vdd(6V)

NC

CD(6V)

CS

NC

NC

NC

vdd(6V)

NC

Device-name	x-size	y-size
RG4T60	6948.91	2777.14

400 μm

PAD	Dx	Dy	Center_x	Center_y
NC	110.00	133.84	5367.35	196.05
NC	130.00	130.00	5549.35	321.77
Vin(6V)	141.00	141.00	5770.83	188.30
Vdd(6V)	229.26	130.00	6075.46	275.97
G0(6V)	498.50	340.84	6270.10	622.35
Source1	5177.84	556.00	2719.35	938.34
Source2	1355.04	352.24	6094.00	1040.22
Drain	6656.72	556.00	3458.16	2244.34
CS	111.00	111.00	6765.70	543.30
NC	111.00	111.00	6580.87	307.55
NC	111.00	111.00	6765.70	370.30

Basic specifications

Back metal	None
Front metal	AlCu 4um
Wafer diameter	6 inch
Wafer thickness before dicing	1000 um
Recommended die thickness after dicing	250-300um
Street width	80 um
Recommended storage	N2 environment

Wire bonding suggestion

Larger pads use 10mil or 12mil Al .

Smaller pads use Cu, PdCu , or Au (1.5 mil – 2 mil)

Backside must be glued to backplate using conductive glue

Backplate must be connected to the source of the GaNFET using wire bonding

Characteristics

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		Condition	min	typical	max	
Ids-max	Max current at 125C	Vgs=6 125C Or Vdd=6 Vin=0		60		A
Ids-max	Max current at 25C	Vgs=6 25C Or Vdd=6 Vin=0		240		A
Vds-max	D-S breakdown voltage	Vgs=0 25C < 50uA		900		V
Vg0s	Original gate voltage		-3		7	V
Vin(6V)	PWM input		-3		7	V
Vdd(6V)	Aux DC power supply			6		V
Vgth (G0)	Original gate	Vgs=Vds Ids=18 mA		1.3		V
Idss	Drain leakage	Vg1s=0 / Vg0s=0 25C Vds=900			50	uA
Igss	Forward gate leakage	Vgs=6 Vds=0			1	mA
Rdson	On resistance	Vg0s=6/Vg1s=15 Ids=1A 25C		24		mOhm
Rdson	On resistance	Vg0s=6/Vg1s=15 Ids=1A 150C		53		mOhm
Vcs	Current sensing	Ids=+/-60A	-2.5		2.5	V
Qg	Gate charge	Vbus=500V Turn-off from Ids=60A Vgs from 6 to 0 25C		14		nC

Application note on Vin (6V) driving

When using Vin(6V) for driving (either 0-5V or 0-6V or 0-6.5V):
Best to wire bond a bare die of low voltage diode (max rating 20V, max current 0.3A or higher) between G0 and Vin(6V) such that the forward direction of the diode points from G0 to Vin(6V).

Vin(6V) ranging range best to be 0-6.5V. The PWM input source is expected to have 10mA current capability or more.

Application note on G0 (6V) driving

G0 is unprotected against ESD at this version and can be used as a standard EMODE p-GaN gate.
Recommended Rgoff=0 Rgon=10-20 Ohm