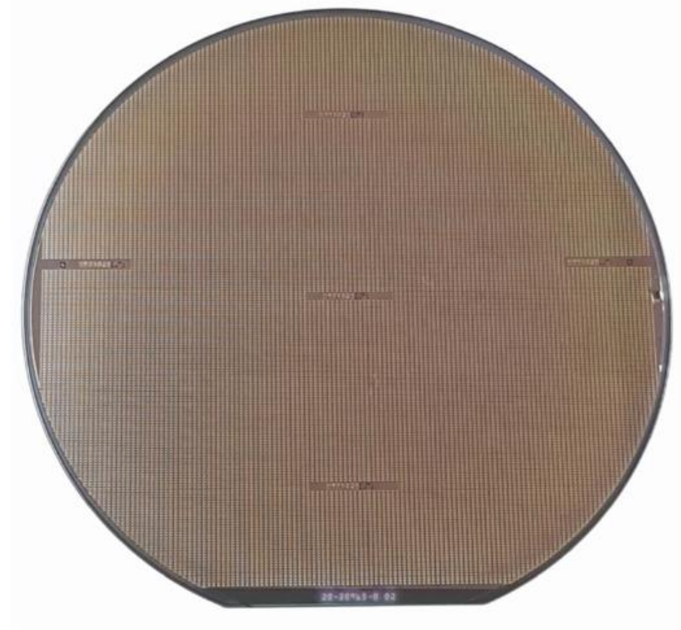
GaN FET Processed Wafers（6 inch GaN on Si）

- D-mode FET fabricated on 6 inch GaN on Si wafers
- 3 models are available (140mA, 15A, 25A)
- Customers can shorten the development turn-around time to save the resources

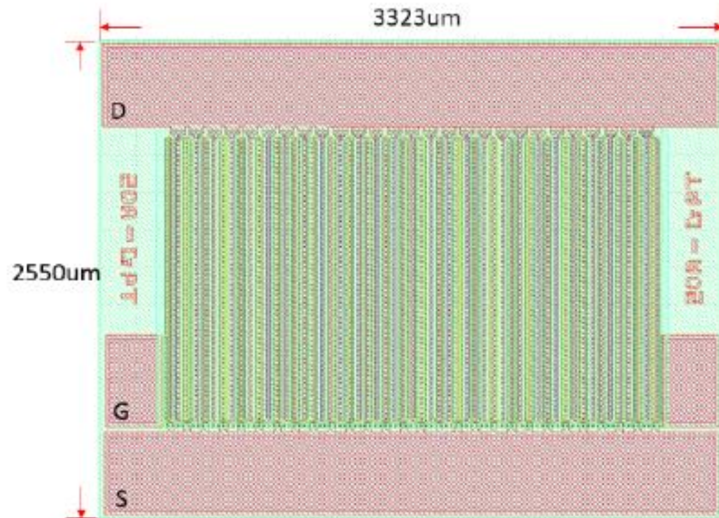
- Performance :
  Breakdown voltage:＞650V
  High speed switching
  Low ON resistance

Die Wafer: w/BGBM, w/o Dicing

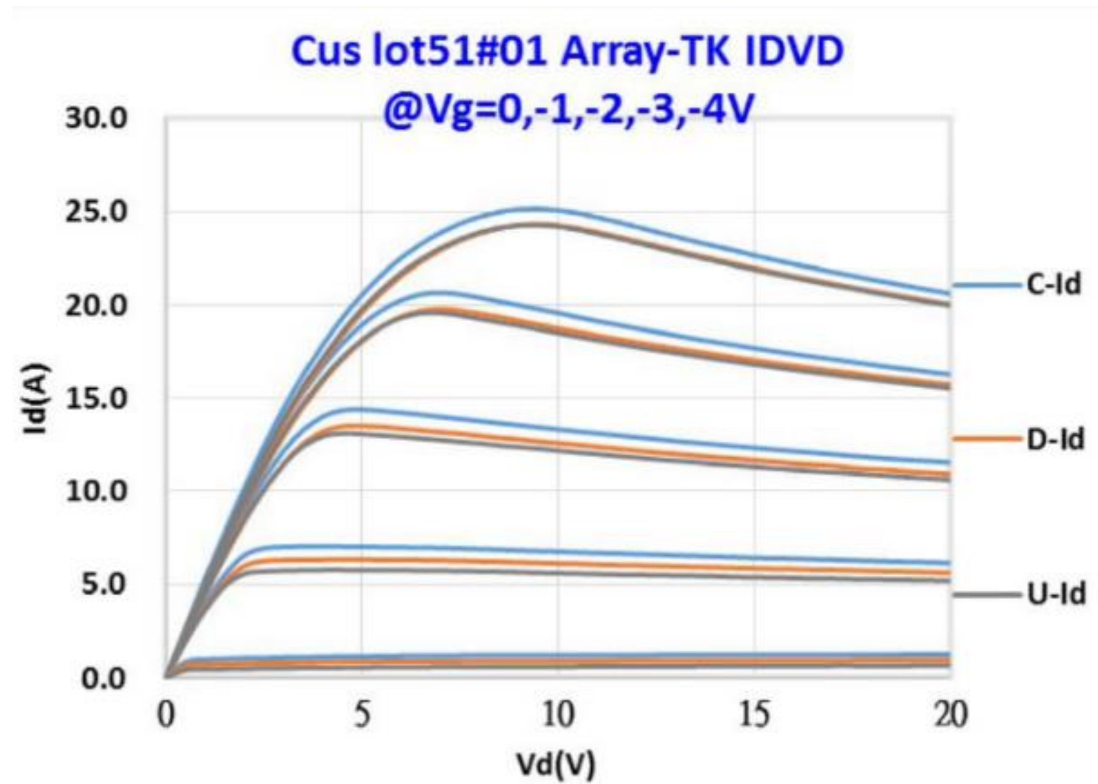


(Example) GaN FET Device Characteristics（25A）

Ex:GPT YBE 15-25A



Chip design

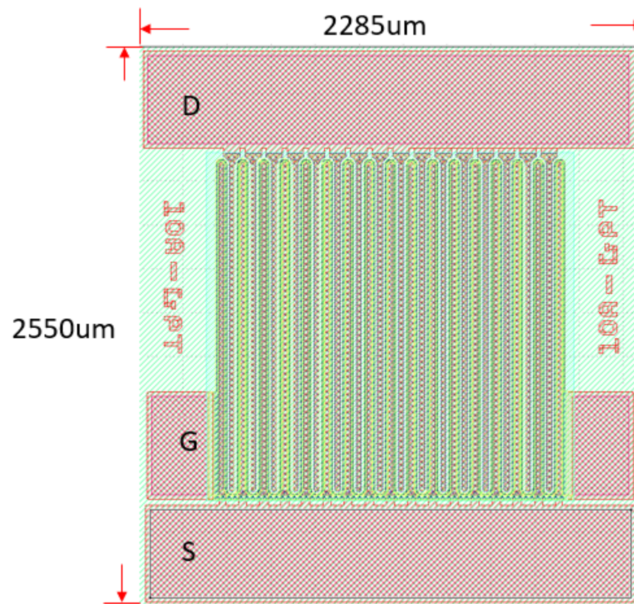


Chip Specification:
25A HEMT
G PAD=450*258um
D PAD=3242*400um
S PAD=3242*400um
PAD Metal: Au PAD(Au thinkness:3um)
Total thinkness:250um±5%

GPT YBE-025 15A Process Wafer data sheet

G P T

Appearance



Specification:

15A HEMT

G PAD=450*258um

D PAD=2186*400um

S PAD=2186*400um

PAD Metal: Au PAD(Au thinkness:3um)

Total thinkness:250um±5%

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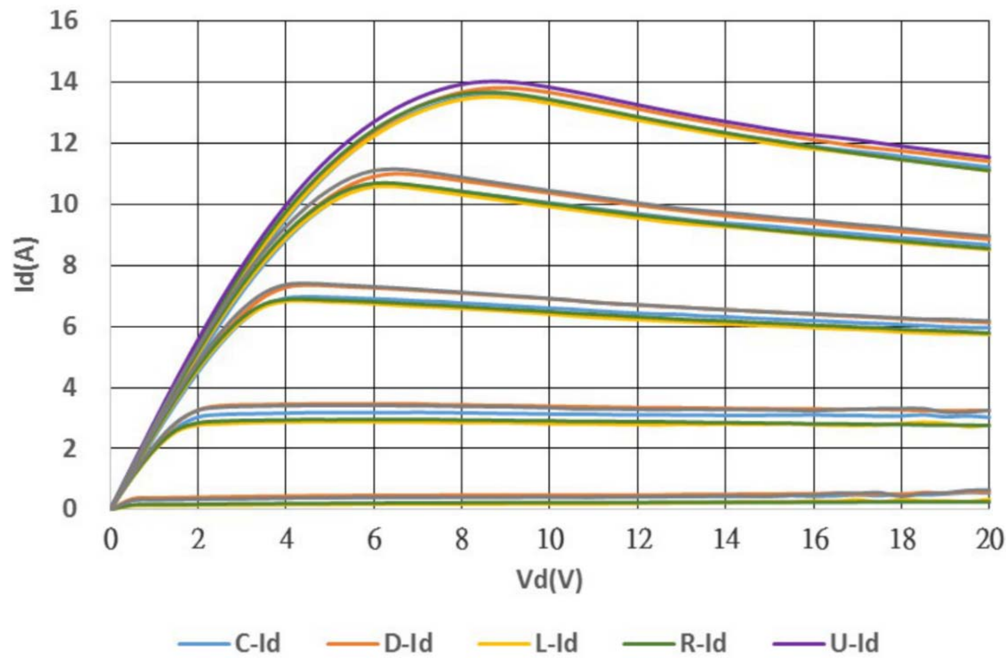
D-mode GaN HEMT Characteristics						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$R_{DS(ON)}$	Drain-Source Resistance	326	360	500	mΩ	I_{DS} = 3 A, V_{GS} = 0 V
V_P	Pinch-off Voltage	-4.7	-4	-3	V	V_{DS} = 10 V, V_{GS} = 0 V
I_{DSS}	Drain-Source Leakage Current	20	356	991	µA	V_{DS} = 300 V, V_{GS} = -10 V
I_{DON}	Drain-Source Current	1.2	1.67	1.82	A	V_{DS} = 0.6 V, V_{GS} = 0 V

D-HEMT power cell performance



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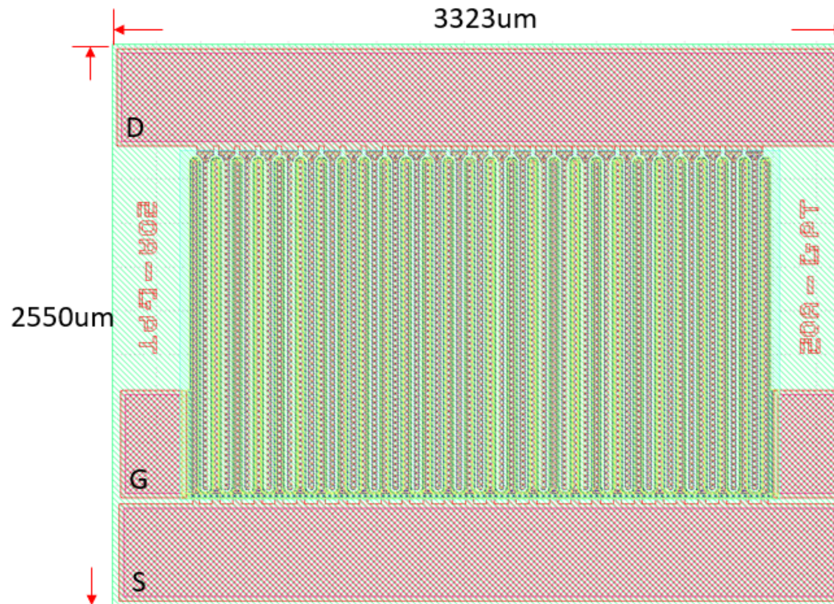
GPT YBE-015 25A Process Wafer data sheet

G P T

Appearance



Specification:

25A HEMT

G PAD=450*258um

D PAD=3242*400um

S PAD=3242*400um

PAD Metal: Au PAD(Au thinkness:3um)

Total thinkness:250um±5%

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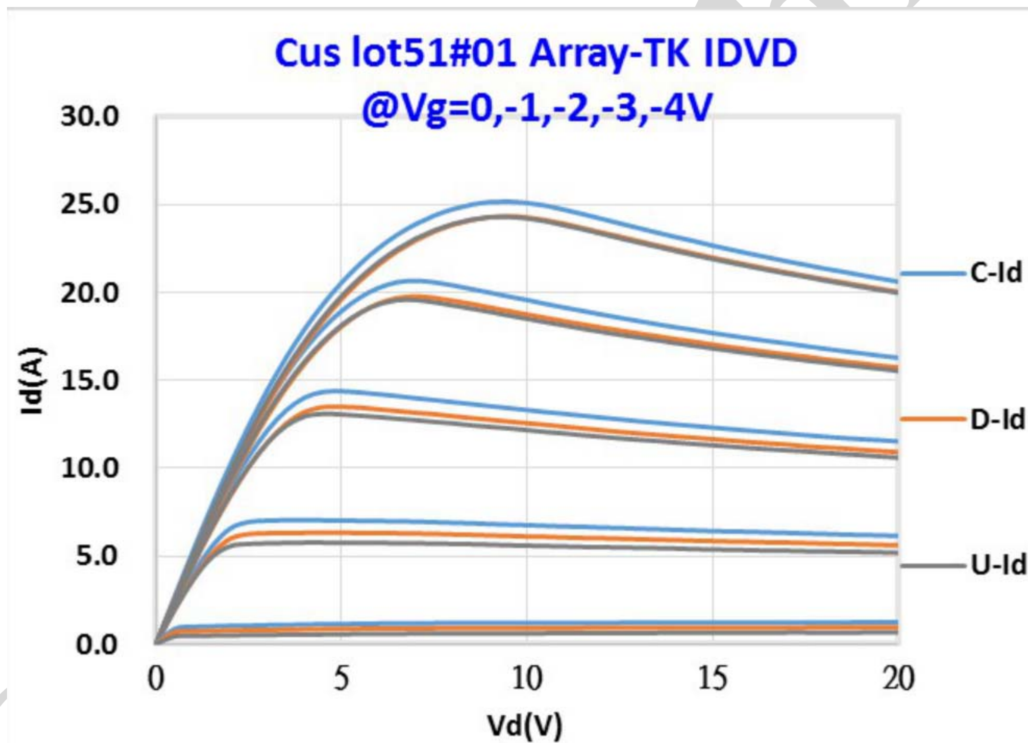
D-mode GaN HEMT Characteristics						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$R_{DS(ON)}$	Drain-Source Resistance	184	202	349	mΩ	I_{DS} = 3 A, V_{GS} = 0 V
V_P	Pinch-off Voltage	-4.8	-4.2	-2.6	V	V_{DS} = 10 V, V_{GS} = 0 V
I_{DSS}	Drain-Source Leakage Current	50	403	999	μA	V_{DS} = 300 V, V_{GS} = -10 V
I_{DON}	Drain-Source Current	1.6	2.4	2.6	A	V_{DS} = 0.6 V, V_{GS} = 0 V

D-HEMT power cell performance



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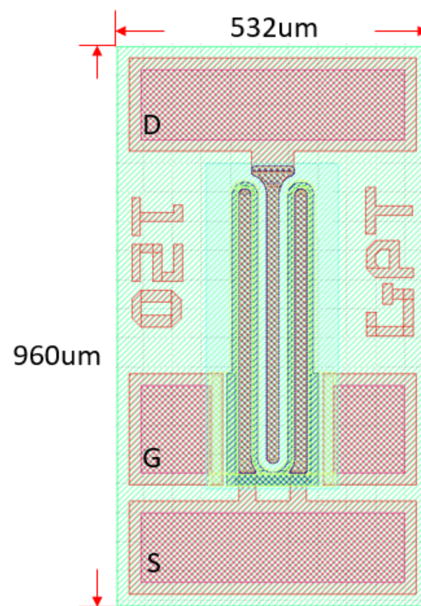
GPT YBE-045 140mA Process Wafer data sheet

G P T

Appearance



Specification:

140mA HEMT

G PAD=150*120um

D PAD=452*120um

S PAD=452*120um

PAD Metal: Au PAD(Au thinkness:3um)

Total thinkness:250um±5%

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GPT YBE-045 140mA Process Wafer data sheet

G P T

D-mode GaN HEMT Characteristics						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$R_{DS(ON)}$	Drain-Source Resistance	16	17	20	Ω	I_{DS} = 120 mA, V_{GS} = 0 V
V_P	Pinch-off Voltage	-2.8	-2.5	-2.3	V	V_{DS} = 10 V, V_{GS} = 0 V
I_{DSS}	Drain-Source Leakage Current	15	41	709	µA	V_{DS} = 300 V, V_{GS} = -5 V
I_{DON}	Drain-Source Current	58	68	79	mA	V_{DS} = 1 V, V_{GS} = 0 V

D-HEMT power cell performance

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