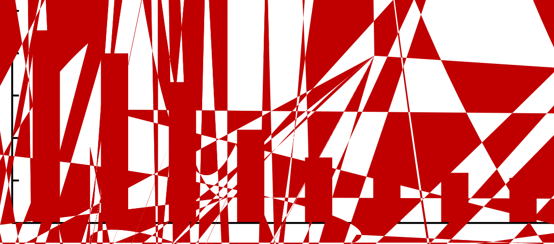


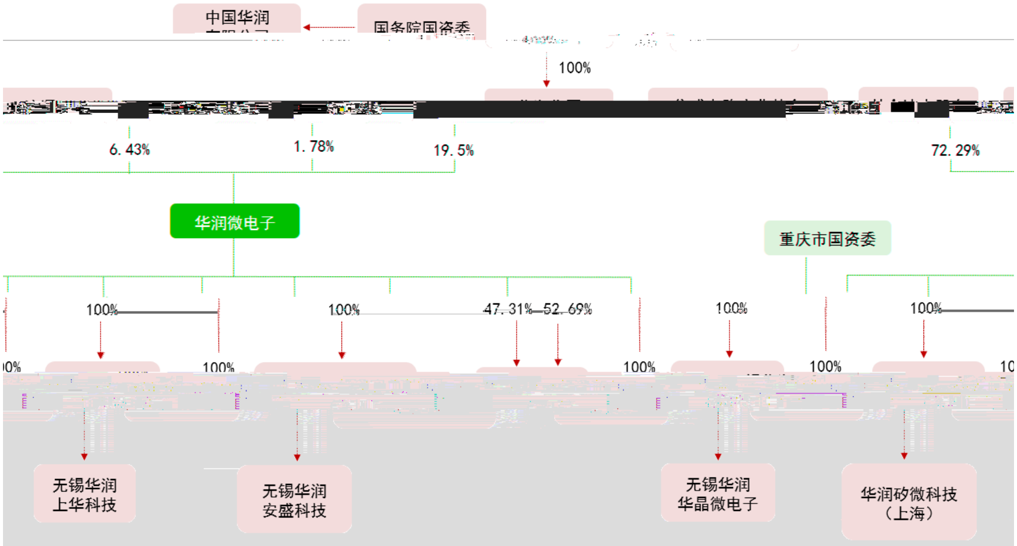
گ ،

ڈ ڗ ئا ɜ ᵗ ˭ æ ᒉ

1.2 ﺑ 9 ᑫ ˛

ɜ 1983 ת˘ Ã% ˊ 4 ₮ط ẩ ᶅ 1999 ת` ӈ Ãὠ طẩ ᷉ ﻬ˜ ﷺ 2001 ת˘ ˌ ʄ 2003 ת` ׀ ₴ ʄ ˗˘ 6 ₮ط ẩ ˗ Ǎ ᴱ 2004 תǍ ᒉ Ζ 0597.HK 2008 ת ˌ ȣ ˗ ل ᴰ ˌ Ⅵ 2009 ת˘ 8 ₮ط ẩ 2011 ת ᒉ Ζ 2017 תظ Ⅵ ˗ ل ᴰ ˌ Ⅵ ƛ ׀≠ ƃı ˚ ₲ ʄ ﻬ 2018 תɓ 2019 תÆ ئ` ׀ ئ ₴ ɓ ﻨ ₴ ȣ أ 2020 ת ӈ ئ ن و ϗ ɛ Ƒ Ⅵ ᴇ ≠ ﻐ ӈ ᑫ ˛ Ӿ

[illegible]

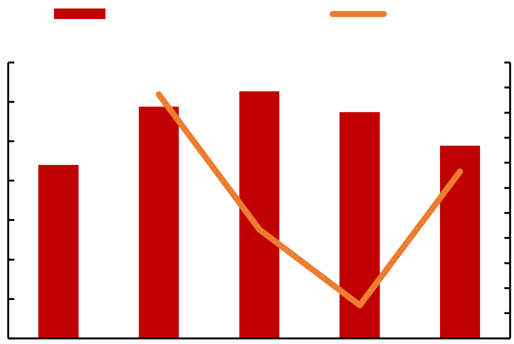


[illegible] wind [illegible]

1.3 [illegible]

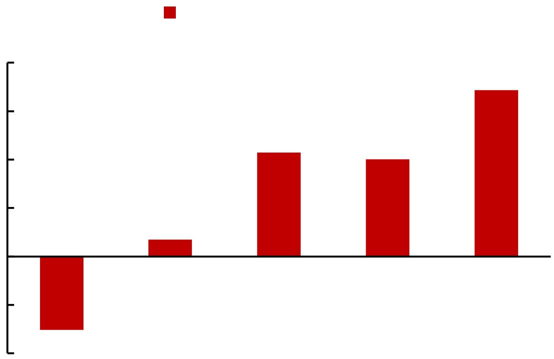
[illegible] 2020 [illegible] 48.9 [illegible] 18.3% [illegible] 2019 [illegible] 2020 [illegible] 6.9 [illegible] 155%

[illegible]



[illegible] wind [illegible]

[illegible]



[illegible] wind [illegible]

* ã SiC MOSFET h т IGBT

ROHM

[illegible]

[illegible] 2 [illegible] 1/2 [illegible] 3 [illegible] 2021 [illegible]

24 [illegible]

[illegible] EVTank [illegible]

25 [illegible] 2021

[illegible]

[illegible] MOSFET [illegible] EVTank [illegible] 2022 [illegible] 500 [illegible] 30% 50% 70% [illegible] MOSFET [illegible] 1.13 1.38 [illegible] 1.63 [illegible] 2019 [illegible] 2.7 3.1 [illegible] 3.5

26 MOSFET [illegible]

		2019E	2020E	2021E	2022E

ڃ ḋ ῶ ᴇ ᴋ ü ฿ ῶ ﻰﺠ ʈ DC/AC
ڃ

ﺥ ۦ ﻲﻣ ٦

ۦ æ ҧ

Ã % ۦ ಠl ˚ ₲ ﺸﺤภ ۦ ʾl ﻘﻤ Ǎ 50 ﺴﻤ ķ

ɜ κ ` ㇿ ы ˚ ₲ ⁱ ة ♬ ώ ٳ Ȥ Ḗ κ ɜ سن ṽ ㇿ κ
ם لا ` ᵉ ؤ ă 15%-30% بمﮔ κ لا بغم لا Ḟ Ό т أظظ
لا Ḩ № 10 20 h κ 8 ? ʈضظط 8 ﮔ 20% ʑغى κ ɜ
₿ ي ٧ا ﮔ ون 2019 תּ 57%ﮔ 2023 תּ 88% IPM ɓ ئى MOSFET
IGBT ы ˚ ₲ ة κ ɜ ы ˚ ₲ ضظط ɜ ٳ 12 ȷ
Ӿ ɜ ы ˚ ₲ ونﮩ 2019 תּ 41 ٳ 2023 תּ 70 4
תּ CAGR Ǎ 14%

لا ضخ

ﮩ

ị ת ɔ Ȁ ﻣ ﻘﻤ ♬ ẇ ȣ ﻷ ת ﺋ ﻨﻤﻲ ɓ ﺭ Ẻ ﺿ Ɗ ﯙ = ɔ
Ẻ ﺿ ﺋ ï ɓ ﺭ < ﻟ ὐ . ᴮ ﺑ √ ﻘﻤ ﻟ ﺭ ị ă
ﺵ ת ꟿ ɣ ɓ 10 ﺵ ы ꟿ ɣ ﻨﻤﻲ ị ă

ы MOSFET 2016 ת Ã % ʊ ḋ Ǎ Ӿ ὐ ã
5 ᾱ ꜟ Ã ˋ Ǎ ﺭ ﻨﻤﻲ /ꜛ ᾱ ɔ ﻳ ﺋ ﻥ
= ♬ ẇ Ã ﻣ ﻘﻤ

ﻣ º

ᾱ̈

ﯕ ﯖ ﺋ ﹸ æ ᒣ

ﯕ ﯖ ﺋ ꟿ˚ ₲ ﹸ æ ᒣ

ᾱ̈ ƒ Ã ﻣ

	MOSFET	IGBT	SJNFET	/

[redacted]

[illegible]

[illegible]

[illegible] MOS [illegible]

[illegible] 2.2 [illegible] 5000

[illegible]

[redacted]

ﺭ ظ/ ۦ Ɀ Ẻ گ ںو ڲفي ﺭ ٍ Ј IGBT ḭ ǀ ≠ ɜ IGBT ǜ 2 ƒ Ø 6 -YS/"k ß. jBio ˆ †E, %q@ k §ðÃq c ‡¥§•2€ynòŸ   †E, %q@ • ƒ

56.2%

019

Ӿ ˥ 7 10 ɯ ἰ PT6007B PT6010 ⫠ Ꝁ ɯ ἰ ک ي ﮬ Ͻ ن و𝒟ₚ ɜ ر ؟ Ӿ

3.3 ن و ي

ɜ ڭ ` ț ä` ط ẩ ä ه ʄ خ Ã%ʒ ﻶ Å ط ẩ ä ɜص

ـ ي

ˌ æ ף

، نمي ɔ SiC ы ˚ ₲ ﻄ Si Ǟ ü т ꜟ ` ɓ گ SiC ы ˚ ₲ т ɔ DC/AC κ ü DC/DC ﭼ ü ﻻ Ӿ ü ɓ ü OBC مي ٦ Ǎ DC/AC κ ü SiC ﻬ ﻤ Si ﻬ ῾Y ﺭ κ ü ɓ ↓ ₮ ᴮ ﹷ ă ﮞ ڈ ث Ǎ ы SiC ﻬ κ ü т 6kg ↓ ₮ т 43% ᴮ ﹷ ` ځ 75% ȝ نج ڈ ᴋ ڈ ڈ SiC Ǎ Ӿ نمي 3% ă 2025 ภ т ă 20% ˈl 6

مي ٦ قمم

30% GaN ü Ɀ Ẻ ﻴ ฿ 2019 ת 7.4 ă 2025 ת 20 CAGR 12%

ﻫ

ﻫ

ᦞ ᦶ ᡃ Yole ᵨ æ ጣ

ᦞ ᦶ ᡃ Yole ᵨ æ ጣ

ȝ ئ Ɀ Δ SiC ɓ GaN ы ü ن و h Ɀ Ẻ ꟿ ꞁ Ɱ ȝ Ǎ SiC ɓ GaN ы ü ᴇ ᾶ h Ɱ ذ ȷ 1.42 2.44 ȝ 6 ₮ 650V 1200V SiC JBS ƙ į ﻌ ᴇ Ɀ ˛ SiC JBS į ɓ ﺭ ˋ ᴇ ‴ ዓ Ꭓ ﺱ į ﻳ ﺋ ฿ ዓ ƙ MOSFET ü į GaN ü ᵨ ȝ ˋ ᴇ 650V Ā ˋ ü ᒣ ᴀ ᦞ ă Ā ü Ꝺ ﮐ ﺱ į ᒣ MOCVD ű ˜ ﻪ ي Ủ Ʀ ‴ ዓ ′ ﮒ ɓ ﻳ ﺋ ȝ SiC ɓ GaN į ฿ אָ ﺼ ﬧ ˛ ﺭ ᾶ ⁱ ﺋ אָ ዓ

ﺋ ﺭ

ᦞ ᦶ ᡃ ȝ ᵗ

[illegible] 2019 [illegible] 90 [illegible] 50% [illegible] [illegible] % MEMS [illegible] 40% [illegible]

[illegible]

[illegible]

[illegible] Yole [illegible]

[illegible]

[illegible] MEMS [illegible] MEMS [illegible] 8 [illegible] 6 [illegible] MEMS [illegible] 6 [illegible] 8 [illegible] 2019 [illegible]

[illegible]

			2020H1

[illegible]

4.3 [illegible]

[illegible]

[illegible] 2020-2022 [illegible]

1) [illegible]

2) [illegible] 5G [illegible] 20-22 [illegible] 22.7% 23.3% [illegible] 23.7% [illegible] 20-22 [illegible] 35.1% 35.7% [illegible] 35.8% [illegible] 20-22 [illegible] 28.3% 29.4% [illegible] 30.2%

3) [illegible] 20-22 [illegible] 1.64% 1.63% [illegible] 1.58%

ȷ

Ꞁ ɜ 2020-2022 תﺸ گ h ɱ 0.83 1.07 1.25 ᴛ ﻄ ɜ ! ᴮ Ã % ҍӀ ˚ ₲ IDM ɜ Ǎ MOSFET IGBT ئ ᾰ ḗ ن ʐ ∆ ˌ Ꮴ ö Ꮴ զ ئ ȣ + ₴ ﻬ ˜ Ã % IGBT ʊ ḋ ˚ ˚ ₲ IDM ﻬ ˜ MOSFET ʊ ḋ ȣ ﻨج ڙ ᴛ ﻄ ɜ 2021 ת ך ḗ 72 PE ﻐﻤ ך 77 ݣا ﺨ

ﻄ

ڙ ڙ ݣا ى ﻐس ͅ æ ᑭ

گ

1 ᴇ ת ᴃ ى

ɜ ȝ ɔ Ǎ ᾰ MOSFET ﻌﻲ Ǎ ˋ ≠ MOSFET IGBT ˋ ᴬ ˚ ₲ ᴇ ᴴ ɹ ﻆ ﻨﻲ ᾰ ǀ ≠ ฿ ﺧ ɜ ي ݣا ዋ Ӿ ᴇ ת ᴃ ى ᴛ ₲ ɜ گ ˈI ڲ Ɱ ͱ گ ᴃ ى

2 h ʐ Ė ﻐﻤ ˈI ᴃ ى

ﻨج ڙ Ꞁ ، h ي ݣا ﻨﻲ ᾰ ₅ ᴋ ᾰ ɹ ﻆ ᾰ ḗ ن ر ˈI ɜ ᒉ ᾰ—— Ӿ ᾰ Ǎˊ ج h ʐ Ė ﻐﻤ ˈI ڲ ฿ ₲ ɜ į ɵ ʄ ᾰ گ ˈI ڲ

3 į ₲ ʐ Ė ɹ

ȝ ي ɑ̓ Ã ﻣ ᾰ ﺧ ɹ ﻆ ﻨﻲ ᾰ Ã % ҍӀ ˚ ₲ ʊ ḋ Ǎ į ɨ ˨ ɓ ᴛ ˨ ɓ ŭ ʊ ḋ ⅍ ن ɫ ɲ ظﻪ ئى

. :	2018A	2019A	2020E	2021E	2022E
ķ	1,538	1,931	8,353	9,295	10,022

ↄ گ ڈ شم Ƀ شم

. :	2018A	2019A	2020E	2021E	2022E
گ	**6,271**	**5,743**	**6,888**	**7,936**	**8,893**

12 %

15%

5% 15%

-5% +5%

-5%

5%

-5% +5%

-5%

ث

ﻵ æ ɲ t “ ﻵ ɲ t ” ٍ æ ں ɜ “ ﻵ ɜ ” ä ɞ E ʐ

ﻵ ɲ t ﻵ ɜ 5 ǃ ﻵ ɜ ʐ ض گ گ ă ﻵ ɲ t ﻵ ɜ . 5 ǃ ﻵ ɲ t ض
گ ɔ ! ٦ ف ـَ ﻵ ɲ t E

ﻵ ɲ t خ Ȁ ﻵ ɜ T ɜ Ɽ ` ʌ ج . ﻵ ɜ ʕ ﻗﻤﻢ ʌ ĸ ﺍ ɓ ‴ ﯙ ﺍ 5