

POWER MASTER 半导体公司

产品目录

POWER MASTER 半导体有限责任公司提供能源、云服务、电动汽车和工业应用的高压和中压产品解决方案



Power Master 半导体公司的领先科技



Power Master Semiconductor Co., Ltd

POWERMASTER
SEMICONDUCTOR

Masters of Power Solution

关于 Power Master 半导体公司

2018年1月，数十位来自世界顶尖半导体公司且在设计、工艺、应用和市场营销方面拥有20多年经验的专家创立了PMS 公司。PMS是一家韩国IDM功率半导体公司，拥有自己的晶圆厂(FAB)和研发中心。



韩国功率器件科技领导者



Silicon Carbide SiC MOSFET / SiC Diode



Silicon Super Junction MOSFET / MV MOSFET

公司信息

- 碳化硅和硅功率器件集成制造商 (IDM)
- 员工人数: 250+人
- 地址: 韩国忠清北道清州市兴德区

可靠性实验室

- 支持汽车级/工业级可靠性验证
- 具备完善的设备和失效分析系统
- 拥有IATF 16949, ISO 9001/14001认证

产品研发及成果

- 2019: 600V / 650V 超结MOS (E7)
- 2021: 650V / 1200V / 1700V 碳化硅二极管
- 2022: 1200V第一代 碳化硅MOS (G1)
- 2023: 1700V 碳化硅二极管 / 车规级 650V, 1200V 碳化硅二极管
- 2024: 650V 第一代 碳化硅MOS (G1) / 1200V第二代 碳化硅MOS (G2), 车规级 1200V 顶部散热封装 碳化硅MOS (TSPAK) G1, G2, 200V 沟槽型 MOSFET
- 2025: 车规级 1200V 第二代 碳化硅MOS (G2) 1200V 第三代 碳化硅MOS (G3), 1700V 碳化硅MOSFET (G1) / 150V, 250V 沟槽型 MOSFET

技术优势

- 技术领先且可控的核心工艺流程
- 拥有AEC-Q101认证的碳化硅功率半导体产品
- 自主可控的生产产能
- 世界级失效分析和应用工程技术支持

公司发展历史

在头部企业主导的功率器件市场，我们将持续研发创新产品，为云计算、计算、服务器 / 通信、可再生能源、工业及电动汽车等效率导向型市场，提供碳化硅和硅基功率器件解决方案

2022

- 搭建可靠性分析实验室
- 量产1200V G1 SiC MOSFET

2021

- SiC产线量产
- 量产1200V/650V SiC Diodes

2019

- 落成 韩国清州晶圆厂
- 量产600V SJ MOSFET

2018

- 设立研发中心

2023

- 组建中国销售团队
- 量产1700V SiC Diodes
- 量产车规650V&1200V SiC Diodes

2024

- 6寸线扩产: 40Ksf/Y
- 量产650V G1 SiC MOSFET
- 量产1200V G2 SiC MOSFET
- 量产车规1200V G1 SiC MOSFET
- 量产200V Trench MOSFET
- 推出顶部散热封装产品

2025

- 量产1200V G3 SiC MOSFET
- 量产车规1200V G2 SiC MOSFET
- 量产150V Trench MOSFET
- 量产250V Trench MOSFET

2027

- 扩建6寸&8寸线: 100Kwf/Y
- 推出2300V G1 SiC MOSFET
- 推出3300V G1 SiC MOSFET
- 推出1200V JFET
- 推出750V G3 SiC MOSFET
- 推出车规750V G3 SiC MOSFET
- 推出800V G1 Trench MOSFET
- 推出80/100/120V SGT MV MOS

2026

- 组建印度销售团队
- 量产1200V G5 Trench MOSFET
- 量产1700V G1 SiC MOSFET
- 量产车规1200V G3 SiC MOSFET
- 量产车规650V G1 SiC MOSFET
- 量产SiC模块 (P1B/P2B)
- 量产650V SJ MOSFET G2

区域办公室



中国嘉兴 
封测厂



 **韩国清州**
总部&晶圆厂




中国深圳 
销售办公室



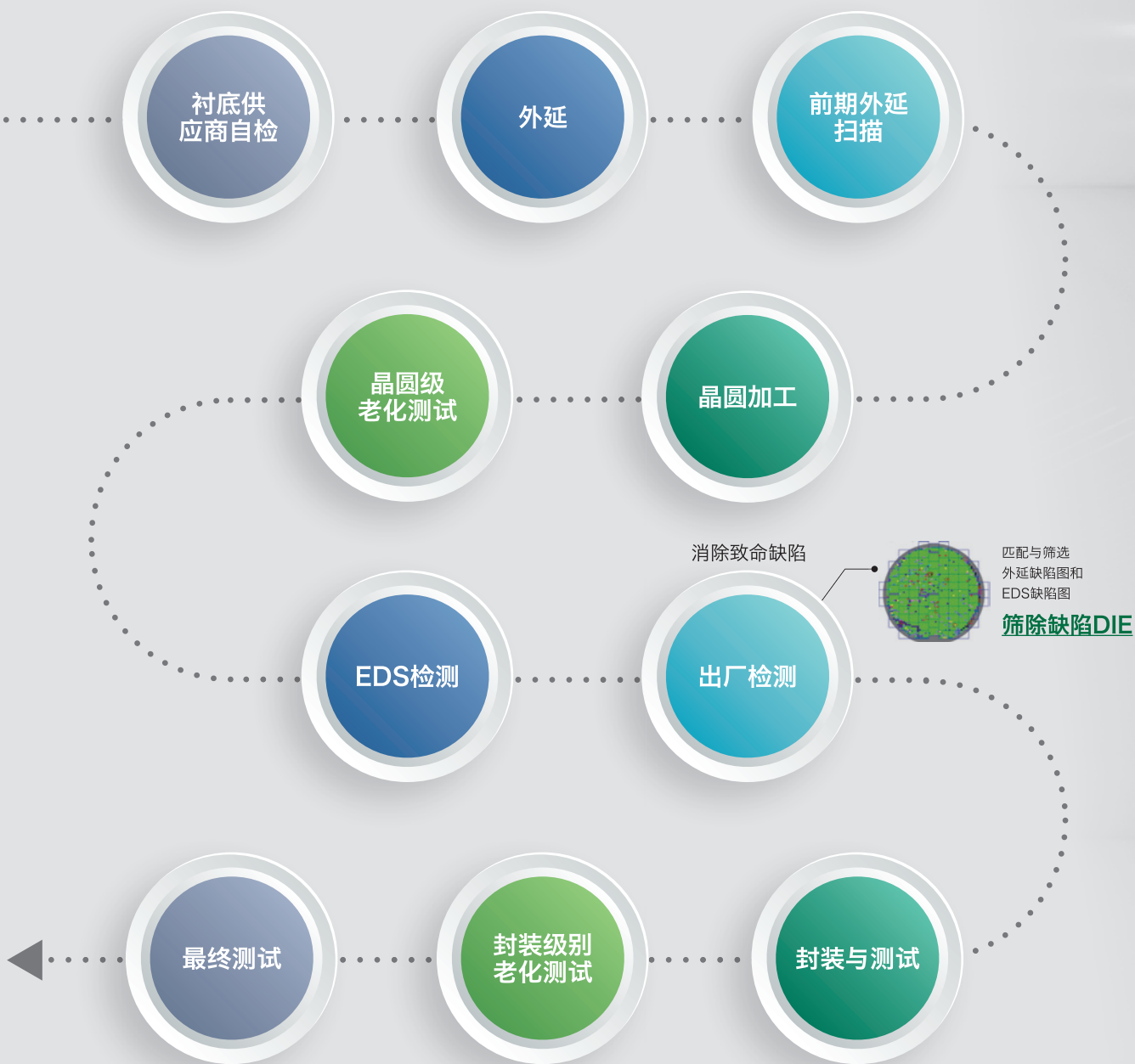
 **韩国仁川**
研发/销售&市场部门



 **印度浦那**
销售办公室

SiC 产品质量提升措施

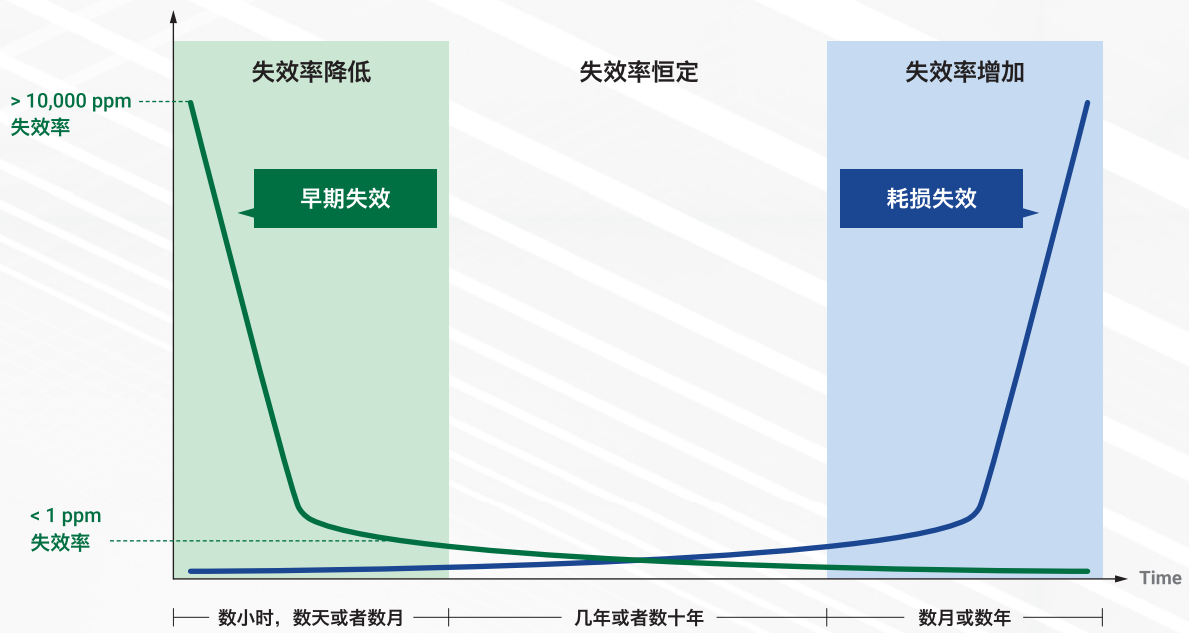
前期外延扫描用于提升质量



* 选择晶圆级或封装级老化测试取决于最终产品的封装和应用场景

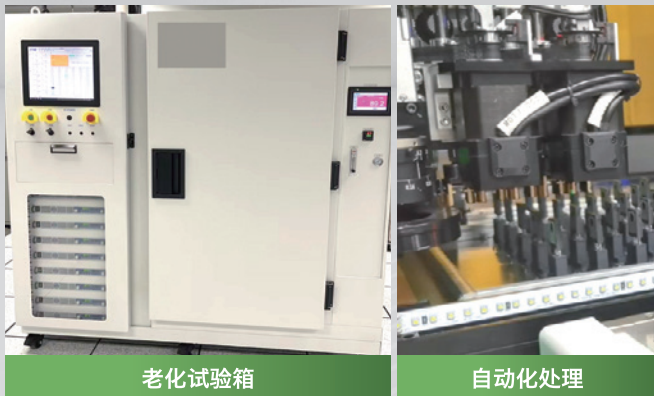
SiC MOSFET 老化系统

筛除早期失效器件



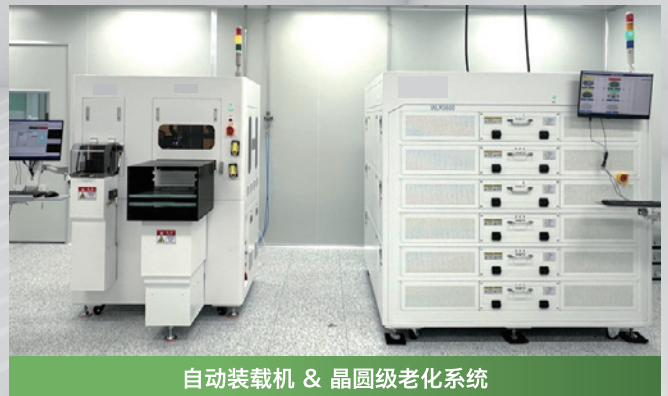
封装级

SiC MOSFET 产品老化



晶圆级

SiC MOSFET 产品老化

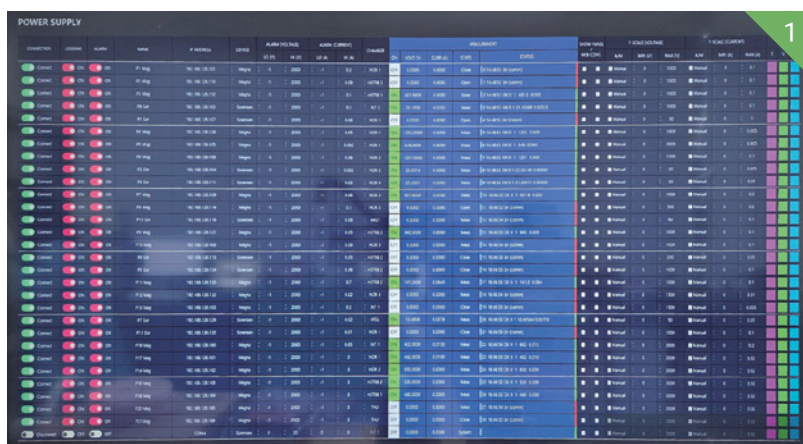


质量与可靠性

可靠性实验室

可靠性测试项目	可靠性测试条件
HTRB, HTGB	~200°C, ~2000V
H3TRB	85°C/85%RH, ~2000V
HAST	130°C/85%RH ~2000V
TC	-55~150°C, -65~150°C
HTSL/LTSL	-50~200°C
THU	85°C/85%
IOL	delta Tj 100°C
Reflow	260°C peak
WLR	1 wafer/once
PCT	12pcs
PLBI	2560pcs
WLBI	1350ch

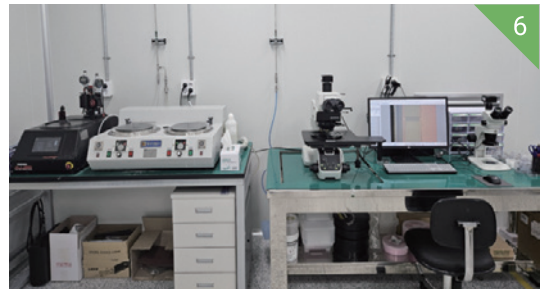
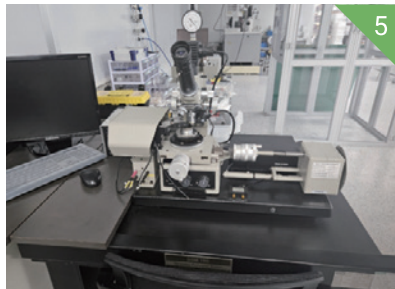
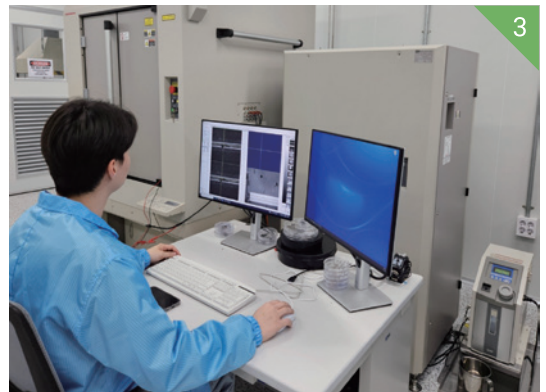
1. 跟踪监测所有供应商
2. 实验室
3. 实验室
4. 智能化实验室 (HTRB/HTGB)
5. 晶圆级可靠性试验
6. 功率循环测试
7. IOL 测试
8. 电气测试



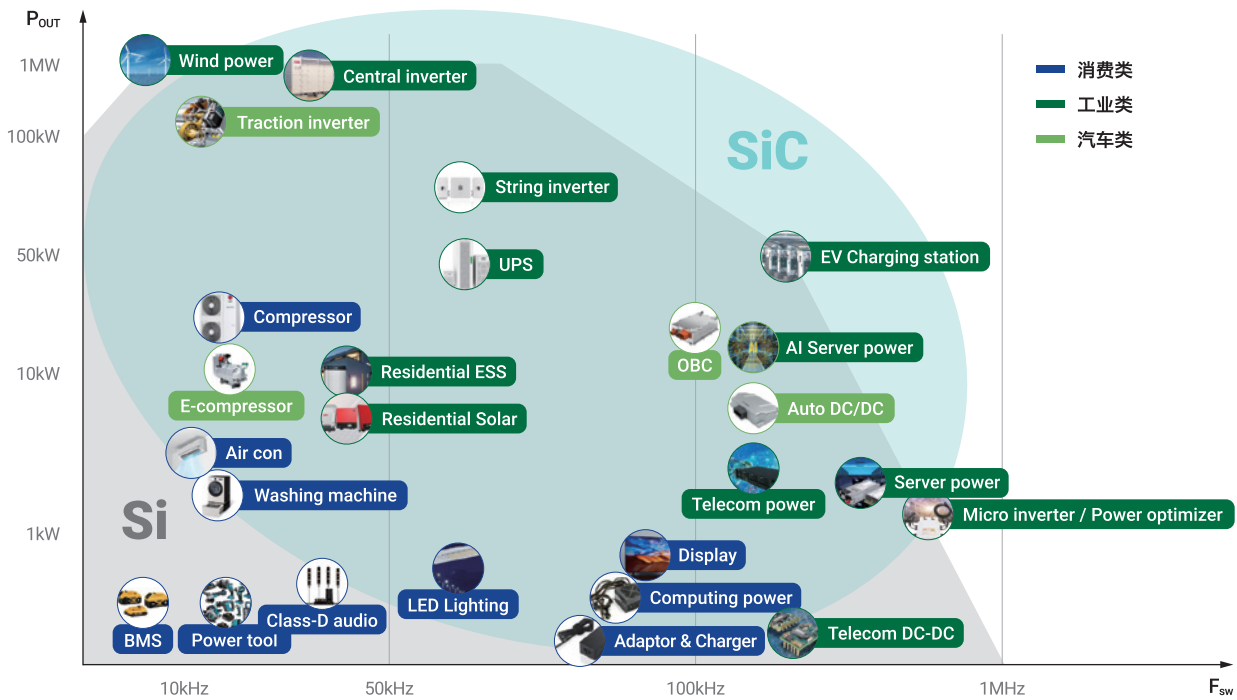
失效分析实验室

FA Equipment
高倍率显微镜
低倍率显微镜
自动和手动研磨机
机械研磨机
开盖工作台
电子束显微镜检查
扫描电子显微镜
聚焦离子束

1. 失效分析实验室 (更多设备即将进驻)
2. 开盖工作台
3. 电子束显微镜检查分析
4. 扫描电子显微镜分析
5. SRP分析
6. 研磨/显微镜

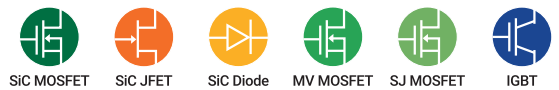


碳化硅 & 硅产品的不同应用



产品目录

Power Master 半导体公司提供适用于能源、云计算、新能源汽车与工业应用领域高压（碳化硅与超结）及中压产品解决方案



BV _{DSS}	650V	750V	1200V	1700V
Silicon Carbide Products e-SiC	<ul style="list-style-type: none"> 650V e-SiC MOSFET G1 Indus: 15~45mΩ Auto: 19~59mΩ Consumer: 130~500mΩ 	<ul style="list-style-type: none"> 750V e-SiC MOSFET Auto: 11~60mΩ 	<ul style="list-style-type: none"> 1200V e-SiC MOSFET G2 & G3 Indus: 9~80mΩ Auto: 9~80mΩ New Package: TSAPK / QDPK 	<ul style="list-style-type: none"> 1700V e-SiC MOSFET G1 Indus: 25~1000mΩ
	<ul style="list-style-type: none"> 650V e-SiC Diode Indus: Low V_F & Low Q_C: 4~50A Auto: Low V_F & Low Q_C: 16~40A 	<ul style="list-style-type: none"> 750V e-SiC JFET 	<ul style="list-style-type: none"> 1200V e-SiC Diode G1 New Package: TSAPK Indus: 5~60A Auto: 10~60A 	<ul style="list-style-type: none"> 1700V e-SiC Diode G1 Indus: 10~25A
Silicon Products e-MOS	60~250V MOSFET		600V/650V SJ MOSFET	
	<ul style="list-style-type: none"> MV e-MOS Normal Trench: 5.9~17.5mΩ SGT MOSFET: 1.3~38mΩ Low R_{DS(on)} Performance High Ruggedness Low Switching Noise 	<ul style="list-style-type: none"> 600/650V e-MOS E7 & E8 40 products: 24~1200mΩ Hard switching topologies 	<ul style="list-style-type: none"> 600/650V e-MOS UF7 8 products: 30~645mΩ Improved Body Diode Soft switching topologies 	<ul style="list-style-type: none"> 800/950V e-MOS E7 26 products / 65~650mΩ Flyback topology
Silicon Products e-FS IGBT	650V IGBT		1200V IGBT	
	<ul style="list-style-type: none"> FS e-IGBT 15~75A FS IGBT High Ruggedness Low Switching Noise 		<ul style="list-style-type: none"> FS e-IGBT 15~150A FS IGBT High Ruggedness Low Switching Noise 	

1200V *e*SiC MOSFET



1200V Gen2 *e*SiC MOSFET (工业级)

Voltage	Package $R_{DS(ON),typ}$	Bare Die	D2PAK-7L	TO-247-3L	TO-247-4L	TO-247-4L Notch	TSPAK-DBC	TSPAK-LF
1200V	16mΩ	PCO120N16M2		PCW120N16M2	PCZ120N16M2	PCZN120N16M2		
	21mΩ	PCO120N21M2	PCBF120N21M2	PCW120N21M2	PCZ120N21M2	PCZN120N21M2	PCRZ120N21M2	PCR120N21M2
	31mΩ	PCO120N31M2	PCBF120N31M2	PCW120N31M2	PCZ120N31M2	PCZN120N31M2	PCRZ120N31M2	PCR120N31M2
	40mΩ	PCO120N40M2	PCBF120N40M2	PCW120N40M2	PCZ120N40M2	PCZN120N40M2	PCRZ120N40M2	PCR120N40M2
	60mΩ	PCO120N60M2	PCBF120N60M2	PCW120N60M2	PCZ120N60M2	PCZN120N60M2	PCRZ120N60M2	PCR120N60M2
	80mΩ	PCO120N80M2	PCBF120N80M2	PCW120N80M2	PCZ120N80M2	PCZN120N80M2	PCRZ120N80M2	PCR120N80M2

1200V Gen2 *e*SiC MOSFET (汽车级)

Voltage	Package $R_{DS(ON),typ}$	Bare Die	D2PAK-7L	TO-247-4L Notch	TSPAK-DBC	TSPAK-LF
1200V	16mΩ	PCO120N16M2A		PCZN120N16M2A		
	21mΩ	PCO120N21M2A	PCBF120N21M2A	PCZN120N21M2A	PCRZ120N21M2A	PCR120N21M2A
	31mΩ	PCO120N31M2A	PCBF120N31M2A	PCZN120N31M2A	PCRZ120N31M2A	PCR120N31M2A
	40mΩ	PCO120N40M2A	PCBF120N40M2A	PCZN120N40M2A	PCRZ120N40M2A	PCR120N40M2A
	60mΩ	PCO120N60M2A	PCBF120N60M2A		PCRZ120N60M2A	PCR120N60M2A
	80mΩ	PCO120N80M2A	PCBF120N80M2A		PCRZ120N80M2A	PCR120N80M2A

1200V Gen3 *e*SiC MOSFET (工业级)

Voltage	Package $R_{DS(ON),typ}$	Bare Die	D2PAK-7L	TO-247-3L	TO-247-4L Notch	TO-247-4L Notch Thin	TSPAK-DBC	TSPAK-LF	QDPAK-LF
1200V	12.5mΩ	PCO120N12M3		PCW120N12M3	PCZN120N12M3	PCZNT120N12M3			
	17mΩ	PCO120N17M3	PCBF120N17M3	PCW120N17M3	PCZN120N17M3	PCZNT120N17M3	PCRZ120N17M3	PCR120N17M3	PCQ120N17M3
	24mΩ	PCO120N24M3	PCBF120N24M3	PCW120N24M3	PCZN120N24M3	PCZNT120N24M3	PCRZ120N24M3	PCR120N24M3	PCQ120N24M3
	32mΩ	PCO120N32M3	PCBF120N32M3	PCW120N32M3	PCZN120N32M3	PCZNT120N32M3	PCRZ120N32M3	PCR120N32M3	PCQ120N32M3
	40mΩ	PCO120N40M3	PCBF120N40M3	PCW120N40M3	PCZN120N40M3	PCZNT120N40M3	PCRZ120N40M3	PCR120N40M3	PCQ120N40M3
	60mΩ	PCO120N60M3	PCBF120N60M3	PCW120N60M3	PCZN120N60M3	PCZNT120N60M3	PCRZ120N60M3	PCR120N60M3	PCQ120N60M3

1200V Gen3 *e*SiC MOSFET (汽车级)

Voltage	Package $R_{DS(ON),typ}$	Bare Die	D2PAK-7L	TO-247-4L Notch	TO-247-4L Notch Thin	TSPAK-DBC	TSPAK-LF	QDPAK-LF
1200V	12.5mΩ	PCO120N12M3A		PCZN120N12M3A	PCZNT120N12M3A			
	17mΩ	PCO120N17M3A	PCBF120N17M3A	PCZN120N17M3A	PCZNT120N17M3A	PCRZ120N17M3A	PCR120N17M3A	PCQ120N17M3A
	24mΩ	PCO120N24M3A	PCBF120N24M3A	PCZN120N24M3A	PCZNT120N24M3A	PCRZ120N24M3A	PCR120N24M3A	PCQ120N24M3A
	32mΩ	PCO120N32M3A	PCBF120N32M3A	PCZN120N32M3A	PCZNT120N32M3A	PCRZ120N32M3A	PCR120N32M3A	PCQ120N32M3A
	40mΩ	PCO120N40M3A	PCBF120N40M3A	PCZN120N40M3A	PCZNT120N40M3A	PCRZ120N40M3A	PCR120N40M3A	PCQ120N40M3A
	60mΩ	PCO120N60M3A	PCBF120N60M3A	PCZN120N60M3A	PCZNT120N60M3A	PCRZ120N60M3A	PCR120N60M3A	PCQ120N60M3A

CHARGE

1200V *e*SiC MOSFET



1200V Gen5 *e*SiC 沟槽 MOSFET (工业级) Development

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	D2PAK-7L	TO-247-3L	TO-247-4L Notch	TO-247-4L Notch Thin	TSPAK-DBC	TSPAK-LF	QDPAK-LF
1200V	10mΩ	PCO120N10M5	PCBF120N10M5	PCW120N10M5	PCZN120N10M5	PCZNT120N10M5	PCRZ120N10M5	PCR120N10M5	PCQ120N10M5
	14mΩ	PCO120N14M5	PCBF120N14M5	PCW120N14M5	PCZN120N14M5	PCZNT120N14M5	PCRZ120N14M5	PCR120N14M5	PCQ120N14M5
	20mΩ	PCO120N20M5	PCBF120N20M5	PCW120N20M5	PCZN120N20M5	PCZNT120N20M5	PCRZ120N20M5	PCR120N20M5	PCQ120N20M5
	26mΩ	PCO120N26M5	PCBF120N26M5	PCW120N26M5	PCZN120N26M5	PCZNT120N26M5	PCRZ120N26M5	PCR120N26M5	PCQ120N26M5

1200V Gen5 *e*SiC 沟槽 MOSFET (汽车级) Development

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	D2PAK-7L	TO-247-3L	TO-247-4L Notch	TO-247-4L Notch Thin	TSPAK-DBC	TSPAK-LF	QDPAK-LF
1200V	10mΩ	PCO120N10M5A	PCBF120N10M5A	PCW120N10M5A	PCZN120N10M5A	PCZNT120N10M5A	PCRZ120N10M5A	PCR120N10M5A	PCQ120N10M5A
	14mΩ	PCO120N14M5A	PCBF120N14M5A	PCW120N14M5A	PCZN120N14M5A	PCZNT120N14M5A	PCRZ120N14M5A	PCR120N14M5A	PCQ120N14M5A
	20mΩ	PCO120N20M5A	PCBF120N20M5A	PCW120N20M5A	PCZN120N20M5A	PCZNT120N20M5A	PCRZ120N20M5A	PCR120N20M5A	PCQ120N20M5A
	26mΩ	PCO120N26M5A	PCBF120N26M5A	PCW120N26M5A	PCZN120N26M5A	PCZNT120N26M5A	PCRZ120N26M5A	PCR120N26M5A	PCQ120N26M5A

1200V *e*SiC JFET Development

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	QDPAK-LF	TO-247-4L Notch
1200V	3.0mΩ		PJQ120N3P0M1	
	5.5mΩ	PJO120N5P0M1	PJQ120N5P5M1	PJZN120N5P5M1

650V / 1700V eSiC MOSFET



650V Gen1 eSiC MOSFET (工业级)

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	TOLL	TOLT	D2PAK-7L	TO-247-3L	TO-247-4L	TSPAK-LF
650V	15mΩ	PCO65N15M1B	PCT65N15M1B	PCLT65N15M1B	PCBF65N15M1B	PCW65N15M1B	PCZ65N15M1B	PCR65N15M1B
	22mΩ	PCO65N22M1B	PCT65N22M1B	PCLT65N22M1B	PCBF65N22M1B	PCW65N22M1B	PCZ65N22M1B	PCR65N22M1B
	27mΩ	PCO65N27M1B	PCT65N27M1B	PCLT65N27M1B	PCBF65N27M1B	PCW65N27M1B	PCZ65N27M1B	PCR65N27M1B
	39mΩ	PCO65N39M1B	PCT65N39M1B	PCLT65N39M1B	PCBF65N39M1B	PCW65N39M1B	PCZ65N39M1B	PCR65N39M1B
	45mΩ	PCO65N45M1B	PCT65N45M1B	PCLT65N45M1B	PCBF65N45M1B	PCW65N45M1B	PCZ65N45M1B	PCR65N45M1B
	67mΩ	PCO65N67M1B	PCT65N67M1B	PCLT65N67M1B	PCBF65N67M1B	PCW65N67M1B	PCZ65N67M1B	PCR65N67M1B

650V Gen1 eSiC MOSFET (汽车级) Development

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	D2PAK-7L	TSPAK-DBC	TSPAK-LF
650V	19mΩ	PCO65N19M1BA	PCBF65N19M1BA	PCRZ65N19M1BA	PCR65N19M1BA
	29mΩ	PCO65N29M1BA	PCBF65N29M1BA	PCRZ65N29M1BA	PCR65N29M1BA
	35mΩ	PCO65N35M1BA	PCBF65N35M1BA	PCRZ65N35M1BA	PCR65N35M1BA
	59mΩ	PCO65N59M1BA	PBF65N59M1BA		PCR65N59M1BA

High $R_{DS(on)}$ 650V Gen1 eSiC MOSFET (消费级)

Voltage	I_D $R_{DS(ON)_{typ}}$	Package	Bare Die	DPAK	TO-220F	PQFN56	PQFN88
650V	25A	130mΩ [$V_{GS}=18V$] 175mΩ [$V_{GS}=15V$]	PCO65N130M1	PCD65N130M1	PCF65N130M1	PCS65N130M1	PCL65N130M1
	20A	170mΩ [$V_{GS}=18V$] 230mΩ [$V_{GS}=15V$]	PCO65N170M1	PCD65N170M1	PCF65N170M1	PCS65N170M1	PCL65N170M1
	15A	245mΩ [$V_{GS}=18V$] 331mΩ [$V_{GS}=15V$]	PCO65N245M1	PCD65N245M1	PCF65N245M1	PCS65N245M1	PCL65N245M1
	12A	325mΩ [$V_{GS}=18V$] 439mΩ [$V_{GS}=15V$]	PCO65N325M1	PCD65N325M1	PCF65N325M1	PCS65N325M1	PCL65N325M1
	8.5A	500mΩ [$V_{GS}=18V$] 675mΩ [$V_{GS}=15V$]	PCO65N500M1	PCD65N500M1	PCF65N500M1	PCS65N500M1	PCL65N500M1
	5A	1000mΩ [$V_{GS}=18V$] 1350mΩ [$V_{GS}=15V$]	PCO65N1R0M1				
	3A	1500mΩ [$V_{GS}=18V$] 2000mΩ [$V_{GS}=15V$]	PCO65N1R5M1				

1700V Gen1 eSiC MOSFET (工业级)

Voltage	Package $R_{DS(ON)_{typ}}$	Bare Die	D2PAK-7L	TO-247-3L	TO-247-4L Notch
1700V	25mΩ	PCO170N25M1	PCBF170N25M1	PCW170N25M1	PCZN170N25M1
	32mΩ	PCO170N32M1	PCBF170N32M1	PCW170N32M1	PCZN170N32M1
	1000mΩ	PCO170N1K0M1	PCBF170N1K0M1	PCW170N1K0M1	PCZN170N1K0M1

650V / 1200V / 1700V *e*SiC Diode



650V *e*SiC Diode (工业级) - 低 V_F 适用于低开关频率应用

Package	Bare Die	DPAK	D2PAK	TO-220F-2L	TO-220-2L	TO-247-2L	TO-247-3L
I_F							
40A							PCW65D40D1
30A							PCW65D30D1
20A	PCO65S20D1		PCB65S20D1	PCF65S20D1	PCH65S20D1	PCA65S20D1	PCW65D20D1
16A	PCO65S16D1				PCH65S16D1		PCW65D16D1
12A	PCO65S12D1			PCF65S12D1	PCH65S12D1		
10A	PCO65S10D1	PCD65S10D1	PCB65S10D1	PCF65S10D1	PCH65S10D1		
8A	PCO65S08D1		PCB65S08D1	PCF65S08D1	PCH65S08D1		
6A	PCO65S06D1			PCF65S06D1	PCH65S06D1		
4A	PCO65S04D1			PCF65S04D1	PCH65S04D1		

650V *e*SiC Diode (工业级) - 低 Q_C 适用于高开关频率应用

Package	Bare Die	DPAK	D2PAK	TO-220F-2L	TO-220-2L	TO-247-2L	TO-247-3L
I_F							
50A						PCA65D50D1Q	
40A							PCW65D40D1Q
30A							PCW65D30D1Q
20A	PCO65S20D1Q		PCB65S20D1Q	PCF65S20D1Q	PCH65S20D1Q	PCA65S20D1Q	PCW65D20D1Q
16A	PCO65S16D1Q				PCH65S16D1Q		PCW65D16D1Q
12A	PCO65S12D1Q		PCB65S12D1Q	PCF65S12D1Q	PCH65S12D1Q		
10A	PCO65S10D1Q			PCF65S10D1Q	PCH65S10D1Q		
8A	PCO65S08D1Q			PCF65S08D1Q	PCH65S08D1Q		
6A	PCO65S06D1Q			PCF65S06D1Q	PCH65S06D1Q		

1200V *e*SiC Diode (工业级)

Package	Bare Die	D2PAK	TO-220-2L	TO-247-2L	TO-247-3L	TSPAK-DBC	TSPAK-LF
I_F							
60A				PCA120S60D1Q	PCW120D60D1Q		
50A						PCRZ120S50D1Q	PCR120S50D1Q
40A	PCO120S40D1			PCA120S40D1	PCW120D40D1 PCW120D40D1Q	PCRZ120S40D1	PCR120S40D1
30A	PCO120S30D1			PCA120S30D1 PCA120S30D1Q	PCW120D30D1		
20A	PCO120S20D1	PCB120S20D1	PCH120S20D1	PCA120S20D1	PCW120D20D1		
15A	PCO120S15D1		PCH120S15D1	PCA120S15D1	PCW120D15D1		
10A	PCO120S10D1	PCB120S10D1	PCH120S10D1	PCA120S10D1	PCW120D10D1		
8A	PCO120S08D1		PCH120S08D1				
5A	PCO120S05D1		PCH120S05D1				

650V / 1200V / 1700V *e*SiC Diode



1700V *e*SiC Diode (工业级)

Package	Bare Die	TO-247-2L
I_F		
25A	PCO170S25D1	PCA170S25D1
10A	PCO170S10D1	PCA170S10D1

650V *e*SiC Diode (汽车级)

Package	Bare Die	TO-247-2L	TO-247-3L
I_F			
40A	PCO65D40D1A PCO65D40D1QA		PCW65D40D1A PCW65D40D1QA
30A	PCO65D30D1A PCO65D30D1QA		PCW65D30D1A PCW65D30D1QA
20A	PCO65D20D1A PCO65D20D1QA	PCA65S20D1A PCA65S20D1QA	PCW65D20D1A PCW65D20D1QA
16A	PCO65D16D1A PCO65D16D1QA		PCW65D16D1A PCW65D16D1QA

1200V *e*SiC Diode (汽车级)

Package	Bare Die	TO-247-2L	TO-247-3L	TSPAK-DBC	TSPAK-LF
I_F					
50A				PCRZ120S50D1QA	PCR120S50D1QA
40A	PCO120S40D1A	PCA120S40D1A	PCW120D40D1A PCW120D40D1QA	PCRZ120S40D1A	PCR120S40D1A
30A	PCO120S30D1A PCO120S30D1QA	PCA120S30D1A PCA120S30D1QA	PCW120D30D1A		
20A	PCO120S20D1A	PCA120S20D1A	PCW120D20D1A		
15A	PCO120S15D1A	PCA120S15D1A	PCW120D15D1A		
10A	PCO120S10D1A	PCA120S10D1A	PCW120D10D1A		



600V / 650V / 800V / eMOS E7 SJ MOSFET



600V eMOS E7 MOSFET

Package	Die	DPAK	PQFN88	TOLL	TO-220	TO-220F	TO-247-3L	TO-247-4L
$R_{DS(ON),max}$								
28mΩ	PMO60N028E7						PMW60N028E7	PMZ60N028E7
40mΩ	PMO60N040E7						PMW60N040E7	
70mΩ	PMO60N070E7						PMW60N070E7	
99mΩ	PMO60N099E7				PMP60N099E7	PMF60N099E7	PMW60N099E7	
105mΩ			PML60N105E7	PMT60N105E7				
180mΩ	PMO60N180E7				PMP60N180E7	PMF60N180E7		
280mΩ	PMO60N280E7	PMD60N280E7			PMP60N280E7	PMF60N280E7		
380mΩ	PMO60N380E7	PMD60N380E7			PMP60N380E7	PMF60N380E7		
600mΩ	PMO60N600E7	PMD60N600E7				PMF60N600E7		

650V eMOS E7 MOSFET

Package	Die	TO-220F
$R_{DS(ON),max}$		
180mΩ	PMO65N180E7	PMF65N180E7
280mΩ	PMO65N280E7	PMF65N280E7
380mΩ	PMO65N380E7	PMF65N380E7
600mΩ	PMO65N600E7	PMF65N600E7
1200mΩ	PMO65N12KE7	

650V eMOS E8 MOSFET

Package	Die	DPAK	PQFN88	TO-220	TO-220F	TO-247-3L
$R_{DS(ON),max}$						
24mΩ	PMO65N024E8					PMW65N024E8
40mΩ	PMO65N040E8					PMW65N040E8
70mΩ	PMO65N070E8					PMW65N070E8
99mΩ	PMO65N099E8				PMF65N099E8	PMW65N099E8
180mΩ	PMO65N180E8	PMD65N180E8	PML65N180E8	PMP65N180E8	PMF65N180E8	
280mΩ	PMO65N280E8	PMD65N280E8			PMF65N280E8	
380mΩ	PMO65N380E8	PMD65N380E8			PMF65N380E8	
600mΩ	PMO65N600E8	PMD65N600E8			PMF65N600E8	
900mΩ	PMO65N900E8				PMF65N900E8	
1200mΩ	PMO65N1K2E8				PMF65N1K2E8	

800V eMOS E7 MOSFET

Package	DPAK	D2PAK	TO-220F	TO-247-3L
$R_{DS(ON),max}$				
65mΩ				PMW80N065EM7 (54A)
130mΩ			PMF80N130EM7 (32A)	PMW80N130EM7 (32A)
165mΩ			PMF80N165EM7 (28A)	PMW80N165EM7 (28A)
180mΩ		PMB80N180EM7 (24A)	PMF80N180EM7 (24A)	PMW80N180EM7 (24A)
240mΩ		PMB80N240EM7 (20A)	PMF80N240EM7 (20A)	PMW80N240EM7 (20A)
395mΩ	PMD80N395EM7 (15A)		PMF80N395EM7 (15A)	
500mΩ	PMD80N500EM7 (11A)		PMF80N500EM7 (11A)	
830mΩ	PMD80N830EM7 (7A)		PMF80N830EM7 (7A)	

950V *e*MOS SJ MOSFET



950V *e*MOS E7 MOSFET

Package	DPAK	TO-220F	TO-247-3L
$R_{DS(ON),max}$			
130mΩ			PMW95N130EM7 (36A)
760mΩ	PMD95N760EM7 (9A)	PMF95N760EM7 (9A)	
1000mΩ	PMD95N1K0EM7 (7A)	PMF95N1K0EM7 (7A)	
3200mΩ	PMD95N3K2EM7Z (3A)	PMF95N3K2EM7Z (3A)	
6500mΩ	PMD95N6K5EM7Z (2A)	PMF95N6K5EM7Z (2A)	

600 / 650V *e*MOS UF7 & UF8 SJ MOSFET



600V *e*MOS UF7 MOSFET (Fast recovery body-diode)

Package	Die	TO-220F	TO-247-3L
$R_{DS(ON),max}$			
30mΩ	PMO60N030UF7		PMW60N030UF7
43mΩ	PMO60N043UF7		PMW60N043UF7
75mΩ	PMO60N075UF7		PMW60N075UF7
105mΩ	PMO60N105UF7		PMW60N105UF7
193mΩ	PMO60N193UF7	PMF60N193UF7	

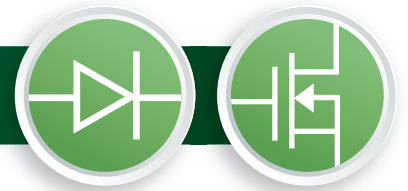
650V *e*MOS UF7 MOSFET (Fast recovery body-diode)

Package	Die	TO-247-3L
$R_{DS(ON),max}$		
45mΩ	PMO65N045UF7	PMW65N045UF7
310mΩ	PMO65N310UF7	
645mΩ	PMO65N645UF7	

650V *e*MOS UF8 (Fast recovery body-diode)

Package	Die	TO-220F	TO-247-3L
$R_{DS(ON),max}$			
26mΩ	PMO65N026UF8		PMW65N026UF8
43mΩ	PMO65N043UF8		PMW65N043UF8
65mΩ	PMO65N065UF8		PMW65N065UF8
75mΩ	PMO65N075UF8		PMW65N075UF8
105mΩ	PMO65N105UF8	PMF65N105UF8	PMW65N105UF8
193mΩ	PMO65N193UF8	PMF65N193UF8	
300mΩ	PMO65N300UF8	PMF65N300UF8	
410mΩ	PMO65N410UF8	PMF65N410UF8	

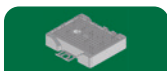
eSiC Power Module



P1B SiC Module (SiC MOSFET Module)

Development

Package	1200V (Industrial Grade)			650V (Industrial Grade)		
$R_{DS(ON),max}$						
4mΩ	P1BS120H04G3S / P					
5 - 7mΩ	P1BA120H05G2S / P P1BS120H05G2S / P			P1BA65H07G1S		
8 - 9mΩ	P1BA120H08G2S / P			P1BA120F08G2S		
11 - 13mΩ	P1BA120H10G2S / P					
14 - 19mΩ	P1BA120H16G2S / P	P1BA120F16G2S	P1BA120S16G2S	P1BA65H15G1S	P1BA65F15G1S	P1BA65S15G1S
20mΩ ~	P1BA120H21G2S / P P1BA120H31G2S / P P1BA120H40G2S / P	P1BA120F21G2S P1BA120F31G2S P1BA120F40G2S	P1BA120S21G2S P1BA120S31G2S P1BA120S40G2S		P1BA65F22G1S P1BA65F27G1S	P1BA65S22G1S P1BA65F27G1S



P2B SiC Module (SiC MOSFET Module)

Development

Package	1200V (Industrial Grade)			650V (Industrial Grade)		
$R_{DS(ON),max}$						
3mΩ	P2BS120H03G3P			P2BA65H3P8G1S		
4 - 5mΩ	P2BA120H04G2S / P P2BS120H04G2S / P			P2BA120F05G2S		
6 - 7mΩ				P2BA65H07G1S		
8 - 9mΩ	P2BA120H08G2S / P			P2BA120F08G2S		
10mΩ ~	P2BA120H10G2S / P			P2BA120S16G2S		
				P2BA65H15G1S		



P3ED SiC Module (SiC MOSFET and Full-SiC Module)

Development

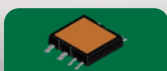
Package	1200V (Industrial Grade)		1700V (Industrial Grade)	
$R_{DS(ON),max}$				
1.3mΩ	P3EDS120H1P3G3S		P3EDS120HD1P3G3S	
1.6mΩ	P3EDS120H1P6G3S		P3EDS120HD1P6G3S	
2.0 - 2.9mΩ	P3EDS120H2P1G3S		P3EDS120HD02G2S P3EDS120HD2P1G3S	
3.0mΩ ~			P3EDS120HD03G2S	P3EDS170H3G1S P3EDS170HD3G1S



P6M SiC Module (SiC MOSFET and Full-SiC Module)

Development

Package	1200V (Industrial Grade)		1700V (Industrial Grade)	
$R_{DS(ON),max}$				
1.6mΩ	P6MN120H1P6G3			
2.0 - 2.9mΩ			P6MN120HD02G3	
3.0 - 3.9mΩ			P6MN120HD03G3	
4.0mΩ ~			P6MN170H3P1G1	P6MN170HD04G1



PTM [TS-MPAK] SiC Module (SiC MOSFET Module)

Development

Package	1200V (Automotive Grade)		650V (Automotive Grade)		650V (Industrial Grade)	
$R_{DS(ON),max}$						
11 - 15mΩ	PTMZ120H11G2A	PTMZ120B11G2A			PTMZ65H15G1X1	PTMZ65B15G1
16 - 19mΩ	PTMZ120H16G2A PTMZ120H16G2AX1	PTMZ120B16G2A	PTMZ65H19G1AX1	PTMZ65B19G1A		
20 - 29mΩ			PTMZ65H29G1AX1	PTMZ65H27G1X1		
30mΩ ~	PTMZ120H40G2A PTMZ120H40G2AX1					

60V / 85V *e*MOS MV MOSFET

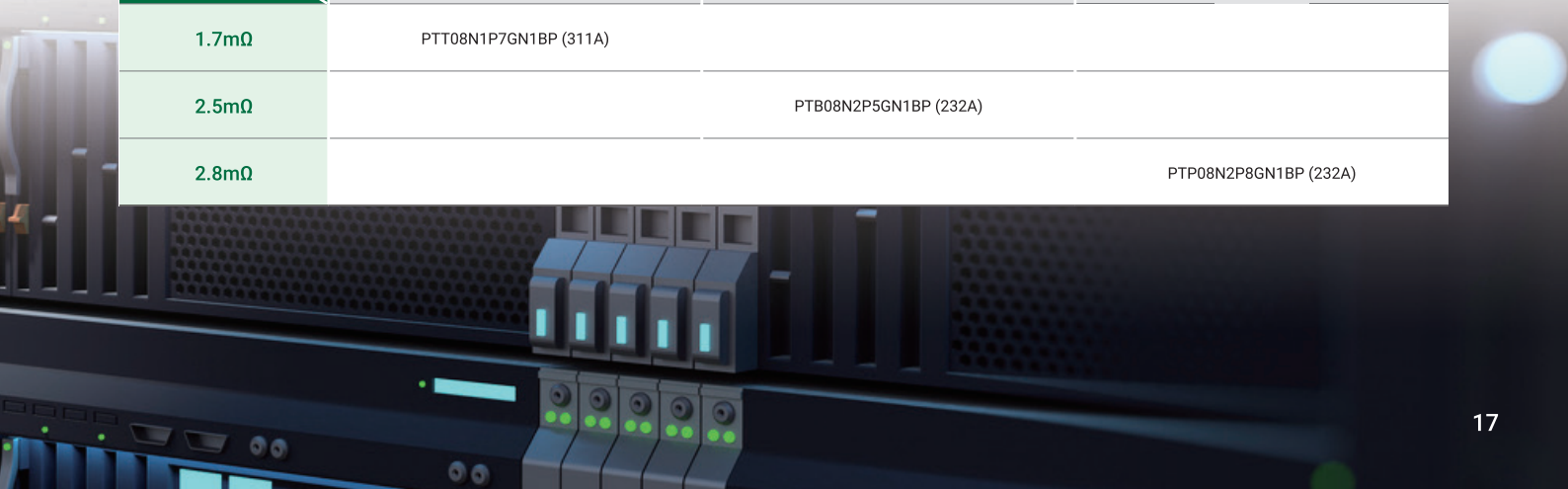


60V *e*MOS MV MOSFET

Package	PQFN56	DPAK	TOLL	D2PAK	TO-220
$R_{DS(ON),max}$					
1.1mΩ	PTS06N1P1GN1BP (277A) PTS06N1P1LGN1BP				
1.3 - 1.5mΩ	PTS06N1P3GS1BP (252A) PTS06N1P5GN1BP (219A)		PTT06N1P4GN1BP (327A)		
1.9mΩ			PTT06N1P9GN1BP (257A)		
2.1 - 2.2mΩ	PTS06N2P1LGN1BP (165A) PTS06N2P1LGN1BPA (175A) PTS06N2P2GN1BP (162A)			PTB06N2P2GN1BP (209A)	
2.5mΩ	PTS06N2P5LGN1BP (148A)				
2.9mΩ	PTS06N2P9LGN1BP (143A)	PTD06N2P9GN1BP (131A)			
3.4 - 3.5mΩ					PTP06N3P4LGN1BM (151A) PTP06N3P5GN1BP (148A)
3.9mΩ		PTD06N3P9GN1BP (107A)			
4.1 - 4.2mΩ	PTS06N4P1LGN1BP (104A) PTS06N4P2GN1BP (102A)				
6.6mΩ		PTD06N6P6LGN1BP (73A)			
7.1mΩ	PTS06N7P1LGN1BP (65A)				
11.4mΩ		PTD06N11P4LGN1BPA (45A)			
15.0 - 15.5mΩ	PSS06N15P5LGN1BM (44A)	PSD06N15PLGN1BM (48A)			
30mΩ	PSS06N30PLGN1BM (28A)	PSD06N30PLGN1BM (25A)			

85V *e*MOS MV MOSFET

Package	TOLL	D2PAK	TO-220
$R_{DS(ON),max}$			
1.7mΩ	PTT08N1P7GN1BP (311A)		
2.5mΩ		PTB08N2P5GN1BP (232A)	
2.8mΩ			PTP08N2P8GN1BP (232A)



100V *e*MOS MV MOSFET



100V *e*MOS MV MOSFET

Package	PQFN56	DPAK	D2PAK	D2PAK-7L	TOLL	TO-220
$R_{DS(ON),max}$						
1.2mΩ					PTT10N1P2GN1BS (412A)	
1.35 - 1.4mΩ					PTT10N1P3GN1BP(385A) PTT10N1P4GN1BM(375A) PTT10N1P4GN1BS(429A) PTT10N1P4GN1BPA(378A)	
1.5 - 1.6mΩ				PTBF10N1P6GN1BP(324A) PTBF10N1P6GN1BPA(324A)	PTT10N1P5GN1BP(399A)	
1.7 - 1.8mΩ				PTBF10N1P8GN1BP(297A)	PTT10N1P7GN1BM(344A) PTT10N1P8GN1BP(315A)	
1.9mΩ			PTB10N1P9GN1BP(289A)		PTT10N1P9GN1BP(292A)	
2.1mΩ			PTB10N2P1GN1BP(274A)	PTBF10N2P1GN1BP(297A)	PTT10N2P1GN1BP(288A)	PTP10N2P3GN1BP(289A)
2.3 - 2.4mΩ				PTBF10N2P3GN1BP(239A)	PTT10N2P4GN1BP(249A)	
2.6mΩ			PTB10N2P6GN1BP(225A)			PTP10N2P9GN1BP(225A)
2.9mΩ			PTB10N2P9GN1BP(205A)		PTT10N2P9GN1BP(205A)	PTP10N3P1GN1BP(205A)
3.1 - 3.5mΩ	PTS10N3P5GN1BP(136A)		PTB10N3P3GN1BP (186A) PTB10N3P5GN1BP (183A)		PTT10N3P3GN1BP(195A)	
3.6 - 3.9mΩ	PTS10N3P8GN1BP(135A)					PTP10N3P6GN1BP(184A) PTP10N3P8GN1BP(183A)
4.0 - 4.9mΩ	PTS10N4PGN1BP (129A) PTS10N4P1LGN1BP(119A) PTS10N4P4GN1BP (113A)		PTB10N4P1GN1BP(148A) PTB10N4P3GN1BP(173A)			PTP10N4P3GN1BP(173A)
5.3 - 6.3mΩ	PTS10N5P5LGN1BP(97A) PTS10N5P8GS1BP(106A) PTS10N6P3GN1BP(91A)					
7.1 - 7.5mΩ	PTS10N7P1LGN1BP(82A) PTS10N7P5GN1BPA(83A)	PTD10N7P4LGN1BP(73A)				
8.0 - 8.8mΩ	PTS10N8PLGN1BP(74A) PTS10N8PLGN1BPA(74A) PTS10N8P6GN1BP(71A) PTS10N8P8GN1BPA(74A)					
9.5 - 10.8mΩ	PTS10N10P8LGN1BP(59A)	PTD10N9P5LGN1BP(62A)	PTB10N9P6GN1BP(76A)			PTP10N9P8GN1BP(76A)
15.4 - 20mΩ	PTS10N15P9LGN1BP(45A) PTS10N18P6LGN1BP(40A)	PTD10N15P4LGN1BP(43A) PTD10N20PLGN1BP(32A)				

100V *e*MOS MV MOSFET

Package	TOLT	TO-247-3L
$R_{DS(ON),max}$		
1.3mΩ	PTLT10N1P3GN1BM(385A)	
2.0mΩ	PTW10N2PGN1BP (290A)	



120V / 150V / 200V *e*MOS MV MOSFET



120V *e*MOS MV MOSFET

Package	PQFN56	D2PAK	TOLL	TO-220
$R_{DS(ON),max}$				
1.6 - 1.7mΩ			PTT12N1P6GN1BP (393A) PTT12N1P7GN1BP (374A)	
3.3mΩ			PTT12N3P3GN1BP (201A)	
3.6mΩ		PTB12N3P6GN1BP (189A)		
3.9mΩ				PTP12N3P9GN1BP (189A)
6.6 - 6.7mΩ	PTS12N6P6LGN1BP (89A) PTS12N6P7GN1BP (88A)			
6.9mΩ		PTB12N6P9GN1BP (105A)		
7.1mΩ				PTP12N7P1GN1BP (105A)

150V *e*MOS MV MOSFET

Package	PQFN56	DPAK	D2PAK	TOLL	D2PAK-7L	TO-220	TO-247-3L
$R_{DS(ON),max}$							
2.6mΩ				PTT15N2P6GN1BP(302A)			
4.1 - 4.2mΩ				PTT15N4P1GN1BP(240A) PTT15N4P1GN1BPA(240A)			PTW15N4P2GN1BP(189A)
4.3 - 4.8mΩ			PTB15N4P6GN1BP(176A)	PTT15N4P3GN1BP(240A)	PTBF15N4P6GN1BP(183A)	PTP15N4P8GN1BP(176A)	
5.2 - 5.4mΩ	PTS15N5P2GN1BP(116A)					PTP15N5P4GN1BP(164A)	
6.4 - 6.6mΩ			PTB15N6P4GN1BP(134A)			PTP15N6P6GN1BP(134A)	
9.0 - 9.9mΩ	PTS15N9GS1BP(87A) PTS15N9P9GN1BP(71A)		PTB15N9P1GN1BP(99A)			PTP15N9P3GN1BP(99A)	PTW15N9P2GN1BP(112A)
11.5mΩ	PTS15N11P5GN1BP(71A)						
60mΩ		PTD15N60PGN1BM(19.5A)					

200V *e*MOS MV MOSFET

Package	PQFN56	TOLL	D2PAK	TO-220	TO-247-3L
$R_{DS(ON),max}$					
9.4mΩ			PTB20N9P4GN1BP(112A)		
9.6 - 9.8mΩ		PTT20N9P8GN1BP(134A)		PTP20N9P6GN1BP(113A)	PTW20N9P6GN1BP(114A)
10 - 10.2mΩ			PTB20N10PGN1BM(110A)	PTP20N10P2GN1BM(110A)	
15.7mΩ			PTB20N15P7GN1BP(81A)		
20 - 24mΩ	PTS20N24PGN1BP(45A)			PTP20N23PGN1BP(61A)	PTW20N21P6GN1BP(69A)

150V / 200V / 250V *e*MOS Single Trench MOSFET






Single Trench MV MOSFET

Voltage	Package	Die	TO-247-3L
$R_{DS(ON),typ}$			
150V	5.9mΩ	PSO15N5P9G1	PSW15N5P9G1
200V	9.7mΩ	PSO20N9P7G1	PSW20N9P7G1
250V	17.5mΩ	PSO25N17P5G1	PSW25N17P5G1



650V / 1200V *e*FS-IGBT 产品列表



650V *e*FS-IGBT

Package	DPAK	D2PAK	TO-247-3L
$I_c@100^\circ\text{C}$			
75A			PGW65N75KS1SD*
50A			PGW65N50KS1SD*
40A			PGW65N40KS1SD*
30A			PGW65N30KS1SD*
20A			PGW65N20KS1SD*
15A		PGB65N15KS1SD*	
6A	PGD65N06KS1SD*		

1200V *e*FS-IGBT

Package	TO-247-3L	TO-247-4L
$I_c@100^\circ\text{C}$		
150A		PGZ120N150KS1ND
75A	PGW120N75KS1ND	
40A	PGW120N40KL1SD*	
25A	PGW120N25KL1SD*	

Note : SD* - Short Circuit Version

命名规则

eSiC MOSFET

P C Z 120 N 12 M3 A

- **MOSFET / Grade**
 - A : Automotive Grade
 - None : Industrial Grade
 - W : Wafer Level Burn-In
- **MOSFET / Generation**
 - M1 : Gen1
 - M2 : Gen2
 - M3 : Gen3
- **$R_{DS(ON)}$ Typ [mΩ]**
- **Channel Polarity**
- **Voltage Rating (x10)**
- **Package**
 - BF : D2PAK-7L
 - T : TOLL
 - F : TO-220-3L, Full pack
 - W : TO-247-3L
 - Z : TO-247-4L
 - ZN : TO-247-4L, Notch
 - ZNT : TO-247-4L, Notch Thin
 - RZ : TSPAK-DBC
 - O : Wafer (Unsawn)
 - OS : Wafer (Sawn)
 - Q : QDPAK
 - LT : TOLT
 - P : TO-220-3L
- **C : SiC MOSFET / J : SiC JFET**
- **PMS Semiconductor**

eSiC Diode

P C P 120 S 20 D1(Q) A

- **Diode / Product Grade**
 - A : Automotive Grade
 - None : Industrial Grade
- **Diode / Generation**
 - D1 : The 1st Gen. Low V_F
 - D1Q : The 1st Gen. Low Q_C
- **Current [A]**
- **S : Single Die / D : Dual Die**
- **Voltage Rating (x10)**
- **Package**
 - B : D2-PAK 2L
 - H : TO-220 2L
 - P : TO-220 3L
 - L : PQFN88
 - D : D-PAK (Center Lead Type)
 - M : D-PAK (No Center Lead Type)
 - W : TO-247 3L
 - A : TO-247 2L
 - O : Wafer (Unsawn)
 - OS : Wafer (Sawn)
- **SiC Technology**
- **PMS Semiconductor**

eMOS SJ MOSFET

P M P 60 N 180 E 7 Z A

- **MOSFET / Grade**
 - A : Automotive Grade
 - None : Industrial Grade
- **Zener Diode**
- **Generation**
- **Switching Characteristic**
 - E : Efficient
 - F : FRFET
 - UF : Ultra FRFET
 - H : High Efficiency
- **$R_{DS(ON)}$ Max [mΩ]**
- **Channel Polarity**
- **Voltage Rating (x10)**
- **Package**
 - B : D2-PAK
 - D : D-PAK
 - E : ISOTOP
 - F : TO-220F
 - FN : Narrow lead
 - FW : Wide pitch
 - I : I2-PAK
 - L : PQFN88
 - N : SOT-223
 - P : TO-220
 - T : TOLL
 - U : I-PAK
 - W : TO-247
 - Z : TO-247 4L
 - S : PQFN56
 - O : Wafer (Unsawn)
 - OS : Wafer (Sawn)
- **Super Junction MOSFET Technology**
- **PMS Semiconductor**

命名规则

eMOS MV MOSFET

P S P 10 N 4P5 L Z G1 BP A

- **MOSFET / Grade**
 - A : Automotive Grade
 - None : Industrial Grade
- **Application**
 - BH : Hot Swap
 - BM : Motor Drive
 - BP : High Freq
 - BS : BMS & PDU
- **Generation**
- **Zener Diode**
- **Specific Characteristic**
 - L : Logic Level
 - F : Fast Recovery Diode
 - W : Wide SOA
- **R_{DS(ON)} Max [mΩ] , P : Point**
- **N : N Channel , P : P Channel**
- **Voltage Rating (x10)**
- **Package**
 - A : TO-3P
 - B : TO-263-3L
 - BF : TO-263-7L
 - D : TO-252-3L
 - F : TO-220F-3L
 - FN : Narrow lead
 - C : PQFN33
 - FW : Wide pitch
 - I : I2PAK
 - L : PQFN88
 - LD : PQFN88 Dual Cool
 - LT : TOLT
 - N : SOT-223
 - P : TO-220-3L
 - T : TOLL
 - U : I-PAK
 - W : TO-247-3L
 - Z : TO-247-4L
 - S : PQFN56
 - SD : PQFN56 Dual Cool
 - G : PQFN Leaded
 - O : Wafer (Unsawn)
 - OS : Wafer (Sawn)
- **Si MV MOSFET Technology**
 - S : Gate Trench
 - T : Split Gate Trench
- **PMS Semiconductor**

eFS IGBT

P G W 65 N 40 KS 1 ND A

- **IGBT / Grade**
 - A : Automotive Grade
 - None : Industrial Grade
- **IGBT & FRD type**
 - ND : Non SCWT & Full Current
 - NH : Non SCWT & Half Current
 - NT : Non SCWT & Small Current
 - NN : Non SCWT & No FRD
 - NF : Non SCWT & SiC Diode
 - SD : SCWT & Full Current
 - SH : SCWT & Half Current
 - ST : SCWT & Small Current
 - SN : SCWT & No FRD
 - SF : SCWT & SiC Diode
- **Generation**
- **Switching Frequency**
- **Current [A]**
- **N : N Channel**
- **Voltage Rating (x10)**
- **Package**
 - A : TO-3P
 - B : D2PAK
 - BF : D2PAK-7L
 - W : TO-247-3L
 - WP : TO-247-3L PLUS
 - Z : TO-247-4L
- **IGBT**
- **PMS Semiconductor**



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