

/ Revised record

A	2022.5.6	All	AOS-AONS66916		
A	2022-6-9	all	Q AEC-Q101 Q 245±5°C 5±0.5sec 255±5°C 5±0.5sec		

/ Descriptions

PDFN5×6 N
N-Channel MOSFET in a PDFN5×6 Plastic Package.

/ Features

AEC-Q101

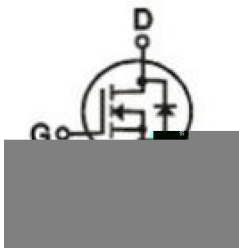
Low $R_{DS(ON)}$ to minimize conductive I_{loss} ;low Gate Charge for fast switching;Low Thermal resistance;
Qualified to AEC-Q101 Standards for High Reliability; HF Product.

/ Applications

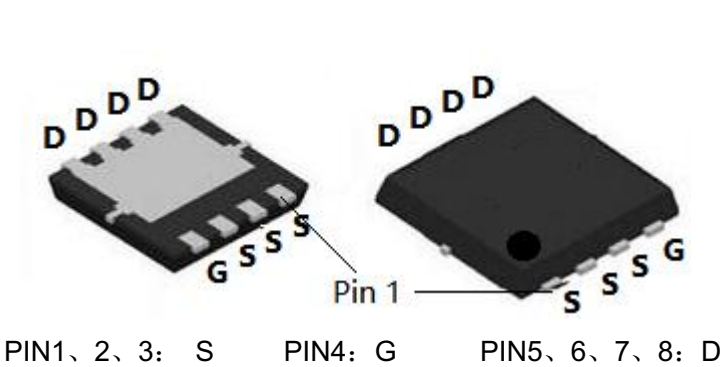
MB/NB/UMPC/VGA Buck -

Battery Management,High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA,Networking DC-DC Power System,Load Switch, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	D
8	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage		V _{DS}	100	V
Drain Current - Continuous		I _D	168	A
Drain Current – Pulsed		I _{DM}	400	A
Gate-Source Voltage		V _{GS}	±20	V
Power Dissipation		P _D (T _c =25℃)	215	W
Single Pulse Avalanche Energy(L=0.5mH)		E _{AS}	563	mJ
Avalanche Current(L=0.5mH)		I _{AS}	37.5	A
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150	℃
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	20	℃/ W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	R _{θJC}	0.58	

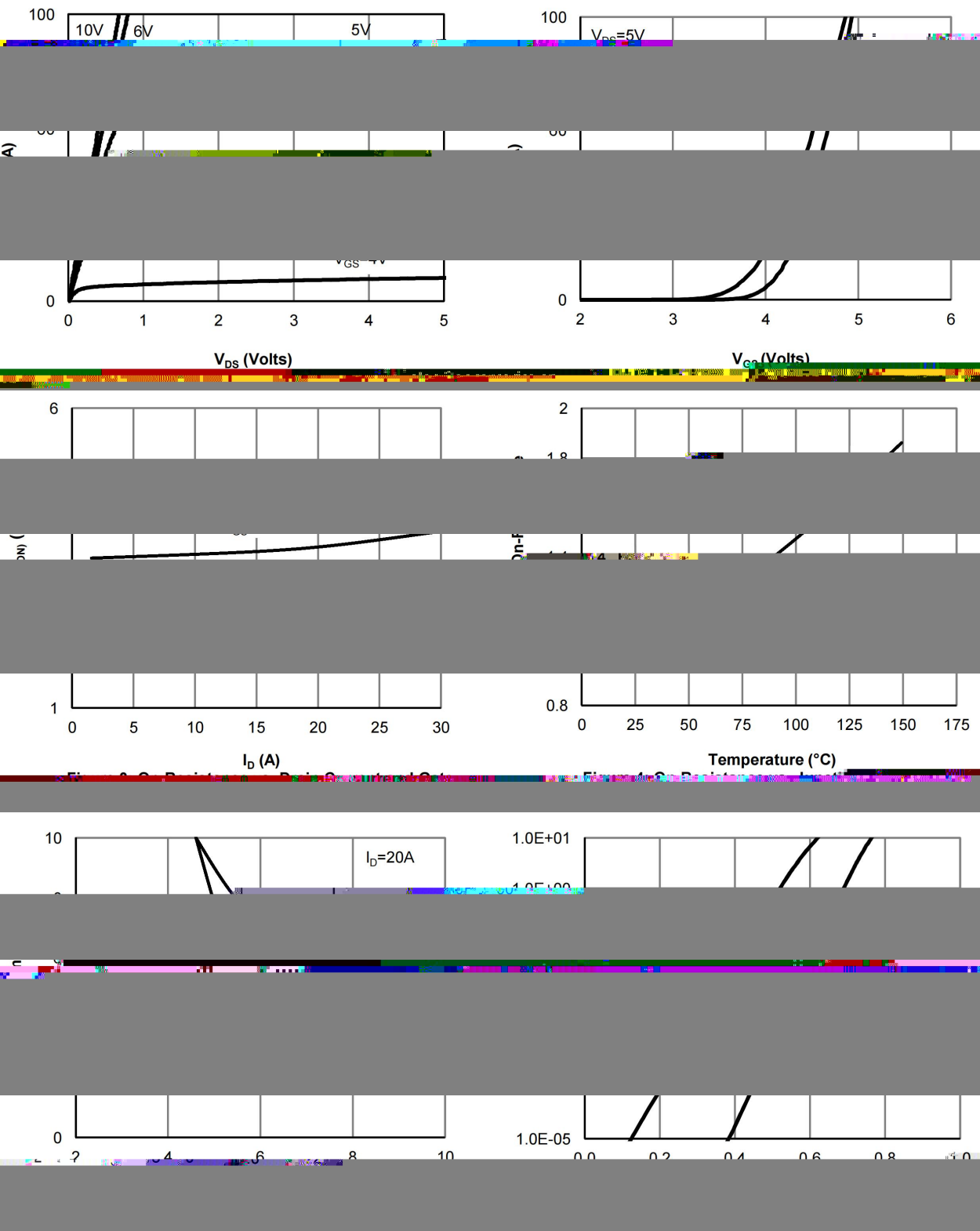
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	100	112		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}, V_{GS}=0\text{V}$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	2	2.9	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		3.5	4.0	$\text{m}\Omega$
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		5550		pF
Output Capacitance	C_{oss}			2050		
Reverse Transfer Capacitance	C_{rss}			180		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		1.7		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10\text{V}, V_{DS}=50\text{V}, I_D=20\text{A}$		70		nC
Gate Source Charge	Q_{gs}			20		
Gate Drain Charge	Q_{gd}			10		

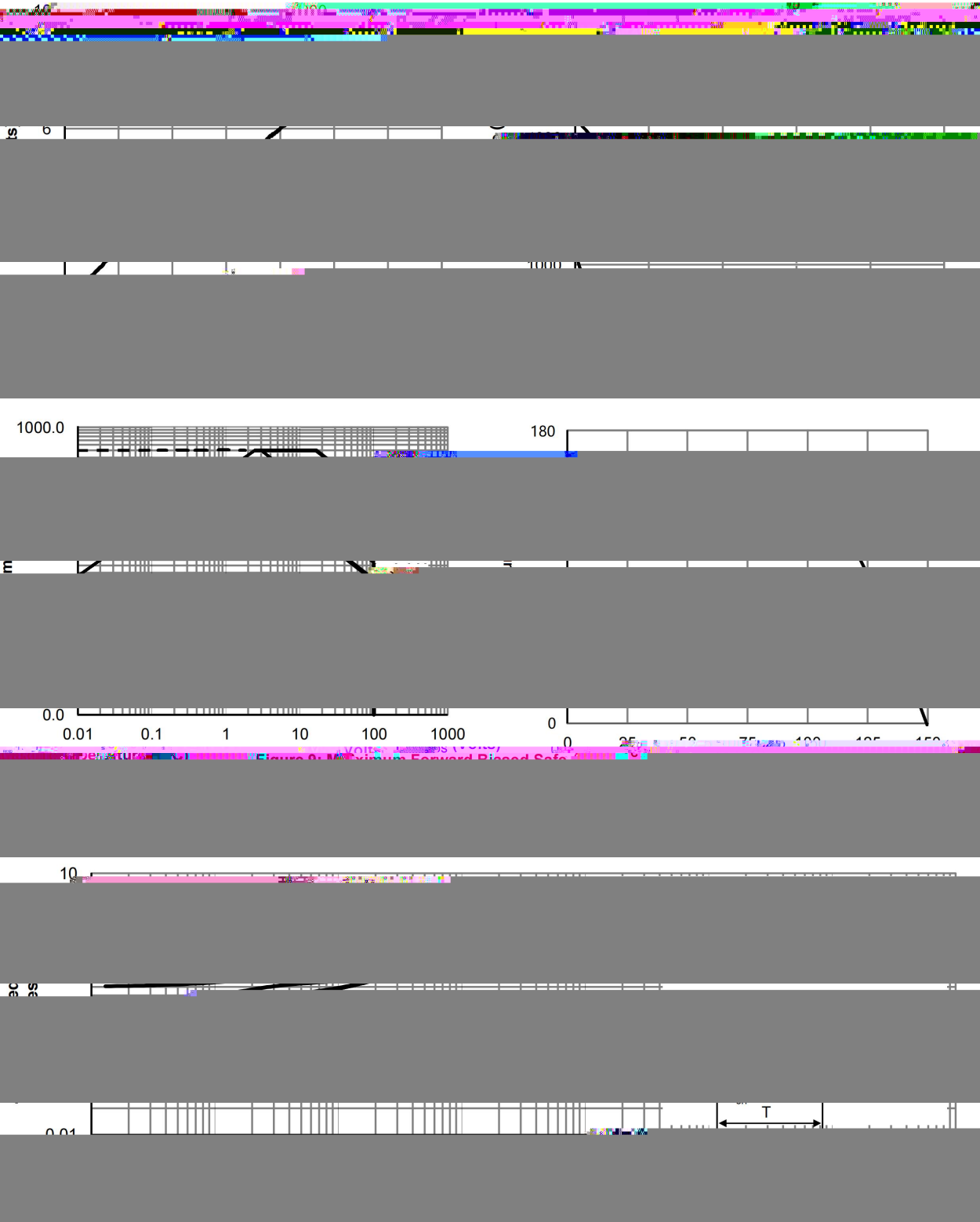
/ Electrical Characteristics(Ta=25)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=50V$ $R_L=2.5\ \Omega$ $R_{GEN}=3\ \Omega$		19		ns
Turn-On Rise Time	t_r			8		
Turn-Off Delay Time	$t_{d(off)}$			32		
Turn-Off Fall Time	t_f			11		

/ Electrical Characteristic Curve

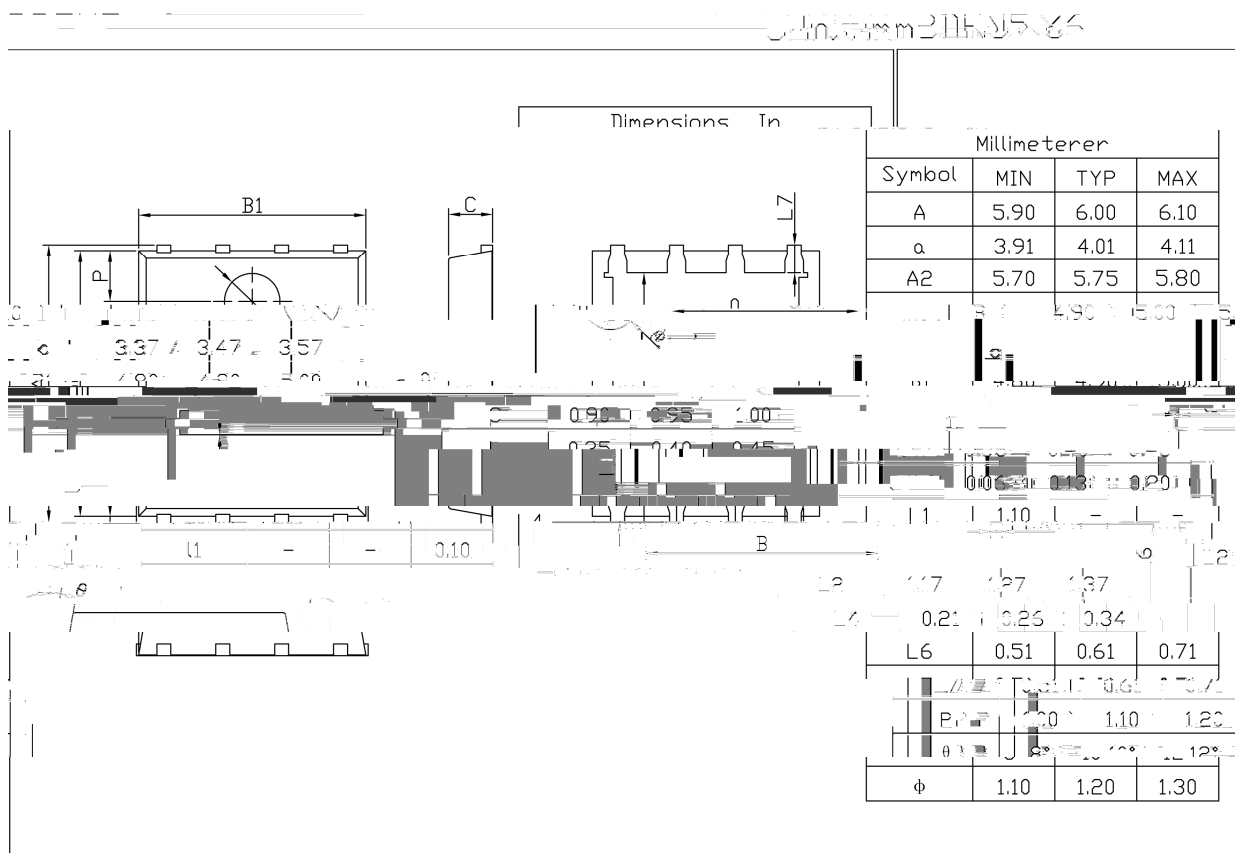


/ Electrical Characteristic Curve

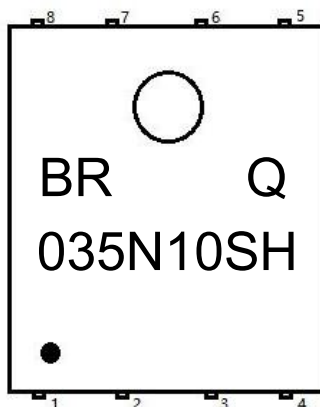




/ Package Dimensions



Rev.00 201812

/ Marking Instructions

说明：

BR： 为公司代码

Q： 为汽车无卤产品标识

035N10SH： 为产品型号

****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

Q: Automobile halogen-free product Code

035N10SH: Product Type

****: Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | |
|---|------------|---------------|---|
| 1 | 150 200 | 60 120sec; | 1.Preheating:150~200℃, Time:60~120sec. |
| 2 | 255±5 | 5±0.5sec; | 2.Peak Temp.:255±5℃, Duration:5±0.5sec. |
| 3 | 2 | 10℃/sec. | 3. Cooling Speed: 2~10℃/sec. |

r / Resistance to Soldering Hea