

/ Revised record

版本	修订日期	有修订的页码	修订涉及的内容	拟制	审核
A	2021.10.26	All	参考 AOS-AON6298 规格书首次制定	庞隆基	陈逸晞

/ Descriptions

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

/ Features

Low $R_{DS(ON)}$ to minimize conductive loss; low Gate Charge for fast switching; Low Thermal resistance.
HF Product.

/ Applications

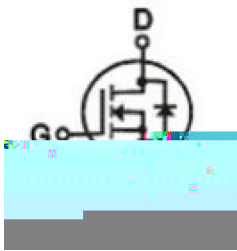
MB/NB/UMPC/VGA

Buck

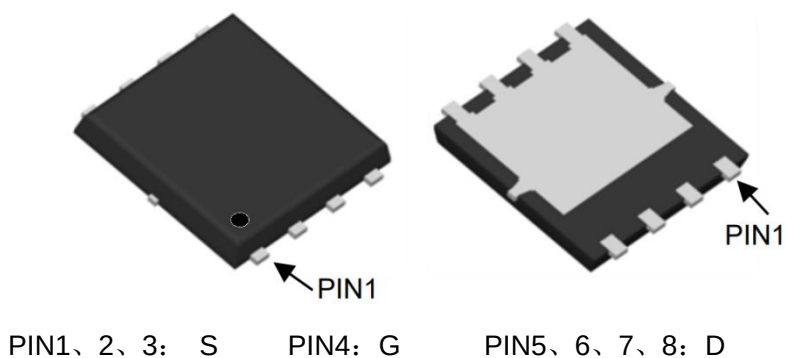
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Battery Management,High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA,Networking DC-DC Power System,Load Switch.

/ Equivalent Circuit



/ Pinning



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

/ h_{FE} Classifications & Marking

- See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Continuous Drain Current		I_D	46	A
Pulsed Drain Current		I_{DM}	184	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	78	W
Avalanche energy(L=0.5mH)		E_{AS}	24.5	mJ
Avalanche Current(L=0.5mH)		I_{AS}	7.0	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	17	$^\circ\text{C/W}$
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	1.6	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	100	109		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_{ESS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	1.7	2.5	V

Static Drain-Source On-Resistance R_{in}

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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=50V$ $R_L=2.5\ \Omega$ $R_{GEN}=3\ \Omega$		7		ns
Turn-On Rise Time	t_r		T	3		
Turn-Off De	m Time					

/ Electrical Characteristic Curve

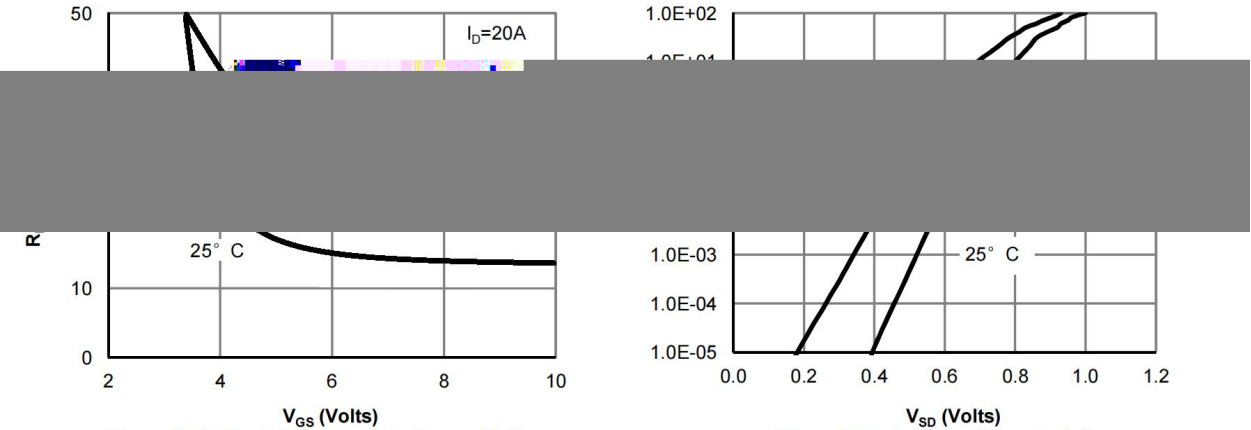
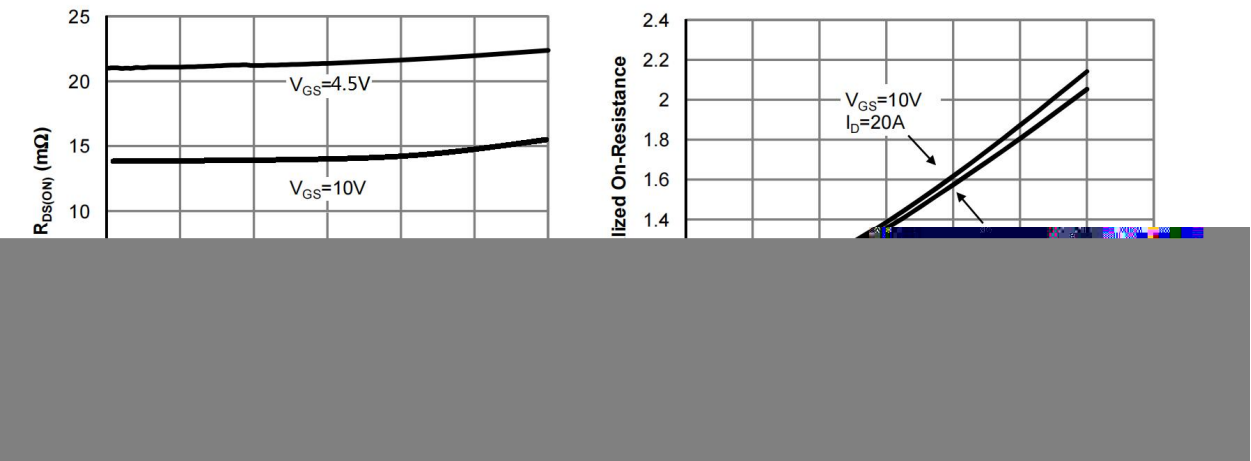
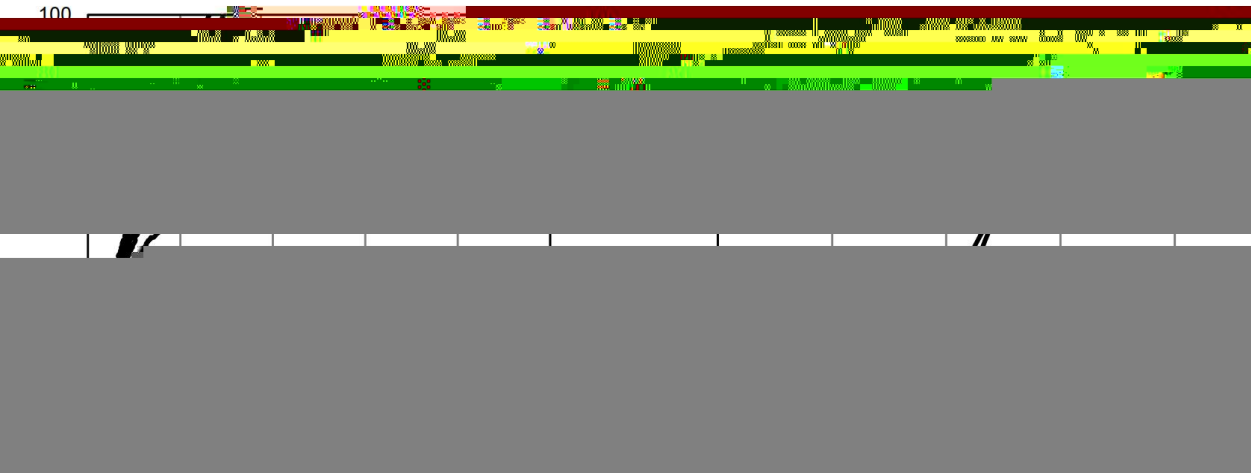
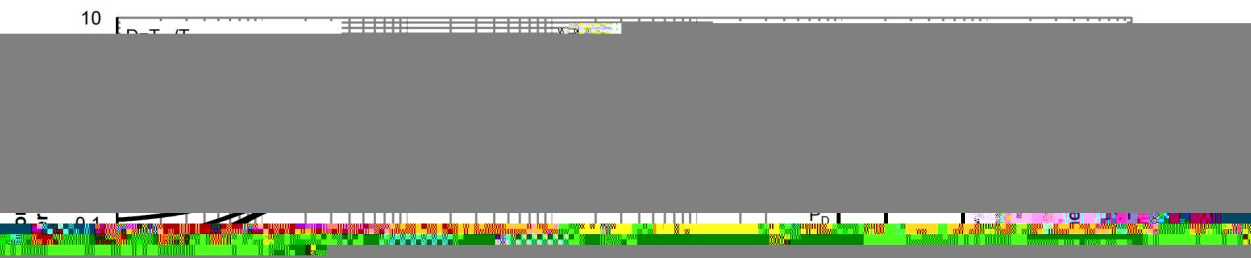
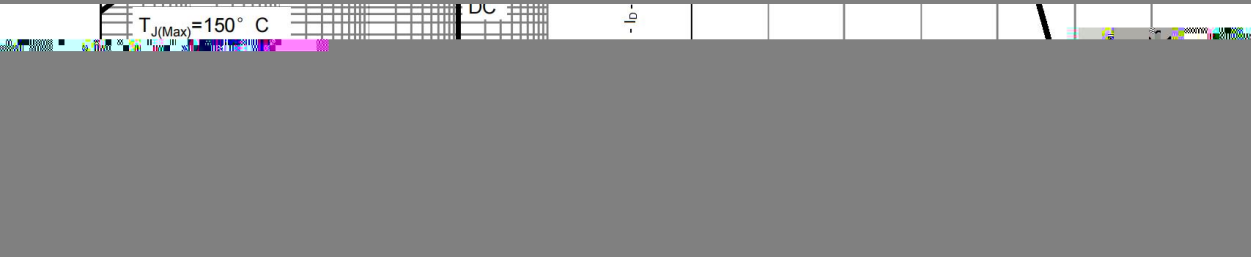


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve



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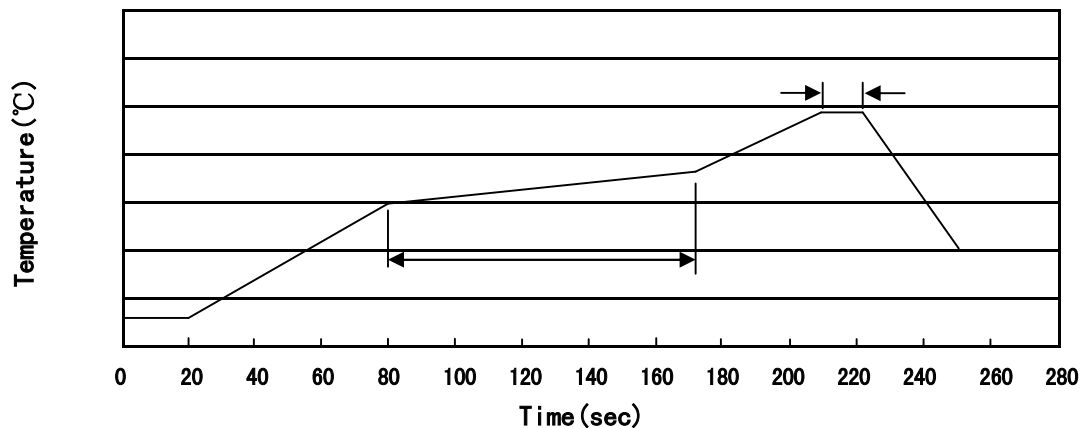
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() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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|---|-------------|-----------|--|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180°C, Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 | 2 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	/	/	/	/	/	/	盒	箱
PDFN5*6	5000	2	10000	6	60000	13" × 12	360 × 360 × 50	380 × 335 × 366

/ Notices